



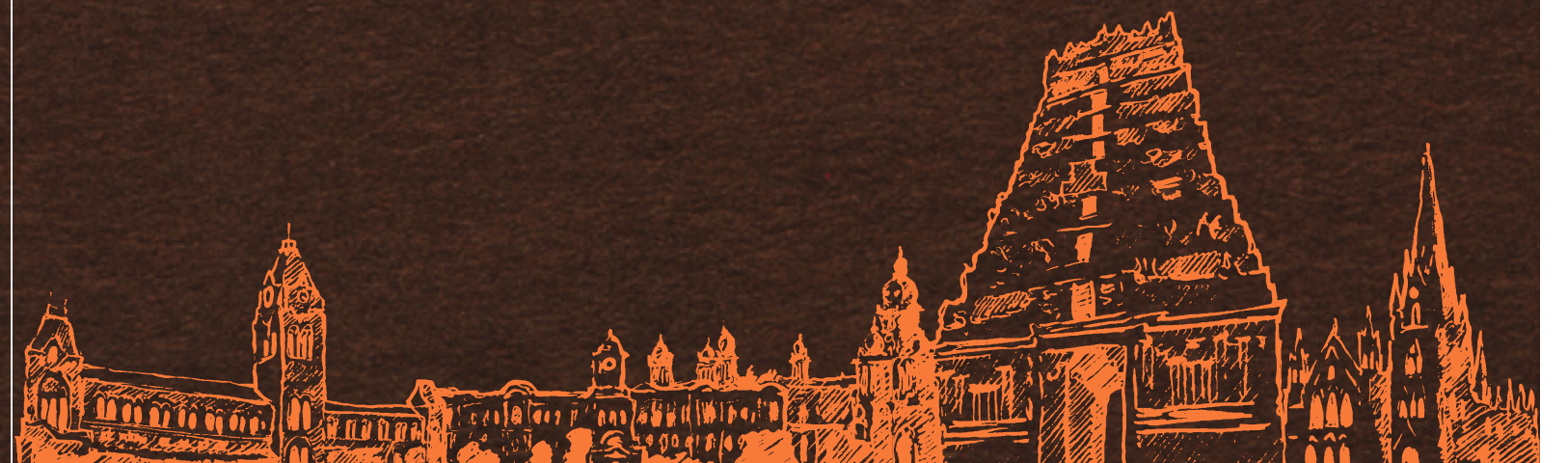
Indian Institute of Technology Madras

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ANNUAL REPORT 2018-19

INDIAN INSTITUTE OF TECHNOLOGY MADRAS



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Chennai - 600 036

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Mumbai - 400 076

Shri Sukhbir Singh Sandhu,

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Gas Turbine Research Establishment
CV Raman Nagar, Bengaluru - 560093

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Department of Mechanical Engg.
Indian Institute of Technology Madras
Chennai - 600 036

Prof. R. Sundaravadivelu

Department of Ocean Engineering
Indian Institute of Technology Madras
Chennai - 600 036

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Indian Institute of Technology Madras
Chennai - 600 036

INVITEE

Prof. Koshy Varghese

Dean (Administration)
IIT Madras, Chennai - 600 036

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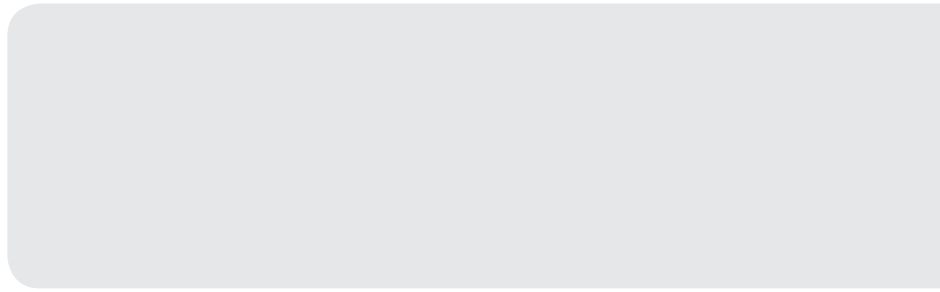
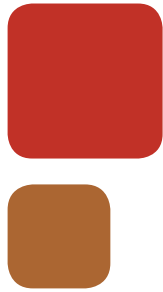
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Director's Report

Presented at the 56th Convocation of IIT Madras

Prime Minister of India Shri Narendra Modiji,
Governor of Tamil Nadu Shri Banwarilal Purohitji,
Chief Minister of Tamil Nadu Thiru. Edappadi Palanisami Avargal,
Union Minister for HRD, Dr. Ramesh Pokhriyalji Nishank,
Deputy Chief Minister of Tamil Nadu Thiru. O Panneerselvam Avargal,
Chairman, Board of Governors IIT Madras, Dr. Pawan Goenka
Members of the Board of Governors,
Members of the Academic Senate,
Distinguished Members of the Diplomatic Corps,
Chief Guests of the Degree Distribution Programmes,
Distinguished Guests,
Colleagues,
Alumni,
Graduands, award winners, and their family members,

My greetings to everyone assembled here on this joyous occasion, and a special welcome to our dear graduating students!

2019 is a momentous year for IIT Madras, as we complete 60 years since inception. We are indeed honoured and privileged that the Prime Minister of India, Shri Narendra Modiji, has

found the time, and thought it fit, to grace our Convocation this year. We are extremely grateful to you, Sir, for this gesture, which we shall cherish for all time.

That Chennai was the chosen location for the third IIT in India was in great measure due to the alacrity shown by the Tamil Nadu government in making available this wonderful location for its campus. We owe a special gratitude to the State government for its unstinting support to the Institute ever since, including the provision of land for the IIT Madras Research Park, and for further expansion of the campus at Thaiyur.

The Ministry of Human Resources Development of the Government of India has nurtured IIT Madras with utmost care. If we have grown today to become one of the premier institutions of the country and have earned global recognition, it is in substantial measure due to the generosity of MHRD. It is no exaggeration, therefore, to state that we exist in order to serve the country and her people.

We express our deepest gratitude for the generous assistance of the German government in our formative years. More than 75 German faculty and technical staff served at IIT Madras, and our laboratories were fully equipped with the best machinery then available. In keeping with their famed quality, the German equipment kept working until, finally, we were forced to retire them to overcome obsolescence, though we still cling to a few! We continue to have thriving collaborations not just with German universities, but with many other leading universities from across the world. Today,



we are awarding four PhD degrees jointly with University of Technology Sydney, Swinburne University and National Tsing Hua University.

The first batch of 107 students graduated in 1964, and the first PhD degree was awarded in 1965. Today, 2,584 degrees, including 371 PhD degrees, will be awarded. Over the past 60 years, more than 40,000 alumni have stepped out of our portals and made a mark for themselves and the Institute. Among them are captains of industry, leading scientists of India's space, defence and nuclear establishments, academicians of global renown, entrepreneurs who have created entirely new industries, civil servants of distinction, and even a famous musician or two. Many of our alumni partner and engage with the Institute in various ways, including outreach to engineering college students in order to help them with internships, startups, and industry exposure.

We recall with gratitude the efforts of about 1,800 faculty members and 2,400 staff members, who have toiled under the stellar leadership of eleven Directors during these 60 years. It was not easy to remain wedded to excellence, when resources were limited and global contacts sparse.

While the Institute has grown steadily since inception, it has done so by leaps and bounds in the last decade since our Golden Jubilee. In this period, our student strength has doubled. We have built a large number of new hostels, academic buildings, and residences, even as we have ensured that our campus retains its greenery and its fauna. Between 2009-2019, our faculty strength has grown by 50 per cent and research scholar population has nearly trebled, while research funding has outpaced this to go up six times. Our research output too has gone up dramatically in this period.

IIT Madras prides itself on its research collaboration with industry, its Industrial Consultancy Centre harking back to 1973, mentored by the Germans before they departed. The start-up ecosystem at IIT Madras is known for its deep-technology startups and counts amongst the best in the country. Given this remarkable growth, our alumni and other donors have affirmed their faith in their alma mater by increasing their contributions forty-fold in this period, to touch ₹ 73 crore annually last year.

These key performance indicators have led to the Institute being ranked first among engineering institutes in the NIRF rankings, first in the Atal Innovation rankings, and most recently being declared as an Institution of Eminence.

Perhaps less well-known are the several technological contributions of our faculty, students and startups that have had a deep and lasting impact on our people and the country, as these do not show up in any ranking framework.

Among the first high-impact projects undertaken was the saving of India's fast-depleting forests by replacing wooden railway sleepers. IIT Madras and Indian Railways designed and tested the country's first pre-stressed concrete sleeper in the only laboratory equipped to do so at the time. IIT Madras also helped a dozen entrepreneurs set up manufacturing lines for the sleepers.

In the 80s, IIT Madras about 30 self-standing concrete towers for designed for Doordarshan the first time in India. The towers were to be erected across the country, from Kasauli in the north to Rameshwaram in the south, from Bhuj in the west to Itanagar in the east. At 330m, some of these remain today the tallest free-standing structures in the country. The tower at Bhuj was among the few buildings to survive the devastating earthquake of 2002.

When India was looking for an alternative to the investment-heavy landline telephone in the nineties, IIT Madras developed and commercialised technology for fixed wireless telephones costing only a third as much as landlines. More than a million lines were deployed and were also exported to a dozen countries. Today, we have teamed up with seven other institutes to build a complete end-to-end 5G wireless system.

Since 1985, IIT Madras has been taking up important tasks for ISRO, including some for the Chandrayaan Mission. Two years from now, Indian astronauts will travel to space and return in the crew module whose splashdown was successfully tested in the Bay of Bengal in 2014. In 2012, IIT Madras had designed and tested for ISRO a 4:1 scale model in its wave basin, one of only two in the country that can simulate ocean conditions.

The National Cancer Tissue Biobank at IIT Madras has till date collected tissue samples from more than 3,250 patients and completed genome sequencing of 320 breast cancer samples for establishing an India-specific cancer genome database.

When floods devastated Kedarnath in 2013, our National Centre for Safety of Heritage Structures carried out for ASI subsoil and vibration tests, safety assessment for hydrostatic and earthquake loads, and recommended steps for structural conservation, seismic retrofit and health monitoring.

In order to attain 100 percent electrification of homes under the Prime Minister's Saubhagya Scheme, IIT Madras provided its off-grid solar-dc technology in partnership with startup Cygni, for around 45,000 homes in totally inaccessible regions of Rajasthan, Ladakh, Manipur, Assam and Meghalaya.

Based on 20 years of nanotechnology research, AMRIT filters developed by our Centre for Clean Water are delivering arsenic- and iron-free water at 2 paise per litre to over a million people in Punjab and Bengal every day.

The country's only approved mobile eye surgery facility, jointly developed by IIT Madras and Sankar Netralaya, has performed more than 20,000 cataract surgeries in villages across Tamil Nadu and Jharkhand. Partnering with J Mitra, which has developed the country's first benchtop blood testing instrument iQuant, the Institute is revolutionising clinical testing in small towns across the country.

IIT Madras has brought to bear its knowledge of the science of tyre dynamics to help JK Tyres create India's most fuel-efficient truck tyres that compete with the global best in class.

After helping revive the Eden Channel in Haldia Port resulting in avoidance of dredging spoils as well as annual savings of ₹ 250 crore, our National Port Centre is now optimising the dredging for the Ghogha-Dahej RoRo service.



As advanced manufacturing technology is key for the Make in India programme, IIT Madras has collaborated with many machine tool builders to develop state-of-the-art machines, some of which are embargoed. We provide, in partnership with a startup Dhvani, advanced inspection machines for critical precision manufacturing. The problem of high wear of the cold drawing dies in the manufacture of seamless tubes at TI has been addressed by IIT Madras using Chemical Vapour Deposition diamond coating technology, that has increased die-life four times and provided better product finish.

The indigenous Shakti family of microprocessors with architectural support for machine learning, fault tolerance and security, are being used both in critical applications as well as by industry.

Our work for the Tamil Nadu government spans many dimensions. The Tamilnadu Accident and Emergency-Care Initiative, designed by IIT Madras, has had an immediate impact in reducing trauma-related mortality, and is now being adopted by MORTH as a pan-India model. The State Health Resources Centre on our campus has carried out a study of the Chief Minister's Comprehensive Health Insurance Scheme and published the Tamil Nadu Health accounts. We carry out cybersecurity studies at the Cyber Arangam, and assist in infrastructure projects and pollution control through the Centre for Urbanization, Buildings and Environment.

The affordable, environment-friendly and rapid-construction Glass-fiber Reinforced Gypsum housing technology developed at IIT Madras was used to construct hostels at IIT-Tirupati, and is now ready for nation-wide adoption to tackle the housing challenge.

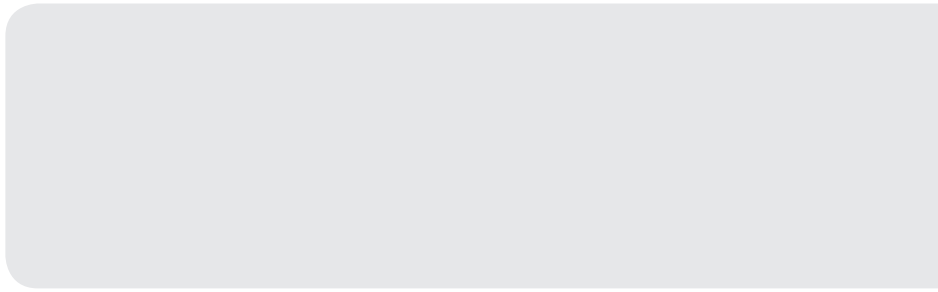
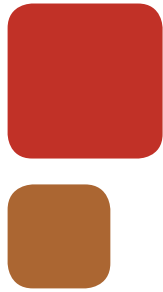
With nearly 200 startups incubated at the IIT Madras Research Park till date, some early ones are now approaching unicorn status. What started as a student prototype in 2014 is now India's leading e-scooter—the Ather450; the conversational AI company Uniphore is making waves globally with its voice-driven technologies; and small dairy farms are being automated and assisted through IoT and cloud-based intelligence by Stellapps. We are confident that several more startups will join their ranks each year as we go forward.

India will grow rapidly over the next 15 years and IIT Madras will do more than its share to make this happen. As the world changes rapidly around us, accelerated by the revolutions in automation, AI and new materials, it is not enough to aspire to rise to the level of the best-in-class institution of today. Tomorrow's model university must not only produce the best graduates and most advanced research discoveries, but should simultaneously also be of utmost relevance to the community and country through the impact of its work and startups. IIT Madras aspires to reach the highest peaks of both excellence and relevance, and thus serve the country and her people in an exemplary manner.

Before I conclude, I congratulate the graduating classes of 2019 and the award winners for their hard work and stupendous performance. IIT Madras is proud of you and is confident that you will keep the flag of our Institute flying high.

Jai Hind!





Administration

2.1. General

The Indian Institute of Technology Madras (IIT Madras) is an autonomous statutory organisation functioning within the Institutes of Technologies Act 1961, as amended by the Institute of Technology Amendment Act, 1963. The IITs (at Mumbai, Kanpur, Kharagpur, Delhi, Guwahati, Roorkee, Rupnagar, Bhubaneswar, Gandhinagar, Hyderabad, Patna, Jodhpur, Mandi, Indore, Varanasi (BHU) and Chennai) are administrated centrally by the Councils of IITs, an apex body established by the Government of India (GoI) to coordinate the activities of these institutes. The Minister for Human Resource Development, GoI is the Chairperson of the Council. Each IIT has a Board of Governors responsible for overall administration and control.

The Senate decides the academic policies of IIT Madras. It approves and controls the curricula, courses, examinations

and declaration of results. It appoints various committees to look into specific academic matters arising from time to time. The teaching, training and research activities of various departments at the institute are constantly under review to improve facilities and standards. The Director of the institute is the Chairman of the Senate. The members of the Senate are listed in the Appendix. The Finance Committee provides financial advice. The Buildings and Works Committee advise the institute on matters relating to buildings and works activities. The compositions of these committees and boards, together with a list of other officers, are also provided in the Appendix.

2.2. Staff Position

As on 31 March 2019, 594 faculty members and 82 Group A officers were in position.

2.2.1. Number of Faculty/Employees in Position

Faculty Members	Visiting Faculty	Group A Staff	Scientific Officer	Technical Staff	Administrative Staff
594	54	82	-	267	328

Number of faculty and Employees Appointed during 2018-2019

Professors	Associate Professors	Assistant Professors	Visiting Faculty and others	Administrative and Technical Staff (including Group A)
47	26	20	21	19

**2.2.2. Faculty/Employees Appointed Between 1 April 2018 and 31 March 2019**

Sl. No.	ID. No.	Name	Designation	Department/ Section	Date of Joining
Assistant Professor					
1.	8925	Pradeep Konda Gokuldoss	Assistant Professor	Metallurgical and Materials Engineering	1 May 2018
2.	8922	Pratyush Kumar	Assistant Professor	Computer Science and Engineering	28 March 2018
3.	8926	Piyush Chausali	Assistant Professor	Civil Engineering	28 May 2018
4.	8930	Venkatraman Srinivasan	Assistant Professor	Civil Engineering	23 July 2018
5.	8931	Vidya Praveen Bhallamudi	Assistant Professor	Physics	20 July 2018
6.	8847	Basudev Roy	Assistant Professor	Physics	20 July 2018
7.	8799	Vaibhav Madhok	Assistant Professor	Physics	20 July 2018
8.	8933	P. Aprameyan	Assistant Professor	Mathematics	23 August 2018
9.	8934	Tarun Naskar	Assistant Professor	Civil Engineering	31 August 2018
10.	8935	Ramesh Kasilingam	Assistant Professor	Mathematics	3 September 2018
11.	8936	Jithin John Varghese	Assistant Professor	Chemical Engineering	24 October 2018
12.	8937	Abhishek Sinha	Assistant Professor	Electrical Engineering	12 November 2018
13.	8938	Bharath M Govindarajan	Assistant Professor	Aerospace Engineering	14 November 2018
14.	8940	K.C. Sivaramakrishnan	Assistant Professor	Computer Science and Engineering	2 January 2019
15.	8941	Phanisri Pradeep Pratapa	Assistant Professor	Civil Engineering	21 January 2019
16.	8943	R. Arun	Assistant Professor	Computer Science and Engineering	1 March 2019
17.	8944	Vipin Pudiyaadath Veetil	Assistant Professor	Humanities and Social Sciences	1 March 2019
18.	8945	Bhaswar Chakrabarti	Assistant Professor	Electrical Engineering	8 March 2019
19.	8946	Abhilash Sharma Somayajula	Assistant Professor	Ocean Engineering	21 March 2019
20.	8497	Nirav Pravinbhai Bhatt	Assistant Professor	Biotechnology	22 March 2019
Associate Professor					
1.	8939	Anbarasu Manivannan	Associate Professor	Electrical Engineering	4 December 2018
Professor					
1.	8932	S. Christopher	Professor	Electrical Engineering	1 August 2018

Group A Officer

Sl. No.	ID. No.	Name	Designation	Department/ Section	Date of Joining
1.	8924	Dr. Jane Prasad (on deputation)	Registrar	Registrar Office	20 April 2018
2.	8949	Raman Kumar	Assistant Registrar	F&A	1 April 2019

Visiting Faculty and Others

Sl. No.	Faculty Name	Designation	Department	Date of Joining
1	Srinivasan A. Mandayam	VAJRA Visiting Faculty	Applied Mechanics	5 March 2018
2	Liam Paul Barry	VAJRA Visiting Faculty	Electrical Engineering	28 March 2018
3	Perumal Nithiarasu	VAJRA Visiting Faculty	Applied Mechanics	2 April 2018
4	Shrikanth S. Narayanan	VAJRA Visiting Faculty	Computer Science and Engineering	12 April 2018
5	Ranjith Pathegama Gamge	VAJRA Visiting Faculty	Applied Mechanics	16 April 2018
6	Marcus Pandey	VAJRA Visiting Faculty	Mechanical Engineering	17 April 2018
7	V. Pramitha	INSPIRE Hosted Faculty	Electrical Engineering	25 April 2018
8	Juergen Eckert	VAJRA Visiting Faculty	Metallurgical and Materials Engineering	4 May 2018
9	Hadas Mamane	Visiting Faculty	Civil Engineering	7 May 2018



Sl. No.	Faculty Name	Designation	Department	Date of Joining
10	Mansi Sharma	INSPIRE Hosted Faculty	Electrical Engineering	11 May 2018
11	Chiungwen Chang	Visiting Faculty	Humanities and Social Sciences	3 July 2018
12	Nirav Pravinbhai Bhatt	Visiting Faculty	Biotechnology	21 August 2018
13	Johannes Wenzel	Visiting Faculty under DAAD Program	Humanities and Social Sciences	10 September 2018
14	T. Jayachandran	Visiting Faculty	Aerospace Engineering	16 October 2018
15	Aleksandar Stevanovic	Visiting Faculty	Civil Engineering	26 November 2018
16	Vijay Nagarajan	Visiting Faculty	Computer Science and Engineering	30 November 2018
17	Subhas Chandra Mukhopadhyay	Visiting Faculty	Electrical Engineering	10 December 2018
18	Mahesh Illindala	Visiting Faculty	Electrical Engineering	4 January 2019
19	D. Bonvin	Chevron Chair Professor	Chemical Engineering	14 January 2019
20	Surendra P. Singh	Honorary Visiting Faculty	Physics	21 January 2019
21	G. Rajeswaran	Professor of Practice	Electrical Engineering	24 January 2019

Employees

Sl. No.	ID. No.	Name	Designation	Department/Section	Date of Joining
1	8923	S. Veena	Staff Nurse	Institute Hospital	19 April 2018
2	8927	S. Arun Kumar	Junior Engineer	Engineering Unit	4 June 2018
3	8928	Saibani Sathapathi	Junior Assistant	Aerospace Engineering	20 June 2018
4	8942	N. Ramadoss	Horticulture Assistant	Engineering Unit	22 February 2019
5	8711	S. Rajasekar	Junior Engineer- Electrical	Engineering Unit	14 March 2019
6	8712	P. Viswanathan	Junior Engineer-Civil	Engineering Unit	14 March 2019

2.2.3. Internal Faculty/Employees Appointed in Higher Grades During 2018-19

Sl. No.	ID. No.	Name	Designation	Department/Section	Date of Joining
1.	8563	Manikandan S. Mathur	Associate Professor	Aerospace Engineering	20 July 2018
2.	8458	Smita Srivastava	Associate Professor	Biotechnology	20 July 2018
3.	8464	Vignesh Muthuvijayan	Associate Professor	Biotechnology	20 July 2018
4.	8481	Karthik Raman	Associate Professor	Biotechnology	20 July 2018
5.	8567	Raghavendra Rao B V	Associate Professor	Computer Science and Engineering	20 July 2018
6.	8594	Beeraiah Baire	Associate Professor	Chemistry	20 July 2018
7.	8650	Mahiuddin Baidya Md	Associate Professor	Chemistry	20 July 2018
8.	8296	Sandipan Bandyopadhyay	Associate Professor	Engineering Design	20 July 2018
9.	8562	Ganapathy Krishnamurthi	Associate Professor	Engineering Design	20 July 2018
10.	8348	Bharath Bhikkaji	Associate Professor	Electrical Engineering	20 July 2018
11.	8480	Aniruddhan S	Associate Professor	Electrical Engineering	20 July 2018
12.	8498	Radhakrishna Ganti	Associate Professor	Electrical Engineering	20 July 2018
13.	8505	Krishna Prasanna Jagannathan	Associate Professor	Electrical Engineering	20 July 2018
14.	8668	Santanu Sarkar	Associate Professor	Mathematics	20 July 2018
15.	8558	Upadhye Neelesh Shankar	Associate Professor	Mathematics	20 July 2018
16.	8573	Kunal Krishna Mukherjee	Associate Professor	Mathematics	20 July 2018
17.	8444	Anand T N C	Associate Professor	Mechanical Engineering	20 July 2018
18.	8576	Kumar Annabattula V V S D R	Associate Professor	Mechanical Engineering	20 July 2018
19.	8664	Sundararajan Natarajan	Associate Professor	Mechanical Engineering	20 July 2018
20.	8591	Parasuraman Swaminathan	Associate Professor	Metallurgical and Materials Engineering	20 July 2018
21.	8414	Richa Agrawal	Associate Professor	Management Studies	20 July 2018
22.	8475	Rupashree Baral	Associate Professor	Management Studies	20 July 2018



Sl. No.	ID. No.	Name	Designation	Department/Section	Date of Joining
23.	8472	Deepak Kumar	Associate Professor	Ocean Engineering	20 July 2018
24.	8608	Sriram V	Associate Professor	Ocean Engineering	20 July 2018
25.	8521	Dillip Kumar Satapathy	Associate Professor	Physics	20 July 2018

Professors

S. No.	ID. No.	Name	Designation	Department/Section	Date of Joining
1.	8294	Sunetra Sarkar	Professor	Aerospace Engineering	20 July 2018
2.	8340	Sameen A	Professor	Aerospace Engineering	20 July 2018
3.	8241	Muruganandam T M	Professor	Aerospace Engineering	20 July 2018
4.	8593	Sivasambu Mahesh	Professor	Aerospace Engineering	20 July 2018
5.	8205	Anuradha Banerjee	Professor	Applied Mechanics	20 July 2018
6.	8263	Sujatha N	Professor	Applied Mechanics	20 July 2018
7.	8291	Sayan Gupta	Professor	Applied Mechanics	20 July 2018
8.	8436	Arul Jayachandran	Professor	Civil Engineering	20 July 2018
9.	8237	Saravanan U	Professor	Civil Engineering	20 July 2018
10.	8253	Lelitha Devi V	Professor	Civil Engineering	20 July 2018
11.	8344	Raghukanth S T G	Professor	Civil Engineering	20 July 2018
12.	8588	Benny Raphael	Professor	Civil Engineering	20 July 2018
13.	8251	Shiva Nagendra S M	Professor	Civil Engineering	20 July 2018
14.	8328	Sridharakumar Narasimhan	Professor	Chemical Engineering	20 July 2018
15.	8266	Ravikrishna R	Professor	Chemical Engineering	20 July 2018
16.	8351	Raghuram Chetty	Professor	Chemical Engineering	20 July 2018
17.	8669	Niket S Kaisare	Professor	Chemical Engineering	20 July 2018
18.	8265	Shankar Ram C S	Professor	Engineering Design	20 July 2018
19.	8157	Balaji S	Professor	Electrical Engineering	20 July 2018
20.	8193	Shanti Bhattacharya	Professor	Electrical Engineering	20 July 2018
21.	8319	Sujatha Srinivasan	Professor	Mechanical Engineering	20 July 2018
22.	8191	Shamit Bakshi	Professor	Mechanical Engineering	20 July 2018
23.	8320	Janaki Ram G D	Professor	Metallurgical and Materials Engineering	20 July 2018
24.	8435	P Krishna Prasanna	Professor	Management Studies	20 July 2018
25.	8462	Saji K Mathew	Professor	Management Studies	20 July 2018
26.	8214	A. P. Baburaj	Professor	Applied Mechanics	15 March 2019
27.	8322	K. Arul Prakash	Professor	Applied Mechanics	15 March 2019
28.	8159	R. Baskar	Professor	Biotechnology	15 March 2019
29.	8304	Madhulika Dixit	Professor	Biotechnology	15 March 2019
30.	8225	V. Kesavan	Professor	Biotechnology	15 March 2019
31.	8310	Balaji Narasimhan	Professor	Civil Engineering	15 March 2019
32.	8425	Boby George	Professor	Electrical Engineering	15 March 2019
33.	8331	Srirama Srinivas	Professor	Electrical Engineering	15 March 2019
34.	8207	Nagena Krishnapura	Professor	Electrical Engineering	15 March 2019
35.	8330	M. Ramanathan	Professor	Engineering Design	15 March 2019
36.	8343	G. Saravana Kumar	Professor	Engineering Design	15 March 2019
37.	8572	Rajesh Kumar	Professor	Humanities and Social Sciences	15 March 2019
38.	8325	Arshinder Kaur	Professor	Management Studies	15 March 2019
39.	8442	Usha Mohan	Professor	Management Studies	15 March 2019
40.	8299	Rahul Ratnakar Marathe	Professor	Management Studies	15 March 2019
41.	8312	Srinivasa Rao Manam	Professor	Mathematics	15 March 2019
42.	8323	A.K.B. Chand	Professor	Mathematics	15 March 2019
43.	8469	Prabhu Rajagopal	Professor	Mechanical Engineering	15 March 2019
44.	8450	Jitendra Shital Sangwai	Professor	Ocean Engineering	15 March 2019
45.	8431	Rajiv Sharma	Professor	Ocean Engineering	15 March 2019
46.	8268	P. Murugavel	Professor	Physics	15 March 2019



Group A Officers

S. No.	ID No.	Name	Designation	Department/Section	Date of Joining
1.	565	P.K. Shebasabari	Assistant Registrar	Academic	4 May 2018
2.	8233	Rebecca Punithavalli	Chief Medical Officer	Hospital	19 September 2018
3.	8586	Y.E.L. Sudhakar Rao Pujari	Deputy Registrar	Dean (Students)	30 October 2018
4.	684	K. Sulochana	Technical Officer (Senior Scale)	Central Electronics Centre	3 December 2018
5.	939	K.K. Muthuswamy	Technical Officer	Central Electronics Centre	3 December 2018
6.	127	R. Muthuswamy	Technical Officer	Civil Engineering	3 December 2018
7.	1214	N. Mary Sabthiha Rani	Assistant Registrar	Engineering Unit	13 December 2018
8.	8049	D. Ravi	Assistant Registrar	Admin.II	4 February 2019
9.	283	V. Manickavasagam	AEE (EE)	Engineering Unit	3 December 2018
10.	2901	C. Baby	Senior Technical Officer	Sophisticated Analytical Instrument Facility (SAIF)	18 January 2019
11.	897	A. Narayanan	Technical Officer (SS)	Chemistry	22 January 2019

2.2.4. Employees Promoted during April 2018 to March 2019

Sl. No.	ID. No.	Name	Designation	Department/Section	Date of Joining
1	1138	M. Lakshmanan	Senior Cook	Main Guest House	3 May 2018
2	333	M. Ranjan	Chief Conductor	Security Section	22 May 2018
3	8037	B. Arumugam	Attendant (SS)	Electrical Engineering	22 May 2018
4	2896	N. Mohan	Junior Superintendent	Dean, Academic	22 May 2018
5	207	M. Thilakar Gandhi	Junior Superintendent	Chemical Engineering	22 May 2018
6	987	P. Karunanidhi	Senior Attendant	Physics	22 May 2018
7	2332	A. Raghavan	Senior Attendant	Metallurgical and Materials Engineering	22 May 2018
8	293	K. Steven Satyaraj	Senior Attendant	Aerospace Engineering	22 May 2018
9	2226	S. K. Vahida	Senior Attendant	Dean Admin Office	22 May 2018
10	8005	S. Babu	Senior Attendant	Mechanical Engineering	4 June 2018
11	616	M. Srihar	Superintendent	Recruitment	19 June 2018
12	1037	C. Syam Kumar	Junior Superintendent	Computer Science and Engineering	19 June 2018
13	1309	P. N. Ragurajan	Superintendent	Electrical Engineering	20 June 2018
14	2981	S. Balasubramanian	Technical Superintendent	Chemistry	10 December 2018
15	8024	K. Balasubramanian	Technical Superintendent	Central Workshop	10 December 2018
16	8463	R. Parthiban	Technical Superintendent	Metallurgical and Materials Engineering	10 December 2018
17	8485	P. Gayathri	Technical Superintendent	Computer Centre	10 December 2018
18	8523	Srinivasanaik M.	Senior Assistant	Centre for Continuing Education office	17 December 2018
19	8524	R. Anand	Senior Assistant	Civil Engineering	17 December 2018
20	8525	R. Sujatha	Senior Assistant	Finance and Accounts	17 December 2018
21	8527	T. Ravibabu	Senior Assistant	Placement office	17 December 2018
22	8534	P. Satyanarayana	Senior Assistant	Administration	17 December 2018
23	8535	P. Nallathambi	Senior Assistant	Dean (Students)	17 December 2018
24	8536	K. Naresh Kumar	Senior Assistant	Academic Section	17 December 2018
25	8539	G. Hemalatha	Senior Assistant	Mechanical Engineering	17 December 2018
26	8540	M. Sahaya Josephin Mary	Senior Assistant	Academic Section	17 December 2018
27	8543	A. Prasanna	Senior Assistant	Academic Section	17 December 2018
28	8544	Balaji Nayak Ramavath	Senior Assistant	Computer Science and Engineering	17 December 2018
29	8546	H. Dhanalakshmi	Senior Assistant	Engineering Design	17 December 2018
30	8547	S. I Varun Durai	Senior Assistant	Aerospace Engineering	17 December 2018
31	8548	A. Jeevarathinam	Senior Assistant	Finance and Accounts	17 December 2018



Sl. No.	ID. No.	Name	Designation	Department/Section	Date of Joining
32	324	K. S. Murasoli	Junior Assistant	Central Library	17 December 2018
33	1054	R. Manoharan	Chief Driver	Transport Cell	17 December 2018
34	8039	R. Ravi	Attendant(SS)	Engineering Unit	17 December 2018
35	1523	Sivaji	Senior Assistant	Biotechnology	20 December 2018
36	750	Dr. Vijayashree	Junior Technical Superintendent	Mechanical Engineering	28 December 2018
37	631	A Thayalan	Senior Technician	Aerospace Engineering	28 December 2018
38	8385	K. Sudhakar	Senior Technician	Engineering Design	28 December 2018
39	8412	S. Praveen	Senior Technician	Central Workshop	28 December 2018
40	8416	S Sudhakar	Senior Technician	Engineering Design	28 December 2018
41	723	K. Deivasikamani	Junior Technical Superintendent	Physics	31 December 2018
42	8377	Varun V	Senior Technician	Physics	31 December 2018
43	8378	M. Vasanthamalar	Senior Technician	Physics	31 December 2018
44	8396	A. Sathish	Senior Technician	Physics	31 December 2018
45	8423	S. Shanmuga Priya	Senior Technician	Ocean Engineering	31 December 2018

2.2.5. Financial Upgrade under MACPS

- Number of Group A Officers granted financial upgrade under MACPS: 1
- Number of employees granted financial upgrade under MACPS: 22

2.2.6. Faculty/Employees who Resigned/Relieved

Sl. No.	ID	Name	Designation	Department	DOR
1	8456	Selva Ganapathy R	Junior Technical Superintendent	Chemical Engineering	27 June 2018
2	8906	R. Azhagappan	Junior Technician	Central Workshop	28 August 2018
3	8788	M. Govarthanan	Junior Technician-Horticulture	Engineering Unit	9 October 2018

2.2.7. Faculty/Employees who opted Voluntarily Retirement

S. No.	ID No.	Name	Designation	Department/Section	Date of Relief
1	1967	H. Anandaram	Executive Engineer	Engineering Unit	28 February 2019
2	3075	M. Selvarajan	Senior Technical Superintendent (Draughtsman)	Engineering Unit	4 July 2018
2	592	Dhananjayan P	Superintendent	Chemistry	17 October 2018
3	1099	T. S. Thirugnana Sambandam	Senior Security Inspector	Security Section	3 January 2019

2.2.8. Faculty/Employees who Superannuated Between 1 April 2018 and 31 March 2019

Sl. No.	ID. No.	Name	Designation	Department/Section	Date of Retirement
1	1121	K. Anbarasu	Assistant Registrar	Audit	30 April 2018
2	1162	Sampath V	Senior Cook	Taramani Guest House	30 April 2018
3	2337	Kumaran J	Lab. Assistant	Chemical Engineering	30 April 2018
4	8281	A. Jayakrishnan	Professor	Biotechnology	30 April 2018
5	8231	Lt. Col. Jayakumar	Jt. Registrar (Students)	O/o Dean (Students)	31 May 2018
6	59	Gunalan A	Superintendent	Mechanical Engineering	31 May 2018
7	160	Usharani N	Senior Technical Superintendent	Electrical Engineering	31 May 2018
8	936	Devika V	Technical Superintendent	Ocean Engineering	31 May 2018
9	1522	Kannan M	Junior Superintendent	Electrical Engineering	31 May 2018
10	2605	P. Veeramani	Professor	Mathematics	31 May 2018
11	2855	Thomas A	Senior Attendant	Hospital	31 May 2018
12	819	Gandham James	Attendant	Civil Engineering	30 June 2018
13	1046	Thiagarajan C	Junior Technical Superintendent	Physics	30 June 2018
14	1595	R. Usha	Professor	Mathematics	30 June 2018
15	1708	Yesu A	Attendant	Stores and Purchase	30 June 2018



Sl. No.	ID. No.	Name	Designation	Department/Section	Date of Retirement
16	1869	R. Chandrakasu	Assistant Registrar	Admin	30 June 2018
17	2397	Ashok Jhunjhunwala	Professor	Electrical Engineering	30 June 2018
18	2430	K. Ponnuraju	SO	Electrical Engineering	30 June 2018
19	2969	Kamalab G R	Senior Technical Superintendent	SAIF	30 June 2018
20	333	Ranjan M	Chief Conductor	Security Section	31 July 2018
21	627	M. Karuppiah	Technical Officer	Aerospace Engineering	31 July 2018
22	784	Manikkam V	Junior Technical Superintendent	Physics	31 July 2018
23	1050	Ramu D	Senior Security Inspector	Security Section	31 July 2018
24	2627	S.H. Kulkarni	Professor	Mathematics	31 July 2018
25	2975	V. Rajendran	Assistant Registrar	Academic	31 August 2018
26	1134	S. Sundaravinayagam	Joint Registrar	IC&SR	28 September 2018
27	172	Mukunthan R	Senior Technician	Mechanical Engineering	30 September 2018
28	1026	Inbamani D	Technical Superintendent	Centre for Continuing Education	30 September 2018
29	8020	Parthasarathy A R	Junior Technical Superintendent	Central Workshop	30 September 2018
30	872	V. Ravichandran	Deputy Systems Officer	Computer Centre	31 October 2018
31	2968	N. Sivaramakrishnan	Technical Officer	SAIF	31 October 2018
32	173	Sathiyabama M	Senior Technical Superintendent	Electrical Engineering	30 November 2018
33	8664	G. Sundararajan	Professor	Metallurgical and Materials Engineering	31 December 2018
34	2854	Vijayakumari Ramachandran	Office Assistant	RTI and Legal Cell	31 January 2019
35	700	P. Radhakrishnan	Technical Officer	Mechanical Engineering	31 March 2019
36	1202	R. Esakkimuthu	Joint Registrar	Academic	31 March 2019
37	3064	Ramamurthy V	Junior Technical Superintendent	Engineering Design	31 March 2019

2.2.9. Faculty/Employees who Passed Away While in Service

Sl. No.	ID. No.	Name	Designation	Department	Date
1.	8337	Aditi Simha	Assistant Professor	Physics	5 December 2018
2.	8685	Upendra Kumar Maurya	Assistant Professor	Management Studies	2 March 2019

2.2.10. Faculty/Employees who were on Extraordinary Leave/Deputation/Lien

Sl. No.	ID	Name	Designation	Department	From	To	Visits (Name and Venue)
1.	5004	Dr. Thenmozhi M	Professor	MS	25 April 2018	24 April 2023	Director at National Institute of Securities Market, Navi Mumbai
2.	8202	Dr. Balaganesan G	STO	Central Workshop	16 August 2018	15 August 2019	Assistant Professor at IIT Jammu
3.	8079	Chellapandian S	Senior Technician	Central Workshop	25 September 2017	24 April 2019	EOL for personal reasons
4.	8766	Silpa K S	Junior Assistant	Internal Audit	3 December 2018	31 January 2019	EOL for personal reasons

2.2.11. Faculty Members who were on Sabbatical

Sl. No.	Name	Designation	Department	From	To	Name and Venue
1.	Dr. Milind Brahme	ASP	Humanities and Social Sciences	1 January 2018	31 December 2018	A Visiting Scholar at Centre for German Studies, JNU, New Delhi
2.	Dr. Hema A Murthy	Professor	Computer Science and Engineering	1 January 2018	31 December 2018	Working on a test to speech synthesis and CBR activity at IITM



Sl. No.	Name	Designation	Department	From	To	Name and Venue
3.	Dr. Kunal Krishna Mukherjee	AP	Mathematics	5 January 2018	4 November 2018	Visiting position at Institute of Mathematical Science, Chennai
4.	Dr. Shomit Bakshi	ASP	Mechanical Engineering	23 April 2018	26 August 2018	Alexander von Humboldt Fellowship, Germany
5.	Dr. Rajesh R Nair	ASP	Ocean Engineering	1 July 2018	1 January 2019	DAAD Fellowship, Germany
6.	Dr. Sankaran Shanmugam	Professor	Metallurgical and Materials Engineering	1 May 2018	30 June 2019	Humboldt Research Fellowship
7.	Dr. K. Giridhar	Professor	Electrical Engineering	6 June 2018	10 March 2019	Visiting Lead Researcher at Data Patterns (India) Private Limited, Chennai
8.	Dr. John Ebenezer Augustine	ASP	Computer Science and Engineering	1 August 2018	31 July 2019	Visiting Associate Professor, National University of Singapore
9.	Dr. Nandivada Venkata Krishna	ASP	Computer Science and Engineering	30 July 2018	1 June 2019	JT Oden Faculty Fellow, University of Texas, Austin, USA
10.	Dr. Joel George M	ASP	Aerospace Engineering	1 August 2018	31 May 2019	Book writing and research activities
11.	Dr. Amal Kanti Bera	Professor	Biotechnology	3 September 2018	31 May 2019	Visiting scientist at USA
12.	Dr. Sujith R I	Professor	Aerospace Engineering	2 January 2019	1 January 2020	Book writing
13.	Dr. Thamban Nair M	Professor	Mathematics	1 January 2019	31 May 2019	Book writing
14.	Dr. Gaurav Raina	ASP	Electrical Engineering	1 January 2019	31 December 2019	Incubation of Data Sciences Venture, IITMIC
15.	Dr. S. Subash	ASP	Humanities and Social Sciences	1 January 2019	30 June 2019	Book writing, New Delhi
16.	Dr. Ramkrishna Pasumarthy	ASP	Electrical Engineering	1 February 2019	31 May 2019	Research work, IITM Research Park and USA
17.	Dr. Michael Gromiha M	Professor	Biotechnology	19 August 2019	17 January 2020	Visiting Professor
18.	Dr. R. Sarathi	Professor	Electrical Engineering	4 March 2019	2 May 2019	Visiting Scholar

2.3. Staff Welfare

2.3.1. Human Resource Development

As part of human resource development (HRD) activities, the institute plans and implements programmes for providing opportunities to technical and administrative employees to update and upgrade their knowledge and skills so that they may perform their duties effectively. The programmes are also aimed at enhancing the pride and satisfaction they feel in their work. The overall feeling of happiness engendered by these programmes overflows to their home lives and contributes to a sense of well-being to the entire family. These activities also form a part of the training requirements under the ISO dispensation.

2.3.2. HRD programmes conducted

HRD activities were initiated at the institute in 1997 under the charge of a professor. In the period of reporting, three internal training programmes and one external training programmes organised by other institutions/organisations were attended by our employees. The impact of the various programmes, as seen from the feedback at the end of each programme, appears to be advantageous to the institute. The employees were able to upgrade their knowledge through these programmes, as these were designed based on needs.



Training Calendar for 2018

Sl. No.	Training Programme	Number of Employees Benefited
In-house Training		
1	ISO 9001:2015 Internal Auditor Training	26
2	Project Management for Engineers	3
3	Establishment Matters-Pay Fixation and MACPS Rules	40
Outstation Training		
4	Changes on ISO/IEC 17025:2005 in ISO/IEC 17025:2017	2
5	HR-Statutory Compliance	2
6	Right to Information Act, 2005	2
7	The Cytometry Society's 11 th Annual Conference plus Workshop	1
8	Public Procurement (Advanced)	1
9	Measurement uncertainty (MU) and proficiency testing (PT) and evaluation of scores	2
10	Motion control and automation system (B&R automation)	2
11	Sensors and IoT	1
12	Repair and rehabilitation of concrete structures, including waterproof materials and technique	2
13	Sequence analysis and molecular simulation	2

Ongoing Activities of Official Language, Hindi

The Hindi Cell at IIT Madras is functioning under the overall administrative control of the Registrar.

a) Hindi Training

In accordance with the directions of the Department of Official Language of the Home Ministry, GoI, Hindi Language Training was conducted regularly for both technical and administrative employees. In 2018-19, 64 employees successfully completed the Prabodh, Praveen and Pragya courses through online.

b) Hindi Workshops and Seminars

In 2018-19, four Hindi workshops were conducted in which six officers and 77 employees were given practical knowledge of day-to-day work in Hindi. They were also given detailed information about Official Language Policy and Rules by the Hindi Officers of various Central Government and PSU organisations.

c) OLIC Meeting

The Official Language Implementation Committee has been constituted to monitor the progressive use of official language in the institute. Four meetings are convened regularly in which achieving the targets prescribed for various items in the annual programme of MHA are discussed in detail.

Translation

Apart from routine translation, translation of advertisements for the teaching positions for M.Tech, Ph.D, administrative website, Annual Report and Accounts Report were carried out during the year under review.

e) Celebration of Hindi Day

The Hindi Day was celebrated on 25 September 2018 and was presided over by the Registrar and Chairman, OLIC. Dr. D. N. Singh, DGM, OL, S. Rly., and Member Secretary, TOLIC (O), Chennai was the chief Guest. The Registrar distributed certificates, cash awards and personal pay to the employees who successfully passed the Hindi examinations. Prizes were given to the winners of competitions such as Hindi essay, elocution, noting and drafting, enumeration, story-based competition, word power, Hindi Music (solo and group), and Hindi keyboard conducted during Hindi Fortnight. Annual cash incentive awards were given to nine employees. As a part of cultural programme, Hindi songs were rendered by students and a spot activity was conducted by the faculty in Hindi.

f) Other Activities for Effective Use of Official Language

Following activities were conducted to maintain congenial atmosphere for Hindi and to create interest in Hindi among the staff:

- Trilingual "Learn a word in Hindi" is sent through e-mail.
- Help literatures containing routine notes used by officers, glossary of technical terminology, and general knowledge and official language policy were prepared and distributed.
- World Hindi Day was celebrated on 23 January 2019. A quiz programme on the life history of the famous Hindi poetess, Mahadevi Varma was conducted.
- Mother Tongue Day was celebrated on 21 February 2019 wherein various linguistic unions presented cultural programmes.



- A coordination meeting with the officers and staff of the Administration was conducted on 18 March 2019 to increase the use of Hindi in official work.

TOLIC Activities

IIT Madras has an active participation in Town Official Language Implementation Committee (TOLIC) activities. The institute staff won prizes for presenting a poem in the Poets' meet and participation in the book review and extempore speech competitions. The Best Supporting Actress award was also won by our staff in the two-day drama competition organised by the TOLIC.

2.3.3. Children Education Assistance

In the financial year 2018-2019, the institute reimbursed a sum of ₹1,36,86,393 to 437 faculty and staff members towards Children Education Assistance as per Gol norms.

Group Mediciam Insurance Scheme

Category/Numbers of Persons Covered	Employee and Dependents	Pensioner and Spouse	Family Pensioner
Basic Coverage	3254	3703	415
Additional coverage	1284	827	87
Total premium paid		₹ 4,64,65,845	
Total number of claims made		795	
Total claimed amount		₹ 6,43,68,379	

Group Term Insurance Scheme

Category	Number of persons covered	
Basic Coverage	1268	
Additional coverage	106	
Total premium paid		₹ 1,13,92,115
Total number of claims made		NIL
Total claimed amount		₹ 0

Group Fire and Burglary Insurance Scheme

Total premium paid	₹ 15,86,017
Total number of claims made	Nil
Total claimed amount	Nil

2.3.7. List of Faculty Members and Officers in the Academic and General Administration

I. Academic Admin	
Director	Prof. Bhaskar Ramamurthi
Deans	
Academic Courses	Dr. V. Jagadeesh Kumar
Academic Research	Dr. A. K. Mishra
Admin	Dr. Koshy Varghese
Industrial Consultancy and Sponsored Research (IC&SR)	Dr. Ravindra Gettu
IC&SR (Associate Dean)	Dr. Kamakoti V
Students	Dr. M. S. Sivakumar
Planning	Dr. Ligy Philip
International and Alumni Relations	Dr. Mahesh Panchagnula



II. Heads of Departments

Aerospace	Prof. K. Bhaskar, Dr. P. Sriram
Applied Mechanics	Prof. S. Vengadesan, Prof. S. Ramakrishnan
Biotechnology	Prof. D. Karunakaran
Chemical Engineering	Prof. A. Kannan, Prof. R. Nagarajan
Chemistry	Prof. Indrapal Singh Aidhen, Prof. K. Mangala Sunder
Civil Engineering	Prof. K. Ramamurthy
Computer Science and Engineering	Prof. Krishnamoorthy Sivalingam, Prof. C. Chandra Sekhar
Electrical Engineering	Prof. Devendra Jalihal
Engineering Design	Prof. Srikanth Vedantam
Humanities and Social Sciences	Prof. Umakant Dash
Management Studies	Prof. L. Prakash Sai
Mathematics	Prof. S. Sundar
Mechanical Engineering	Prof. N. Ramesh Babu
Metallurgical and Materials Engineering	Prof. S. Ganesh Sundara Raman, Prof. Udayachandran Chakkingal
Ocean Engineering	Prof. S. A. Sannasiraj
Physics	Prof. Ramachandra Rao, Prof. K. Sethupathi

III. Head of Research Centre

Sophisticated Analytical and Instrumentation Facility	Dr. S. S. Bhattacharyya
IV. Head of Special Facilities for Interaction with other Institutions	
Centre for Industrial Consultancy and Sponsored Research	Dr. Ravindra Gettu
Chairman, Centre for Continuing Education	Dr. A. Ramesh
Centre Electronics Centre	Dr. V. Jagadeesh Kumar
Chairman, CC	Dr. Harishankar Ramachandran
Chairman	
GATE	Dr. Shaligram Tiwari, Dr. Nilesh J Vasa
JEE	Dr. Madhu Mutyam, Dr. Joytirmaya Tripathy

V. Central Admin

Registrar	Smt. Bhooma V G, Dr. Jane Prasad
Joint Registrar (Academic)	Shri R. Esakkimuthu, Shri D Ravee
Joint Registrar (Students)	Lt. Col. Jayakumar
A Section	Shri A. V. Sudarsanam
EU	Shri A. V. Sudarsanam
Deputy Registrars	
Admin	Shri V. Swaminathan, Shri PV Karunakaran, Smt. G. Chitrapavai
F&A Section	Shri P. V. Karunakaran
S&P Section	Smt. G. Chitrapavai
IC&SR	Shri S. Sundaravinayagam
Office of the Dean (Students)/T&P	Shri Y. E. L. Sudhakar Rao Pujari
Assistant Registrars	
Academic Section	Shri V. Rajendran, Shri Sheba Sabari P K
Administration	Shri R. Chandrakasu, Shri D Ravi Shri B. Vijay Shankar Smt. Rashmi Uday Kumar
Communication and PR	Smt. Rashmi Uday Kumar
F&A Section	Shri V. Perumal Shri R. Muralidharan
Recruitment Section	Smt. K. Vijayalakshmi
Office of the Dean (Students)/T&P	Shri Y. E. L. Sudhakar Rao Pujari
IC&SR	Shri P. Sarvaharana
Engineering Unit	Smt. Mary Sabthiha Rani N
Chief Security Officer	Shri N. Elumalai

**Central Library**

Librarian	Dr. Mahendra N. Jadhav
Deputy Librarian	Dr. M. Anandamurugan
Assistant Librarian	Dr. K. Saravanan

VI. Head of Central Services, Facilities and Section

Chief Medical Officer in-charge	Dr. Mahalakshmi M. Ravi
Chief Medical Officer	Dr. Rebecca Punithavalli (w.e.f. 19 September 2018)
Chairman, Council of Wardens	Dr. Sathyanarayana N. Gummadi
Central Gas Blowing Section	Dr. Varadarajan U. V.
Professor in-charge, CWS	Dr. Seshadri Sekhar A
Chairman, Library Advisory Committee	Dr. K. Ramamurthy
Coordinator, NSS	Dr. K. C. Sivakumar
Advisor, Sports	Dr. P. N. Santhosh
Advisor, Cultural	Dr. Nandita Das Gupta
Advisor (Co-Curricular)	Dr. B. Arockiarajan, Dr. Shaikh Faruque Ali
Advisor, Foreign Students	Dr. Sudarshan Padmanabhan
Chief Vigilance Officer (Part Time)	Dr. S. Sankararaman
Advisor (Placement and Training)	Dr. Manu Santhanam
Advisor, Mentoring for Individual Transformation (MITr)	Dr. G. Ranga Rao
Advisor (Weaker Section)	Dr. G. L. Samuel
Chairperson, Women's Forum	Dr. Preeti Aghalayam
Professor in-charge, Workflow	Dr. Rahul R. Marathe
Head, Centre for Innovation (CFI)	Dr. Body George
Professor in-charge, IIT Madras website	Dr. N.Narayanaswamy
Professor in-charge, RuTAG	Dr. Abhijit P. Deshpande

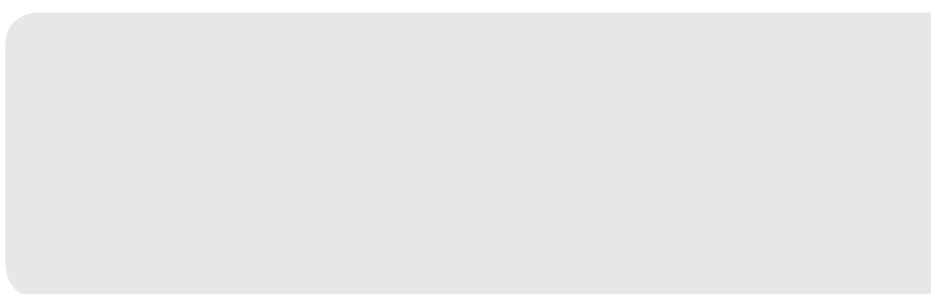
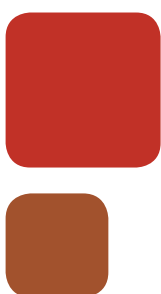
VII. EU

Chairman, EU	Dr. K Murali
Superintending Engineer	Shri H Anantharaman, Shri Viswanath
Executive Engineers	Shri K. Viswanath Shri K. Dharmaraj Dr. M. Ramachandran
Senior Horticulture Officer	Shri V. Seenivasa
Assistant Executive Engineers	Shri M. Murali Prakash Shri H. Anandaram Shri K. Rizwan Ali Smt. N. R. Vineetha Shri K Ravichandran Shri Ajay Krishnan Shri V Manickavasagam Shri Rajavel D Shri K Narayanaperumal

VIII.IC&SR

Senior Techno Economic Officer	Shri V. Suresh
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Academic Programmes and Award of Degrees

The Indian Institute of Technology Madras offered Ph.D. programme in all the 16 departments, M.S. programme in 12 departments, M.Tech programme (regular and web based) in 30 streams/specialisations, M.Sc. programme in three branches, B.Tech programme in nine branches, Dual Degree (B.Tech and M.Tech) programme in 38 streams/specialisation, Dual Degree (BS and MS) in Biological Sciences and Physics, M.B.A., EMBA, M.A. Integrated programme in two streams and a preparatory course for SC/ST/PwD students during the year under report.

3.1. Admissions 2018-19

The candidates for admission to B.Tech., Dual Degree and M.Tech. programmes were selected through JEE (Advanced)

and based on GATE score, respectively. Quite a few candidates were also selected for M.Tech. programme under Sponsored, Q.I.P. and User Oriented Programmes through interview and/or written test. The selection for Ph.D. and M.S. programmes was done through test/interview. For M.Sc. branches of Mathematics, Physics and Chemistry, selection was made through a common test JAM conducted jointly by IITs. For M.B.A. programme, selection was made through CAT and interview, for M.A. Integrated Programme selection was made through Humanities and Social Sciences Entrance Examination.

The number of students and scholars admitted to various programmes, both in July 2018 and in January 2019, are given in the following table:

Table 1 – Fresh Admission

Sl. No.	Department	B.Tech	Dual Degree	M.Tech	PG Diploma – VLM	PG Diploma – Metro Rail	M.Sc	M.B.A	EMBA	M.A	M.S	Ph.D	Total
1.	Aerospace Engineering	43	14	29							20	16	122
2.	Applied Mechanics			21							16	25	62
3.	Biotechnology		59	30							5	15	109
4.	Chemical Engineering	68	16	37							10	20	151
5.	Chemistry						51					55	106



Sl. No.	Department	B.Tech	Dual Degree	M.Tech	PG Diploma - VLM	PG Diploma - Metro Rail	M.Sc	M.B.A	EMBA	M.A	M.S	Ph.D	Total
6.	Civil Engineering	57	32	102		17					13	29	250
7.	Computer Science and Engineering	71	2	47							23	18	161
8.	Electrical Engineering	73	58	155							56	43	385
9.	Engineering Design		57								8	16	81
10.	Humanities and Social Sciences									44		27	71
11.	Management Studies				38			49	45		10	14	156
12.	Mathematics			24			39					14	77
13.	Mechanical Engineering	88	81	90							49	51	359
14.	Metallurgical and Materials Engineering	32	12	21							15	31	111
15.	Ocean Engineering	34	15	37							12	33	131
16.	Physics	30	10	10			41					37	128
17.	Inter disciplinary											31	31
	Total	496	356	603	38	17	131	49	45	44	237	475	2491

In addition to the above, 14 students (GE PD: 4, OBC PD: 1, SC: 0, ST: 9) joined Preparatory Course.

OBC/SC/ST students under fresh admission

Sl. No	Programme	OBC	SC	ST	PD	Female
1.	B.Tech	137	71	33	10	80
2.	Dual Degree	98	57	22	19	61
3.	M.Tech.	130	58	30	22	85
4.	PG Diploma in VLM	-	-	-	-	6
5.	PG Diploma in Metro Rail	6	1	1	-	2
6.	M.B.A.	15	7	-	-	14
7.	EMBA	9	8	1	-	11
8.	M.Sc.	37	21	10	4	34
9.	M.A.	13	7	4	8	32
10.	M.S.	70	15	1	-	40
11.	Ph.D.	135	47	4	9	152
	Total	650	292	106	72	517

The number of students admitted during the year includes the following categories:

Foreign Nationals	-	User-oriented Programme (M.Tech)	31
OBC	655		
Scheduled Castes	292	Q.I.P.	M.Tech Ph.D.
Scheduled Tribes	106	Sponsored	M.Tech.
Physically Handicapped	72	Project	M.S. Ph.D.
Women Students	517	External Registration	M.S.
Defence Officers (M.Tech)	36		Ph.D.



Table 2 – Fresh Admission

Sl. No.	Department	B.Tech	Dual Degree	M.Tech	PG Diploma - VLM	PG Diploma - MRTM	M.Sc	M.A	M.B.A.	EMBA	M.S	Ph.D	Total
1.	Aerospace Engineering	174	97	62	-	-	-	-	-	-	52	134	519
2.	Applied Mechanics	-	-	58	-	-	-	-	-	-	73	169	300
3.	Biotechnology	15	292	39	-	-	-	-	-	-	19	206	571
4.	Chemical Engineering	300	99	77	-	-	-	-	-	-	25	136	637
5.	Chemistry	-	-	-	-	-	106	-	-	-	-	256	362
6.	Civil Engineering	274	196	225	-	17	-	-	-	-	38	291	1040
7.	Computer Science and Engineering	234	97	120	-	-	-	-	-	-	97	96	644
8.	Electrical Engineering	310	332	316	-	-	-	-	-	-	162	295	1415
9.	Engineering Design	-	310	-	-	-	-	-	-	-	34	90	434
10.	Humanities and Social Sciences	-	-	-	-	-	-	241	-	-	-	119	360
11.	Management Studies	-	-	-	38	-	-	-	117	84	34	115	388
12.	Mathematics	-	-	38	-	-	108	-	-	-	-	104	250
13.	Mechanical Engineering	353	410	235	-	-	-	-	-	-	167	386	1551
14.	Metallurgical and Materials Engineering	137	65	49	-	-	-	-	-	-	34	160	445
15.	Ocean Engineering	160	85	93	-	-	-	-	-	-	38	179	555
16.	Physics	129	51	16	-	-	90	-	-	-	-	189	475
	Total	2086	2034	1328	38	17	304	241	117	84	773	2925	9947

The above total includes the following:

Foreign Nationals	2	QIP	M.Tech	3
			Ph.D.	52
OBC	2691	Sponsored	M.Tech	51
Scheduled Castes	1157	Project	M.S.	74
			Ph.D.	115
Scheduled Tribes	496	External Registration	M.S.	32
			Ph.D.	194
Physically Handicapped	94	Registration Kept Alive	M.S.	41
			Ph.D.	212
Women students	2051	Part-Time Programme	M.S.	11
			Ph.D.	68
Defence Officers (M.Tech)	73	User-oriented Programme (M.Tech)	156	

OBC/SC/ST Students on roll

Sl. No.	Course	OBC	SC	ST	Female
1.	B.Tech	559	352	192	272
2.	Dual Degree	556	335	150	281
3.	M.Tech	311	138	77	167
4.	M.Sc	88	49	26	77



Sl. No.	Course	OBC	SC	ST	Female
5.	M.B.A	31	19	2	37
6.	E.M.B.A	14	11	1	21
7.	M.A	75	39	22	139
8.	PG Diploma in VLM	-	-	-	6
9.	PG Diploma in MRTM	6	1	1	2
10.	M.S	184	31	3	145
11.	Ph.D	867	182	22	904
	Total	2691	1157	496	2051

The branch/discipline-wise and year-wise details of students enrolled in B.Tech, Dual Degree and M.Tech programmes are given below:

Table 3 – B.Tech students on roll

Sl. No.	Branch	2018	2017	2016	2015	2014 and earlier batch	Total
1.	Aerospace Engineering	43	39	43	30	19	174
2.	Biotechnology	-	-	-	-	15	15
3.	Chemical Engineering	68	73	70	63	26	300
4.	Civil Engineering	57	56	63	58	40	274
5.	Computer Science and Engineering	71	47	46	43	27	234
6.	Electrical Engineering	73	73	70	65	29	310
7.	Engineering Physics	30	27	28	27	17	129
8.	Mechanical Engineering	88	83	76	78	28	353
9.	Metallurgical and Materials Engineering	32	33	30	28	14	137
10.	Naval Architecture	34	32	35	26	33	160
	Total	496	463	461	418	248	2086

Table 4 – Dual Degree (B.Tech and M.Tech) students on roll

Sl. No.	Branch	2018	2017	2016	2015	2014	2013 and Earlier	Total
1.	Aerospace Engineering	14	12	15	19	18	9	87
	AE (B.Tech) and AM (M.Tech)					4	6	10
2.	Biotechnology	33	31	30	25	29	8	156
	Biological Engineering	26	31	24	24	13	18	136
	Biological Sciences (B.S. and M.S.)							
3.	Chemical Engineering	16	16	17	20	24	6	99
4.	Civil Engineering and Infrastructural Civil	32	32	35	37	39	14	189
	CE (B.Tech) and AM (M.Tech)					4	3	7
5.	Computer Science and Engineering	2	16	15	14	28	22	97
6.	Electrical Engineering	58	58	56	65	57	29	323
	EE (B.Tech) and AM (M.Tech)					5	4	9
7.	Engineering Design	57	56	56	54	55	32	310
8.	Mechanical Engineering	81	78	77	83	71	20	410
9.	Metallurgical and Materials Engineering	12	11	10	12	15	5	65
10.	Naval Architecture and Ocean Engineering	15	15	17	15	6	9	77
						6	2	8
11.	Physics (B.S. and M.S.)	10	9	10	8	10	4	51
	Total	368	362	343	384	392	189	2034



Table 5 - M.Sc students on roll

Sl. No.	Branch	2018	2017	Total
1.	Chemistry	51	55	106
2.	Mathematics	39	69	108
3.	Physics	41	49	90
	Total	145	172	304

Table 6 - M.Tech students on roll

Sl. No.	Department\Discipline\Batch	2018	2017	Extended students	Total
1.	Aerospace Engineering	29	31	2	62
2.	Applied Mechanics	21	27	10	58
3.	Biotechnology - Clinical Engineering - Bio Process Engineering	14 16	8	1	39
4.	Chemical Engineering	30	28	5	63
	CA - Catalysis Technology	7	5	2	14
	NE - Nuclear Engineering			1	1
5.	Civil Engineering				
	CE 1 - Building Technology and Construction Management	8	9	7	24
	CE 2 - Environmental Engineering	12	9	6	27
	CE 3 - Geotechnical Engineering	15	6	2	23
	CE 4 - Hydraulic and Water Resource Engineering	7	13	2	22
	CE 5 - Structural Engineering	19	19	1	39
	CE 6 - Transportation Engineering	10	11	3	24
	CE 7 - Construction Technology and Management	31	33	2	66
6.	Computer Science and Engineering	47	57	16	120
7.	Electrical Engineering				
	EE 1 - Communication and Signal Processing	100	67	2	169
	EE 2 - Power Systems and Power Electronics	13	9	5	27
	EE 3 - Micro Electronics and VLSI Design	12	47	7	66
	EE-4 - Control and Instrumentation System	11	7	1	19
	EE-5 - Micro Electronics and Photonics	8	4	3	15
	EE 6 - Integrated Circuits and Systems	11	9		20
8.	Industrial Maths and Scientific Computing	24	13	1	38
9.	Mechanical Engineering				
	ME 1 - Thermal Engineering	30	51	10	91
	ME 2 - Mechanical Design	23	28	4	55
	ME 3 - Manufacturing Engineering	16	20	3	39
	ME 4 - Automotive Technology	21	29		50
10.	Metallurgical and Materials Engineering	21	26	2	49
11.	Ocean Engineering	21	14	5	40
	- Ocean Technology	8	9	1	18
	- Petroleum Engineering	8	9	4	21
	- Offshore Technology	-	10	3	13
12.	Physics				
	- Solid State Technology	10	5	1	1
	- Functional Materials and Nanotechnology				15
	Total	603	613	112	1328

Table 7 - M.B.A. students on roll

Sl. No.	Branch	2018	2017	Total
1.	Management Studies	49	68	117



Table 8 – M.A. students on roll

Sl. No.	Branch	2018	2017	2016	2015	2014	Total
1.	Humanities and Social Sciences	44	45	45	42	65	241

Table 9 – M.S scholars on roll

Sl. No.	Branch	Year I	Year II	Year III	Year IV	Year V and others	Total
1.	Aerospace Engineering	20	8	10	10	4	52
2.	Applied Mechanics	16	26	16	14	1	73
3.	Biotechnology	5	5	4	3	2	19
4.	Chemical Engineering	10	7	5	2	1	25
5.	Civil Engineering	13	13	7	4	1	38
6.	Computer Science and Engineering	23	22	27	20	5	97
7.	Electrical Engineering	56	28	38	30	10	162
8.	Engineering Design	8	9	11	4	2	34
9.	Management Studies	10	11	7	6	-	34
10.	Mechanical Engineering	49	48	28	30	12	167
11.	Metallurgical and Materials Engineering	15	13	3	2	1	34
12.	Ocean Engineering	12	10	4	9	3	38
	Total	237	200	160	134	42	773

Table 10 – Ph.D scholars on roll

Sl. No.	Branch	Year I	Year II	Year III	Year IV	Year V and others	Total
1.	Aerospace Engineering	17	21	25	21	50	134
2.	Applied Mechanics	28	35	37	31	38	169
3.	Biotechnology	19	31	33	41	82	206
4.	Chemical Engineering	20	25	17	33	41	136
5.	Chemistry	56	35	37	49	79	256
6.	Civil Engineering	30	41	44	65	111	291
7.	Computer Science and Engineering	19	9	11	18	39	96
8.	Electrical Engineering	47	54	47	56	91	295
9.	Engineering Design	19	12	13	10	36	90
10.	Humanities and Social Sciences	28	21	24	23	23	119
11.	Management Studies	15	15	30	28	27	115
12.	Mathematics	14	20	27	26	17	104
13.	Mechanical Engineering	54	45	52	81	154	386
14.	Metallurgical and Materials Engineering	37	22	31	31	39	160
15.	Ocean Engineering	34	26	21	40	58	179
16.	Physics	38	30	26	28	67	189
	Total	475	442	475	581	952	2925

Table 11 – EMBA students on roll

Sl. No.	Branch	2018	2017	Total
1.	Management Studies	45	39	84

Table 12 – PG Diploma in VLM students on roll

Sl. No.	Branch	2017	Total
1.	Management Studies	38	38



Table 13 – PG Diploma in MRTM students on roll

Sl. No.	Branch	2017	Total
1.	Civil Engineering	17	17

3.3. Courses offered

In the academic year 2018-19, **1,748** courses were offered of which **878** courses were offered in July–November 2018 and **870** courses were offered in January–May 2019. The department-wise details of the courses offered are given below:

Table 14 – Number of courses offered

Sl. No.	Department	Number of courses			Number of courses		
		July–November 2018			January–May 2019		
		Core	Elect.	Total	Core	Elect.	Total
1	Aerospace Engineering	41	-	41	43	-	43
2	Applied Mechanics	44	-	44	44	-	44
3	Biotechnology	41	-	41	46	-	46
4	Civil Engineering	92	-	92	86	-	86
5	Chemical Engineering	59	-	59	57	-	57
6	Computer Science and Engineering	44	-	44	48	-	48
7	Chemistry	22	-	22	34	-	34
8	Engineering Design	32	-	32	30	-	30
9	Electrical Engineering	70	-	70	71	-	71
10	Humanities and Social Sciences	82	-	82	83	-	83
11	Mathematics	41	-	41	41	-	41
12	Mechanical Engineering	74	-	74	72	-	72
13	Metallurgical and Materials Engineering	45	-	45	42	-	42
14	Management Studies	86	-	86	64	-	64
15	Ocean Engineering	46	-	46	48	-	48
16	Physics	59	-	59	61	-	61
	Total	506	382	878	397	467	870

3.4. Convocation

The 55th Convocation was held on 20 July 2018. Dr. Rajiv Kumar, Vice Chairman, NITI Aayog delivered the Convocation address. Out of the **1,855** candidates awarded degrees, 1,476 candidates received degrees in person. The department-wise details of degrees awarded are given below:

Table 15 – Degrees awarded

Sl. No.	Department	Joint Degree	Dual Degree		Ph.D.	M.S.	M.Tech	PGDMRTM	M.Sc.	M.B.A	M.A	Dual Degree		Dual Degree		B.Tech Honours	B.Tech	Total
			M.S/ M.Tech	Ph.D								B.Tech/BS (Honours)	M.Tech/ MS	B.Tech/ BS	M.Tech/ MS			
1	AE	-	2	2	7	10	16	-	-	-	-	-	-	18	18	1	26	100
2	AM	-	6	6	19	10	16	-	-	-	-	1	1	20	20	-	-	99
3	BT	-	-	-	19	7	8	-	-	-	-	-	-	47	47	-	6	134
4	CH	-	4	4	9	12	24	-	-	-	-	-	-	15	15	2	57	142
5	CY	1	-	-	33	-	-	-	53	-	-	-	-	-	-	-	-	87
6	CE	1	3	3	21	11	70	15	-	-	-	2	2	32	32	2	52	246
7	CS	-	1	1	5	20	45	-	-	-	-	2	2	19	19	3	34	151
8	EE	-	12	12	14	27	41	-	-	-	-	9	9	43	43	7	65	282
9	ED	-	1	1	13	9	1	-	-	-	-	-	-	58	58	-	-	141
10	HS	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	7
11	MS	2*	2	2	13	11	-	-	-	51	-	-	-	-	-	-	-	81
12	MA	-	-	-	15	-	6	-	48	-	35	-	-	-	-	-	-	104
13	ME	-	6	6	23	50	64	-	-	-	-	4	4	74	74	10	68	383
14	MM	-	-	-	9	4	19	-	-	-	-	-	-	15	15	-	35	97
15	OE	-	-	-	14	11	26	-	-	-	-	-	-	6	6	-	35	98
16	PH	-	-	-	23	-	6	-	39	-	-	1	1	8	8	4	25	115
	Total	4	37	37	244	182	342	15	140	51	35	19	19	355	355	29	403	2267

*(M.S+Phd.)



With this Convocation, the total number of degrees awarded so far by the institute is 51,473, the details of which are given below:

Sl. No.	Programme	Degrees Awarded till 2017	Degrees Awarded in 2018	Total Degrees Awarded
1.	Joint Dual Degree	-	4	4
2.	Dual Degree			
	M.S	25	31	56
	Ph.D	25	31	56
3.	Dual Degree			
	M.S	2	6	8
	Ph.D	2	6	8
4.	Ph.D.	4637	244	4881
5.	M.S.	3420	182	3602
6.	M.Tech	14460	342	14802
7.	M.Sc.	3433	140	3573
8.	M.B.A.	891	51	942
9.	MA	232	35	267
10.	Dual Degree (Incl. Honours)			
	B.Tech	2869	347	3216
	M.Tech	2869	347	3216
11.	Dual Degree (Incl. Honours)			
	B.S.	87	27	114
	M.S.	87	27	114
12.	B. Tech	15655	403	16058
13.	B. Tech (Honours)	132	29	161
14.	PGDMEM	102	-	102
15.	B.Sc (Tech)	20	-	20
16.	DIIT	245	-	245
17.	PGDMRT	13	15	28
	Total	49206	2267	51473

3.5. Awards to students

3.5.1. Convocation Prizes

The following prizes were awarded to the students at the 55th Convocation:

Sl. No	Prize	Student
1.	President of India Prize For the highest CGPA in B.Tech and Dual Degree	Rahul Kejriwal CS14B023
	Bharat Ratna M Visvesvaraya Memorial Prize For the highest CGPA in B.Tech	
	B Ravichandran Memorial Prize For the highest CGPA in B.Tech, Computer Science and Engineering	
2.	Mr V Srinivasan Memorial Prize For the highest CGPA in Dual Degree	Pradeep Natarajan CH13B086
	B Ravichandran Memorial Prize For the highest CGPA in Dual Degree, Chemical Engineering	
3.	Governor's Prize For the best all-round proficiency in curricular and extra- curricular activities in B.Tech and Dual Degree	Giridhur Sriraman EE13B129
	Motorola Prize For the best all-round performance in B.Tech or Dual Degree, Computer Science and Engineering, and Electrical Engineering	
4.	Dr Shankar Dayal Sharma Prize For the best all-round proficiency in curricular and extra- curricular activities in B.Tech	Talati Parth Ajitbhai ME14B068
	Vaidy Krishnan Memorial Prize For the best all-round proficiency in curricular and extra- curricular activities in B.Tech, Mechanical Engineering	



B.Tech

Sl. No.	Prize	Student
1.	HAL Prize For the highest CGPA in B.Tech, Aerospace Engineering	Prerna M Dhareshwar AE14B022
2.	Reliance Heat Transfer Private Limited Prize For the highest CGPA in B.Tech, Chemical Engineering	Praneeth Srivanth Ramesh CH14B049
3.	Larsen & Toubro ECC Endowment Prize For the highest CGPA in B.Tech, Civil Engineering	Aravind R CE14B006
4.	Siemens Prize For the highest CGPA in B.Tech, Electrical Engineering	Akshayaa Magesh EE14B122
5.	Prof Achim Bopp Endowment Prize For the best hardware project in B.Tech, Electrical Engineering	Kevin Selva Prasanna V EE14B028
6.	Hema Balasubramanian Excellence Award For the highest CGPA in B.Tech, Engineering Physics	Amit Vikram Anand EP14B004
7.	Banco Foundation Prize For the highest CGPA in B.Tech, Mechanical Engineering	Somayajulu Dhulipala ME14B062
8.	Sivasailam Merit Prize For the best individual project in B.Tech, Mechanical Engineering	Vaibhav Vinay Tipnis ME14B069
9.	Dr. Dhandapani Memorial Prize For the highest CGPA in B.Tech, Metallurgical and Materials Engineering	Naveen Sundaresan Ramesh MM14B021
10.	American Bureau of Shipping Prize For the highest CGPA in B.Tech, Naval Architecture and Ocean Engineering	Kiran Adhithya Ramakrishnan NA14B015

Dual Degree (B.Tech and M.Tech)

Sl. No.	Prize	Student
1.	Dr. V Mohan Raman Prize For the highest CGPA in Dual Degree, Aerospace Engineering	M. Mohamed Khalid AE13B013
2.	Mayan Prize For the highest CGPA in Dual Degree, Aircraft Design and Project in Aerospace Engineering	Nikhil Kumar Gupta AE13B016
3.	Kalpathi AGS Prize For the highest CGPA in Dual Degree, Applied Mechanics	Keshav Bharadwaj Ravi CE13B065
4.	Biocon Prize For the highest CGPA in Dual Degree, Biological Engineering	Saransh Umale BE13B028
5.	The Divashri Award For the highest CGPA in Dual Degree (B.S. and M.S.), Biological Science	Devanshu BS13B008
6.	Dr. N R Dave Prize For the highest CGPA in Dual Degree, Civil Engineering	Sumon Das CE13B051
7.	Alumni Association Prize For the highest CGPA in Dual Degree, Computer Science and Engineering	Santhoshini Velusamy CS13B059 Sanchit Agrawal CS13B061
8.	Prema and Nagaraja Setty Prize For the highest CGPA in Dual Degree, Engineering Design	Rajat Abhijit Dandekar ED13B015
9.	Philips India Prize For the highest CGPA in Dual Degree, Electrical Engineering	Bhavya Pradeepbhai Rachchh EE13B095
10.	Prof. G V N Rayudu (IIT Madras) Prize For the highest CGPA in Dual Degree, Mechanical Engineering	Adla Amshith Reddy ME13B076
11.	S Anantharamakrishnan Memorial Prize For the highest CGPA in Dual Degree, Metallurgical and Materials Engineering	Gautham Muthusamy MM13B040
12.	Goodearth Shipbuilding Private Limited Prize For the highest CGPA in Dual Degree, Naval Architecture and Ocean Engineering	Shimon Joseph NA13B041
13.	Prof. J Sobhanadri Prize For the highest CGPA in Dual Degree (B.S. and M.S.), Physics	Aditya Mahalanabish PH13B001



PG Diploma

Sl. No.	Prize	Student
1.	Smt. Jayalakshmi and Shri R Narasimhan Prize For the highest CGPA in PG Diploma Metro Rail Technology and Management	Vignesh Kunjithapadam N CE17G005

M.A.

Sl. No.	Prize	Student
1.	Dr. Dilip Veeraraghavan Memorial Award For the highest CGPA in five-year Integrated M.A. programme – Development Studies	Madhura Niveditha Balasubramaniam HS13H017
2.	Prof. A V Krishna Rao Memorial Award For the highest CGPA in five-year Integrated M.A. programme – English Studies	Marva M HS13H018

M.Tech

Sl. No.	Prize	Student
1.	Air India Prize For the highest CGPA in M.Tech, Aerospace Engineering	Zubin Matheikal AE16M015
2.	Prof. B V A Rao Endowment Prize Sushruta Award For the highest CGPA in M.Tech, Applied Mechanics	Krishnapriya Venugopal AM16M014
3.	Usha Kothandaraman Memorial Prize For the highest CGPA in M.Tech, Engineering Mechanics in Applied Mechanics	D Charan Theja AM16M017
4.	Dr. S S Srikantha Prize For the highest CGPA in M.Tech, Clinical Engineering	Mohammed Hashid AK BT15M004
5.	Dr. K Subba Raju Memorial Prize For the highest CGPA in M.Tech, Chemical Engineering	Rinu Chacko CH16M013
6.	Valli Anantharamakrishnan Merit Prize For the highest CGPA in M.Tech, Civil Engineering	Anilkumar P M CE16M048
7.	L & T Endowment Prize For the highest CGPA in M.Tech, Construction Technology and Management	Debidutta Mishra CE16M121
8.	CMC Prize For the highest CGPA in M.Tech, Computer Science and Engineering	Purvi Goel CS16M042
9.	Buti Foundation Gold Medal Award For the highest CGPA among woman students in Dual Degree/M.Tech/M.Sc/B.S. and M.S. programme Siemens Prize For the highest CGPA in M.Tech, Electrical Engineering	Roshan S. Sam EE16M080
10.	Prof. Achim Bopp Endowment Prize For the Best Hardware project in M.Tech, Electrical Engineering	Manoj B Anurag EE16M035
11.	Prof. Helmut Neunzert Endowment Prize For the highest CGPA in M.Tech, Industrial Mathematics and Scientific Computing	Sonakshi Singh MA16M001
12.	Prof. B Sengupto Prize For the highest CGPA in M.Tech, Mechanical Engineering Dr. S Vaidyanathan Memorial Prize For the highest CGPA in M.Tech, Manufacturing and Precision Engineering in Mechanical Engineering	Debotosh Poddar ME16M092
13.	Mico-Bosch Prize For the best project in Energy Conversion and Environmental Pollution Control	Avilash Jain ME16M101
14.	S Anantharamakrishnan Merit Prize For the best individual project in M.Tech, Mechanical Engineering	Ajanto Joseph ME16M005
15.	Prof. Ramamohana Rao Memorial Prize For the highest CGPA in M.Tech, Mechanical Design Stream in Mechanical Engineering	Prathap Kumar A M ME16M011 Parulekar Kedar Vinayak ME16M060
16.	Sudharshan Bhat Memorial Prize For the highest CGPA in M.Tech, Metallurgical and Materials Engineering	Srivathsan S MM16M025



Sl. No.	Prize	Student
17.	American Bureau of Shipping Prize For the highest CGPA in M.Tech, Ocean Engineering	Alex Antony OE16M015
18.	Prof. K A V Pandalai Prize For the highest CGPA in M.Tech, Ocean Technology	Saraniya OE16M036
19.	Prof. T Govindaraj Prize For the highest CGPA in M.Tech, Offshore Technology	Pulkit Goel OE16M006
20.	Shri Krishnamurthy Sundarambal Prize For the highest CGPA in M.Tech, Functional Materials and Nanotechnology	Makarand Diwe PH16M009

M.Sc

Sl. No.	Prize	Student
1.	Dr S R Ramadas 60th Birthday Commemoration Award Ratna Rao Memorial Prize For the highest CGPA in M.Sc Chemistry	Ruchira Basu CY16C029
2.	Mira Paul Memorial Prize For the highest CGPA in M.Sc Mathematics	Koushik Brahma MA16C020
3.	Prof Chilukuri Ramasastry Memorial Prize For the highest CGPA in M.Sc Physics	Arnab Pradhan PH16C008

M.B.A.

Sl. No.	Prize	Student
1.	Coka Parthasarathy Prize For the highest CGPA in MBA	Pallavi Singh MS16A034
2.	K V Arunkumar Memorial Prize For the best overall performance in MBA	Arjun TS MS16A009

M.S. and Ph.D.

Sl. No.	Prize	Student
1.	Prof. V Ramamurti Award For the best Ph.D thesis in Applied Mechanics	Ashwiji AM11D021
2.	Sudharshan Bhat Memorial Prize For the best Ph.D thesis in Metallurgical and Materials Engineering	T Hanas MM13D009
3.	Prof. C N Pillai Prize For the best Ph.D thesis in Organic and Biochemistry	Dr Manthena Chaitanya CY13D019
4.	Prof. G Sundararajan Endowment Prize For the best Ph.D thesis Organic Chemistry	Dr Prabhakar Rao Tharra CY13D059
5.	Prof. Langmuir Prize For the best Ph.D thesis in Physical and Theoretical Chemistry	Dr Atanu Ghosh CY11D048
6.	Prof. Werner Prize For the best Ph.D thesis in Inorganic and Analytical Chemistry	Dr Soumyakanta Prusty CY12D036
7.	IBM Best PhD Thesis Award For the best Ph.D thesis in Computer Science and Engineering	Sajin K CS11D006 Raghavendra CS10D003
8.	Prof. A L Laskar Memorial Prize For the best Ph.D thesis in Physics	Rashmichandrabhan Shende PH12D049 Taniya Mandal PH12D013
9.	Shree Gaayathree Devi Award For the highest CGPA for woman Ph.D scholar in Civil Engineering	Jyothi S Menon CE13D041



Sl. No.	Prize	Student
10.	GE Ecomagination Excellence Award For the best Ph.D thesis in the area of environmentally friendly (green) technologies, ecological and environmental protection	Saravanan K BT12D043
11.	Smt. Lakshmi Amma and Shri A Krishnankutty Nair Prize For the best Ph.D thesis in Mathematics	Veena Sangeetha M MA13D007
12.	Bhagyalakshmi and Krishna Ayengar Award For the best project/thesis in the field of solar and alternative energy application/energy efficiency/pollution abatement/infrastructure improvement	Swarup Potta ME13B147 Subhransu Satpathy EE14S055 Tapan Kumar Das PH12D059 Divyapriya G CE13D029

3.5.2. Institute Day Prizes

On the basis of performance, the following students were awarded Merit Prizes on the 60th Institute Day held on 22 April 2019 at the Student Activities Centre. Mr. V. Shankar, Founder, CAMS Private Limited, Chennai (Distinguished Alumnus of IITM) was the Chief Guest.

Silver medal and cash award of Rs. 5000

1.1. First and second Semester of B.Tech/DD Programme: First and Second Prize

EE17B155	Atishay Ganesh (First Topper)	DD	Shri S Subramanian Prize (Joint winners)
EE17B156	Dhruvjyoti Bagadthey (First Topper)	DD	Shri S Subramanian Prize (Joint winners)
CS17B116	Suhas Pai (Second Topper)	DD	Shri K. Krishnamurthi Prize

1.2A) Third and Fourth semesters of the B.Tech/Dual degree programme

	Programme	Prize Name	
Aerospace Engineering			
AE16B039	S V Rudra	B.Tech	Prof T K Varadan Prize
Biological Engineering			
BE16B001	Agarwal Tanishi Anubhav	DD	Dr Anita Mehta Damani Prize
Biological Science			
BS16B005	Mohammed Faidh A	DD	Mrs. Jayalakshmi Sambasivam Prize
Chemical Engineering			
CH16B058	S Renganathan	B.Tech	Dr Anita Mehta Damani Prize
Civil Engineering			
CE16B034	Jagarlamudi Pruthvi Chowdary	B.Tech	Computer Age Management Services Private Limited Prize
Computer Science and Engineering			
CS16B021	R Raghul	B.Tech	Shri V Ramachandran Prize
Electrical Engineering			
EE16B033	Rajat Vadiraj Dwaraknath	B.Tech	Shri V Rajagopalan Memorial Prize
Engineering Design			
ED16B031	T Sashank	DD	Ms Latha and Sampath Srinath Prize
Engineering Physics			
EP16B013	Chari Rajas Premanand	B.Tech	Ms Latha and Sampath Srinath Prize
Mechanical Engineering (Joint winners)			
ME16B051	Anantha Narayanan S	B.Tech	Mrs Jayashree Ananth Prize
ME16B011	Dinesh Bompada	B.Tech	Mrs Jayashree Ananth Prize
Metallurgical and Materials Engineering (Joint winners)			
MM16B007	Kumaresh K R	B.Tech	Shri Satish Pai Prize
MM16B023	H Vishal	B.Tech	Shri Satish Pai Prize
Naval Architecture and Ocean Engineering			
NA16B117	Shah Kavish Kulin	DD	Ms Latha and Sampath Srinath Prize
B.S. and M.S. Physics			
PH16B007	Rohan Rajgopalan Iyer	DD	N. Arunachalam Memorial Prize



1.2 B) First four semesters of B.Tech Mechanical Engineering

		Programme	Prize Name
ME16B011	Dinesh Bompada	B.Tech	Shri Raghavendra Memorial Prize

1.3 A) Fifth and sixth semesters of B.Tech/Dual degree programme

		Programme	Prize Name
Aerospace Engineering			
AE15B009	Aravind Shaj	B.Tech	Prof E G Tulapurkara Prize
Biological Engineering			
BE15B028	Shreyansh Umale	DD	Dr Anita Mehta Damani Prize
Biological Science			
BS15B010	Deepak	DD	Akash Dube Prize
Chemical Engineering			
CH15B021	Gokhale Devashish Pratap	B.Tech	Dr. R. K. Viswanath Memorial Prize
Civil Engineering			
CE15B051	Roshan Mathew Tom	B.Tech	M. S. K. Chaitanya Varma Memorial Prize
Computer Science and Engineering			
CS15B001	Ameet S Deshpande	B.Tech	Computer Age Management Services Private Limited Prize
Electrical Engineering			
EE15B122	Pradyumna Venkatesh Chari	B.Tech	Shri Ramasarma V Kolluri Memorial Prize
Engineering Design			
ED15B010	Deepak Prakash K	D.D	Dr Srikanth Sundararajan Prize
Engineering Physics			
EP15B020	Pratyush Anand	B.Tech	Shri K Krishnamurthy Iyer Prize
Mechanical Engineering (Joint winners)			
ME15B152	Achraj Sarma	B.Tech	Dr Vivekanand Kochikar Award
Metallurgical and Materials Engineering (Joint winners)			
MM15B022	R Mythreyi	D.D	Ratna Award
Naval Architecture and Ocean Engineering			
NA15B039	Khare Akshay Dilip	D.D	Institute Merit Prize
B.S. and M.S. Physics (First Topper)			
PH15B008	Saran V	D.D	Electronics For You Prize
B.S. and M.S. Physics (Second Topper)			
PH15B007	Rachana S Yajur	D.D	Shri Jandhyala Lakshmi Kantam and Smt. Sitamahalakshmi Prize

B) First six semesters of B.Tech Mechanical Engineering

		Programme	Prize Name
ME15B076	Vivek Boddapati Venkata	B.Tech	Dr S Chandrasekharan Memorial Prize

C) First seven semesters of Mechanical Engineering in B.Tech Programme

		Programme	Prize Name
ME15B076	Vivek Boddapati Venkata	B.Tech	Dr Dinesh Balagangadhar Prize

1.4. A) Seventh and eighth semesters of Dual Degree Programme

		Prize Name
Aerospace Engineering		
AE14B045	Purnanand Elango	Shri Kakkara Balachandran Menon Prize
Applied Mechanics		
NA14B051	Shivam Shrikant Kalkar	Shri Raghu Ramamoorthy Prize
Biological Engineering		
BE14B035	Debayan Chaudhury	Shri Madan Gopal Damani Prize



		Prize Name
Biological Science		
BS14B018	Prathamesh Suresh Jain	Institute Merit Prize
Chemical Engineering		
CH14B072	Zach Zajo	Dr Anita Mehta Damani Prize
Civil Engineering		
CE14B063	Borkar Rutwik Balasaheb	Shri Venkataraman Ravi Prize
Computer Science and Engineering		
CS14B061	Rahul Ramesh	Computer Age Management Services Private Limited Prize
Electrical Engineering (Joint Winners)		
EE14B129	Harikumar Krishnamurthy	Institute Merit Prize
EE14B078	Sai Vihari Chaturvedula	Institute Merit Prize
EE14B068	Aditya Pradeep	Institute Merit Prize
EE14B130	Karthik Vijay Annur Myilswamy	Institute Merit Prize
Engineering Design		
ED14B054	Shivani Guptasarma	Sarada Bhaskara Reddy Award
Mechanical Engineering - Intelligent Manfg.-ME23		
ME14B088	R S Nikhil Krishna	Shri Sagar Pushpala Prize
Mechanical Engineering - Product Design-ME22		
ME14B135	Shaswat Mohanty	Shri Rajesh Achanta Prize
Metallurgical and Materials Engineering		
MM14B048	Vishal Subramanian	Prof V Sundaresan Prize
Naval Architecture and Ocean Engineering		
NA14B056	Gokulraj K R	Shri Poovai T. R. Srinivasan and S. Alamelu Award
B.S. and M.S., Physics		
PH14B009	Tanay Kibe	Shri S. Venkitaramanan, I.A.S Retd Prize

1.4. A) Seventh and eighth semesters of Dual Degree Programme

		Programme	Prize Name
ME14B088	R. S. Nikhil Krishna	DD	Prof V. Radhakrishnan Endowment Award

1.5. First and second semesters of the M.Tech programme

		Prize Name
Aerospace Engineering		
AE17M028	Xavier Arunraj J	Prof. S. Santhakumar Prize
Applied Mechanics		
AM17M013	Allen George	Shrimathi Parvatham Ramalingam Prize
Biotechnology (Clinical Engineering)		
BT17M007	Sohham Samanta	P. K. Narayana Iyer Prize
Catalysis Technology		
CA17M004	Rimita Bose	Dr V. Mahadeva Iyer Prize
Chemical Engineering		
CH17M004	Chadaram Sai Kishore	M/S Chevron Products Company Prize
Civil Engineering		
CE17M070	Gaurav Syal	Smt. Jayalakshmi Narasimhan Memorial Prize
Civil – Hydraulic and Water Resource Engineering Stream		
CE17M036	Rachuri Krishna Chaitanya	Prof. Gerhard Rouve Memorial Prize
Civil – Construction Technology Management		
CE17M109	Nandeesh Babanagar	S. Sambasivan Award
Computer Science and Engineering		
CS17M011	Anupreksha Jain	Prakash Arora Prize



		Prize Name
Electrical Engineering		
EE17M047	Akhil Nath C. K.	Prof M. K. Achuthan Prize
Industrial Mathematics and Scientific Computing		
MA17M014	Nivedita Sehgal	Dr. N. Seshagiri Prize
Mechanical Engineering		
ME17M057	Venuthurupalli Venkata Naga Sai Pranav	Shri Ramanan Ramamurthy Prize
Mechanical Engineering – Thermal Stream		
ME17M057	Venuthurupalli Venkata Naga Sai Pranav	Prof. N. Venkatarayulu Memorial Prize
Metallurgical and Materials Engineering		
MM17M020	Sripooja Mishra	Dr M. N. Dhandapani Prize
Ocean Engineering		
OE17M005	Rohit Kumar	Prof Vallam Venkataswamy Prize
Ocean Technology		
OE17M033	Barapatre Rohan Prakash	Subrath Kumar Mallik Prize
Offshore Technology		
OE17M061	K Aravind Menon	Institute Merit Prize
Petroleum Engineering		
PE17M002	Aditya Sai Ram Gelli	Prof. M. S. Ananth Prize
Functional Materials and Nanotechnology		
PH17M002	Dinesh Kumar	Mrs Lakshmi Ravikumar Memorial Prize

1.6. A) First and second semesters of M.Sc Chemistry

		Prize Name
CY17C009	Atanu Ghosh	Mrs Kalaimani Natarajan Prize

B) First and second semesters of M.Sc Mathematics

		Prize Name
MA17C045	Shreedhar Bhat	Geetha Raghupathy Prize

C) First and second semesters of M.Sc Physics

		Prize Name
PH17C038	Shraddha Gupta	Chilukuri Ramasastry Memorial Prize

1.7. First, second and third semesters of the M.Sc programme

		Prize Name
MA17C045	Shreedhar Bhat	L. V. K. V. Sarma Prize

1.8. First and second semesters of M.Sc Chemistry with CGPA more than 7.00 and satisfied parental income criteria

		Prize Name
MA17C045	Shreedhar Bhat	L. V. K. V. Sarma Prize

1.9. First and second semesters of MBA programme

		Prize Name
MS17A031	Monisha Dikshit	Prof T N Govindarajan Prize

1.10. First and second semesters in Marketing specialisation courses of MBA programme

		Prize Name
MS17A002	Abinaya Swaminathan	Dr. V Kumar Prize

1.11. First, second and third semesters of the MBA programme

		Prize Name
MS17A031	Monisha Dikshit	T S Rajagopalan Memorial Prize



1.12. A) First and second semesters of Integrated MA

		Prize Name
HS17H007	Varsha Gopal	Institute Merit Prize

B) Third and fourth semesters of Integrated MA

		Prize Name
HS16H044	Meenakshi V	Institute Merit Prize

C) Fifth and sixth semesters of Integrated MA

		Prize Name
Development Studies		
HS15H036	Sourav Rames	Institute Merit Prize
English Studies		
HS15H004	Ananthajith K R	Dr. V Ravikumar Memorial Prize

D) Seventh and eighth semesters of Integrated MA

		Prize Name
Development Studies		
HS14H008	Anwesh Pathi	Dr. V Ravikumar Memorial Prize
English Studies		
HS14H014	Divya Vijayakumar	Gonsalvez Foundation Prize

1.13. Up to seventh semester of B.Tech/Dual Degree courses taken under HSS category – First Topper

		Prize Name
CS15B057	Kavitha Gopal	K Srinivasan and Indira Srinivasan Prize

1.14. Up to seventh semester of B.Tech/Dual Degree courses taken under HSS category – Second topper

		Prize Name
CS15B001	Ameet S Deshpande	Dr. Dilip Veeraraghavan Memorial Award

1.15. First six semesters' academic performance and all-round performance in cultural, co-curricular and organisational abilities among CH, CE, ME, MT and NA departments of B.Tech programme (final-year students).

		Prize Name
CE15B053	Sanjana Viraj Paraz	Shri K.M Ramamurthi Prize

1.16. The girl student with best academic record at the end of pre-final semester in B.Tech, Dual Degree, M.Tech, M.A, M.B.A and M.Sc programmes

CS15B057	Kavitha Gopal	B.Tech	Swati/Jayalakshmi Memorial Award
ED14B054	Shivani Guptasarma	Dual Degree	Swati/Jayalakshmi Memorial Award
MM17M020	Sripooja Mishra	M.Tech	Swati/Jayalakshmi Memorial Award
HS14H008	Anwesh Pathi	M.A	Swati/Jayalakshmi Memorial Award
MS17A031	Monisha Dikshit	M.B.A	Swati/Jayalakshmi Memorial Award
PH17C038	Shraddha Gupta	M.Sc	Swati/Jayalakshmi Memorial Award

Notional Prize Winners

Top 7 per cent of the General category students admitted to B.Tech/DD programme are eligible to be given Notional Prize of Rs.1000 (one time) and a Certificate of Merit on the basis of the rank in JEE (Advanced) and parents' income exceeding Rs. 4.5 lakh. In July 2018, 430 General category students were admitted to B.Tech/DD, and the following 30 students (7 per cent of 430 = 30.1) are eligible for Notional Prize.

Sl. No.	Roll No.	Student	CML Rank
1.	CS18B040	R Raghu Raman	56
2.	CS18B007	C Shriram	74
3.	CS18B022	Kunduru Venkata Pradeep Reddy	94
4.	CS18B006	Buddhavarapu Venkata Surya Sudheendra	110



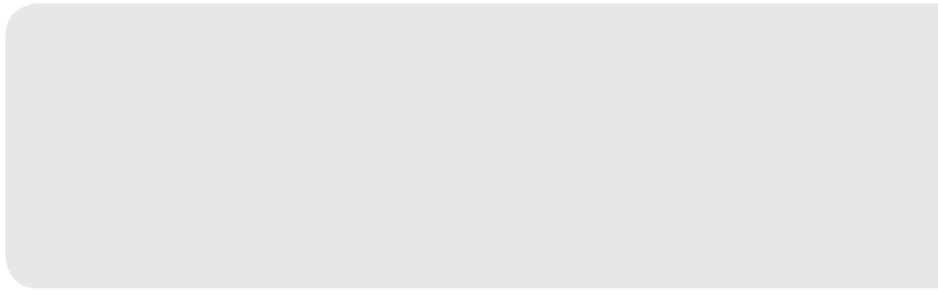
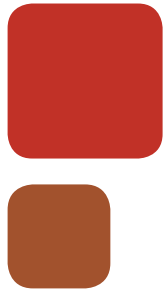
Sl. No.	Roll No.	Student	CML Rank
5.	CS18B052	Arihant Samar	113
6.	CS18B043	Ravi Gupta	123
7.	CS18B021	Krishna Gopal Sharma	125
8.	CS18B053	Betapudi Sai Chaitanya	129
9.	CS18B042	Ramireddy Prahladha Reddy	132
10.	CS18B057	Ritvik Rishi	134
11.	CS18B030	Naman Mohnot	138
12.	CS18B062	Vishav Rakesh Vig	174
13.	CS18B004	B Abhijit	180
14.	CS18B029	Nallamilli Krishna Sagar Reddy	187
15.	CS18B049	Abhishek Santhanam	188
16.	CS18B024	Lade Nived	194
17.	CS18B003	Arnhav Abhijit Datar	200
18.	CS18B035	Pillarichety Srujana	209
19.	EE18B021	Nithin Babu	216
20.	CS18B045	Rishika Varma K	231
21.	EE18B063	Sanikommu Madhan Mohan Reddy	297
22.	EE18B045	Devadas Ramadarsan	310
23.	EE18B028	Pyneni Roopesh	317
24.	EE18B051	Kanakamedala Sai Rithvik	319
25.	EE18B042	Chelagamsetty Venkata Sai	327
26.	EE18B047	Dhavuluri Krithin Chowdary	334
27.	EE18B061	Praveen Kumar M	337
28.	CS18B023	Kutumbaka Archana	380
29.	CS18B058	Sri Sindhu Gunturi	402

The following student coming within the 7 per cent is not eligible for Notional Prize since he was awarded another scholarship. However, a Certificate of Merit will be given to this student.

Sl. No.	Roll No.	Student	CML Rank
1	CS18B050	Aniswar Srivatsa Krishnan	67

Bhagyalakshmi and Krishna Ayengar Award is for the faculty for guiding the project work of the following students, who were awarded degree/prizes during Convocation 2018. The cash award of Rs.30,000 will be shared by Project Investigators.

Eligible Area of Work	Roll No.	Student	Project Title	Principal Investigator
Infrastructure improvements	ME13B147	Swarup Potta	Autonomous robot for inline inspection of underground pipe lines	Dr Sridharakumar Narasimhan, Dr Shankar Narasimhan
Energy efficiency	ED14S055	Subhransu Satpathy	Analysis, design and implementation of low power programmable high voltage DC-DC converter for capacitibe load application	Dr N Lakshminarasamma
Solar and alternative energy application	PH12D059	Tapan Kumar Das	Whisperonic solar cells: Whispering Gallery mode assisted enhancement in power conversion efficiency of dye/quantum dots sensitized solar cells	Dr Sudakar Chandran
Pollution abatement	CE13D029	Divyapriya G	Development of modified electrochemical treatment approach for the enhanced removal of contaminants in the water systems	Dr Indumathi M Nambi



Departments

4.1. Department of Aerospace Engineering

4.1.1. Introduction

Established in 1969, the Department of Aerospace Engineering has been offering B.Tech, M.Tech, M.S. and

Ph.D. programmes. The areas of teaching and research of the department are aerodynamics and flight mechanics, propulsion and combustion, and aerospace structures.

4.2.1. Academic Programmes

B.Tech, Dual Degree (B.Tech + M.Tech), M.Tech, M.S. and Ph.D

New courses introduced

Course No.	Course Title
AS5925	Morphing Structures: Analysis and Control
AS5580	Introduction to Pseudo-Spectral Methods
AS5570	Principles of Guidance for Autonomous Vehicles
AS6420	Numerical Simulation of Multiphysics Problems in Aerospace Engineering
AS5555	Linear Time Periodic Systems: Stability and Control
AS6350	Electric Aircraft Propulsion
AS6070	Viscous Hypersonic Flows

Students on roll as of September 2018 + M.S. and Ph.D. admission in January 2019

Programme	Year I	Year II	Year III	Year IV	Year V and others	Total
B.Tech.	43	41	39	34	19	176
Dual Degree	14	12	19	26	26	97
M.Tech.	30	31	-	-	-	61
M.S.	20	7	8	11	-	46
Ph.D.	17	21	26	20	50	134
Total	124	112	92	91	95	514

Number of post-doctoral fellow: 2

Student/Scholar who attended conferences/workshops/seminars/symposia abroad/India

Sl. No.	Scholar	Roll No.	Conference/Seminar/Symposium/ Workshop	Date and Venue	Financial Assistance from
India					
1.	Gautham	AE14D009	ASET 2018 National Conference on Future Directions in Propulsion	10-13 May 2018, Thiruvananthapuram	IIT Madras
2.	Sivaprasad G	AE16D201	ASIAN Joint Workshop on Thermophysics and Fluid Science	22 November 2018, Thiruvananthapuram	IIT Madras
3.	Dipanjan Majumdar	AE15D200	7 th International and 45 th National Conference of Fluid Mechanics and Fluid Power	8-12 December 2018, IIT Bombay	IIT Madras
4.	Manjul Sharma	AE12D022	7 th International and 45 th National Conference of Fluid Mechanics and Fluid Power	8-12 December 2018, IIT Bombay	IIT Madras
5.	R. Vishnu	AE14D003	7 th International and 45 th National Conference of Fluid Mechanics and Fluid Power	8-12 December 2018, IIT Bombay	IIT Madras
6.	R. Vishnu	AE14D003	Conference on Nonlinear Systems and Dynamics	11-14 December 2018, New Delhi	IIT Madras
7.	K. H. Prakash	AE15D002	2 nd International Conference on Structural Integrity (ICONS)	2018, Chennai	IIT Madras
8.	Vaisakh S	AE12D210	National Aerospace Propulsion Conference 2018	17-19 December 2018, Kharagpur	IIT Madras
9.	Anand Bharadwaj S.		SAROD 2018	29 November-1 December 2018, Bengaluru	IIT Madras
Abroad					
1.	Balavishnu Udhayakumar	AE11D208	An ECCOMAS Advanced Course on Computational Structural Dynamics	4-8 June 2018, Czech Republic	IIT Madras
2.	Aswathy Nair K	AE12D209	5 th International Conference on Experimental Fluid Mechanics (ICEFM 2018)	28 June-10 July 2018, Munich, Germany	IIT Madras
3.	Guruprasad Pradeep Hegde	AE15S034	10 th European Solid Mechanics Conference	2-6 July 2018, Italy	IIT Madras
4.	Aswathy M. S.	AE14D404	7 th Conference on Bluff Body Wakes and Vortex-Induced Vibrations (BBVIV-7)	3-6 July 2018, France	IIT Madras
5.	Vishal Vishwakarma	AE16S004	13 th World Congress in Computational Mechanics (WCCM2018)	22-27 July 2018, New York, USA	IIT Madras
6.	Suraj Singh	AE14D411	Summer School on Fluid Dynamics of Sustainability and Environment	27 August-7 September 2018, University of Cambridge, UK	IIT Madras
7.	Suraj Singh	AE14D411	12th European Fluid Mechanics Conference	9-13 September 2018, Vienna, Austria	IIT Madras
8.	Jimreeves David	AE171PF01	12th European Fluid Mechanics Conference	9-13 September 2018, Vienna, Austria	IIT Madras
9.	Anand Bharadwaj S.	AE14D212	Applied Aerodynamics Conference	June 2018, Atlanta, Georgia, USA	IIT Madras
10.	Abinash Sahoo		Applied Aerodynamics Conference	June 2018, Atlanta, Georgia, USA	IIT Madras
11.	Jatinder Pal Singh Sandhu	AE15D400	Fluid Dynamics Conference	June 2018, USA	IIT Madras



Students/scholars who won outside prizes and awards

Sl. No.	Student/Scholar	Roll No.	Name of Prize	Prize awarded by
1.	Gobiha Duraiswamy	AE15D412	Consolation prize of Rs. 5,000	DefExpo 18 India, Applied, National Level Open Challenge competition

Scholars/students who won Convocation/Institute Day Prize

Sl. No.	Student/Scholar	Roll No.	Name of Prize	Prize awarded by
1.	Purna M. Dhareshwar	AE14B022	HAL Prize	IIT Madras
2.	M. Mohamed Khalid	AE13B013	Dr. V Mohan Raman Prize	IIT Madras
3.	Nikhil Kumar Gupta	AE13B016	Mayan Prize	IIT Madras
4.	Zubin Matheikal	AE16M015	Air India Prize	IIT Madras
5.	S V Rudra	AE16B039	Prof. T. K. Varadan Prize	IIT Madras
6.	Aravind Shaj	AE15B009	Prof. E. G. Tulapurkara	IIT Madras
7.	Purnanand Elango	AE14B045	Sri Kakkara Balachandran Menon Prize	IIT Madras
8.	Xavier Arunraj J	AE17M028	Prof. S. Santhakumar Prize	IIT Madras

4.1.3. Faculty and Their Activities

Faculty

Name and Qualifications	Major Areas of Specialisation
Professors	
Dr. Ramakrishna, M. Ph.D. (University of Texas at Arlington)	Fluid mechanics, numerical methods, computer solutions
Dr. Sriram, P. Ph.D. (Georgia Institute of Technology)	Structural mechanics, fatigue and fracture, parallel computing
Bhaskar, K. Ph.D. (IIT Madras)	Structural mechanics, plates and shells, composite structures
Dr. Sujith, R. I. Ph.D. (Georgia Institute of Technology)	Acoustics and combustion instability, optical flow diagnostics
Dr. Chakravarthy, S. R. Ph.D. (Georgia Institute of Technology)	Propulsion, combustion and fluid mechanics
Dr. Velmurugan, R. Ph.D. (IIT Delhi)	Composite structures analysis and design, impact mechanics, 3D composites
Dr. Luoyi Tao, Ph.D. (University of Pittsburgh)	Continuum mechanics and its applications (fluids, solids, multiphase flows)
Dr. Murthy, H. S. N. Ph.D. (Purdue University)	Fatigue and fracture, non-destructive evaluation, tribology, advanced materials, elasticity
Dr. Amit Kumar, Ph.D. (Case Western Reserve University)	Combustion, propulsion, fire research, CFD
Ramakrishna, P. A. Ph.D. (Indian Institute of Science)	Combustion, propulsion and fuel cells
Dr. Nandan Kumar Sinha, Ph.D. (IIT Bombay)	Dynamics and control of aerospace vehicles, aerial vehicle autonomy
Dr. Sunetra Sarkar, Ph.D. (Indian Institute of Science)	Insect aerodynamics, fluid structure interaction, uncertainty quantification
Dr. Sameen, A. Ph.D. (Indian Institute of Science)	Stability, transition and turbulence, computational fluid dynamics
Dr. Muruganandam, T. M. Ph.D. (Georgia Institute of Technology)	Combustion, blowout dynamics, optical diagnostics, spectroscopic methods, vortex breakdown, dynamics of mode shifting, high-speed flows, unsteady gas dynamics
Dr. Sivasambu Mahesh, Ph.D. (Cornell University)	Structure-property modeling of aerospace materials
Associate Professors	



Name and Qualifications	Major Areas of Specialisation
Dr. Rajesh, G. Ph.D. (Andong National University, S. Korea)	Shock wave dynamics, high speed flows, experimental aerodynamics
Dr. Manikandan Mathur, Ph.D. (Massachusetts Institute of Technology)	Instabilities and mixing, stratified and rotating flows, Lagrangian coherent structures
Dr. K.V. Nagendra Gopal, Ph.D. Ph.D. (Indian Institute of Science)	Computational mechanics and multi-scale modeling, fracture mechanics, structural dynamics and aero elasticity
Assistant Professors	
Dr. Ranjith Mohan, Ph.D. (Florida Atlantic University)	Helicopters, rotorcraft MAVs
Dr. Santanu Ghosh, Ph.D (North Carolina University)	Computational fluid dynamics, turbulent flows, shock/ boundary-layer interaction, immersed-boundary methods
Dr. Shankar Ghosh, Ph.D. (University of Minnesota)	Hypersonic flow simulation, non-equilibrium effects, computational fluid dynamics, turbulent flows
Dr. Shyam M. Keralavarma, Ph.D. (Texas A&M University)	Plasticity, ductile fracture, computational materials modeling, multiscale modeling
Dr. Joel George, Ph.D. (Indian Institute of Science)	Navigation, guidance and control of aerospace vehicles, multi-agent systems theory as applied to multiple unmanned aerial vehicle missions
Dr. Shantanu Shashikant Mulay, Ph.D (Nanyang Technological University)	Continuum mechanics, large deformation of materials, fracture mechanics and plasticity
Dr. M. Senthil Murugan, Ph.D (IISc)	Aeromechanics, dynamics and aeroelasticity, stochastic systems
Dr. Satadal Ghosh, Ph.D (IISc)	Guidance, navigation and control
Dr. Sriram Rengarajan, Ph.D (IISc)	Experimental fluid dynamics, high-speed flows, shockwave boundary layer interactions
Dr. Vadlamani Nagabhushana Rao, Ph.D (University of Cambridge)	Computational fluid dynamics, transition to turbulence, turbomachinery, high order methods, high performance computing
Dr. Bharath M. Govindarajan, PhD. University of Maryland, College Park USA	Computational aerodynamics of flow past bodies, mathematical and numerical modelling, algorithms and their applications, overall design of aerospace vehicles

4.1.3.2. Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

Sl. No.	Coordinator(s)	Title	Period
1	Dr. G. Rajesh	Advanced Methods in Compressible Fluid Flow	11-16 March 2019

4.1.3.3. Short-term courses/workshops/seminars/symposia/conferences/training attended by the faculty members in academic institutions and public sector undertakings

Sl. No.	Coordinator(s)	Title	Period
1.	Dr. K. Bhaskar	To attend selection committee for faculty promotions as an expert member	17 September 2018, Chennai, India

4.1.3.4. Special lectures delivered by the faculty in other institutions

Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
1.	Dr. P. Sriram	Statutory functions and effective management	IIT Bombay	26 February 2019

4.1.3.5. Visits abroad by faculty

Sl. No.	Faculty Member	Country Visited	Date	Purpose of Visit	Funding From
1.	Dr. S. R. Chakravarthy	Paris, France	25 March-1 April 2018	Space delegation to France	IIT Madras
2.	Dr. Shyam Keralavarma	Copenhagen, Denmark	28 May-1 June 2018	IUTAM Symposium on Size-effects in Microstructure and Damage Evolution	IIT Madras



Sl. No.	Faculty Member	Country Visited	Date	Purpose of Visit	Funding From
3.	Dr. Sriram R	Skukuza, South Africa	9-13 July 2018	23 rd International Shock Interaction Symposium	IIT Madras
4.	Dr. G. Rajesh	Kruger National Park South Africa	9-13 July 2018	23 rd International Shock Interaction Symposium	IIT Madras
5.	Dr. Sriram R	Skukuza, South Africa	9-13 July 2018	23 rd International Shock Interaction Symposium	IIT Madras
6.	Dr. K. V. Nagendra Gopal	Lausanne, Switzerland	19-22 August 2018	12th International Conference on Sandwich Structures (ICSS 12)	IIT Madras
7.	Dr. R. Velmurugan	Moscow, Russia	18-30 August 2018	Indo-Russian Collaborative Project	IIT Madras
8.	Dr. P. A. Ramakrishna	Dublin, Ireland	29 July-3 August 2018	37 th International Symposium on Combustion	IIT Madras
9.	Dr. S. R. Chakravarthy	Dublin, Ireland	29 July-3 August 2018	37 th International Symposium on Combustion	IIT Madras
10.	Dr. T. M. Muruganandam	Dublin, Ireland	29 July-3 August 2018	37 th International Symposium on Combustion	IIT Madras
11.	Dr. Sameen A	Vienna, Austria	9-13 September 2018	12th European Fluid Mechanics Conference	IIT Madras
12.	Dr. G. Rajesh	Hague, Netherlands	23-28 September 2018	25 th Symposium on Military Aspects of Blasts and Shock	IIT Madras
13.	Dr. R. Velmurugan	Sapporo, Japan	3-5 October 2018	Steering Committee Meeting of STSI	IIT Madras
14.	Dr Amit Kumar	Moscow, Russian Federation	31 October-3 November 2018	Indo-Russian Project under DST-RSF Programme	IIT Madras
15.	Dr. T. M. Muruganandam	Moscow, Russian Federation	31 October-3 November 2018	Indo-Russian Project under DST-RSF Programme	IIT Madras
16.	Dr. R. Velmurugan	Port Elizabeth, South Africa	7-9 November 2018	3 rd International Conference on Composites, Biocomposites and Nanocomposites	IIT Madras
17.	Dr. M. S. Manikandan	Seattle, USA	7-9 November 2018	Project meeting	Own Funding

4.1.4. Research and Consultancy

4.1.4.1. Sponsored research projects (ongoing and new)

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
1	Development of fuel-rich propellant for ramjet application	27 October 2016-26 June 2019	Uchhatar Avishkar Yojana - IIT Madras	97.37	Dr. Ramakrishna P A
2	Sensors for steam quality, pulverised coal loading, in-belt coal and flame stability	13 July 2017-12 July 2019	Uchhatar Avishkar Yojana - IIT Madras	316.55	Dr. Muruganandam T M
3	Characterization and development of silicone rubber-EPDM nanocomposite as outdoor insulating material for EHV applications	20 August 2016-31 July 2019	CPRI	61.00	Dr. Velmurugan R
4	Experimental and theoretical investigation of rate-dependent bifurcation in the context of thermoacoustic instability	3 August 2017-2 August 2019	DST	5.75	Dr. Sujith R I



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
5	Investigation or performance and control of small rotorcrafts during indoor missions	23 August 2016-22 August 2019	DST	25.37	Dr. Ranjith Mohan
6	Experimental study on starting transients in a vacuum ejector-diffuser system	25 August 2017-24 August 2019	ARDB	27.61	Dr. Rajesh G
7	Numerical investigation of boundary layer separation control in airfoils using surface porosity	29 August 2017-28 August 2019	ARDB	22.71	Dr. Santanu Ghosh
8	3D numerical modeling of arcjet thrusters	31 October 2017 - 30 August 2019	ISRO	11.40	Dr. Amit Kumar
9	Experimental study and numerical modeling of polymers pyrolysis and burning kinetics for the prediction of flame spread behavior under fire growth	5 September 2016-4 September 2019	DST	136.57	Dr. Amit Kumar
10	Application of dynamical systems theory and complex systems theory to combustion instability in liquid rocket engines	7 September 2018- 6 September 2019	AFOSR	21.52	Dr. Sujith R I
11	Development of paraffin-based gas generator system for hot flow scale model tests simulating clustered semi cryo engines	22 March 2018-30 September 2019	ISRO	22.00	Dr. Ramakrishna P A
12	Identification of mesoscale eddies in the Bay of Bengal using Lagrangian coherent structures	9 March 2015-30 September 2019	ISRO	41.40	Dr. Manikandan Mathur
13	Experimental investigation of ageing-related issues in composite solid propellants	1 March 2016-30 September 2019	ISRO	22.63	Dr. Murthy H S N
14	Next-generation combustor technology development for small aircraft/helicopter engines	27 October 2016 - 26 October 2019	Uchhatar Avishkar Yojana - IIT M	724.00	Dr. Chakravarthy S R
15	Theoretical and experimental research for composite materials and structures behaviour taking into account their manufacturing processes, intensive deformation, and fracture - RFBR	22 November 2017-21 November 2019	DST	21.70	Dr. Velmurugan R
16	Centre of excellence in non-intrusive diagnostics	4 October 2013-31 March 2020	MHRD	255.00	Dr. Chakravarthy S R
17	Coupled physical processes in the Bay of Bengal and monsoon air sea interaction	22 May 2015- 31 March 2020	IITM	52.14	Dr. Manikandan Mathur
18	High-temperature erosion and corrosion of combustor components due to combustion of metallized slurry fuels	30 May 2017- 29 May 2020	DRDO	68.65	Dr. Chakravarthy S R
19	Development and optimization of swirl-venturi lean direct injection gas turbine combustor	30 May 2017-29 May 2020	DRDO	230.27	Dr. Chakravarthy S R



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
20	Development of a back pack rocket motor for a solid	19 August 2017- 18 August 2020	IMPRINT	398.42	Dr. Ramakrishna P A
21	Studies on improved low temperature strain capability in advanced energetic solid propellants	27 October 2017 - 26 October 2020	ARB	150.88	Dr. Murthy H S N
22	Development of rotorcraft UAV for operation in Martian atmosphere	31 October 2017- 30 October 2020	ISRO	50.75	Dr. Ranjith Mohan
23	Experimental study of combustion in space environment	1 May 2019- 31 October 2020	ISRO	24.12	Dr. Amit Kumar
24	Resonant triad Interactions in stratified shear flows	15 March 2019- 14 March 2021	SPAR	41.40	Dr. Manikandan Mathur
25	Thermoacoustic instability as pattern formation in a system far from equilibrium	21 March 2018- 20 March 2021	NICOST	144.33	Dr. Sujith R I
26	Development of nano-boron slurry fuel, its characterization, and atomization with a co-axial air-blast atomizer	30 May 2017- 29 May 2021	DRDO	200.43	Dr. Chakravarthy S R
27	Comprehensive soot model development for next-generation, environment-friendly gas turbine combustor design	19 September 2018 - 18 September 2021	Uchhatar Avishkar Yojana - IIT M	308.88	Dr. Muruganandam T M
28	Compact, all-weather operability combustors for small gas turbine engines/UAV application	19 September 2018 - 18 September 2021	Uchhatar Avishkar Yojana - IIT M	763.10	Dr. Chakravarthy S R
29	Toughened concrete for the use in structures of national importance against impact	26 November 2018 - 25 November 2021	SERB	10.05	Dr. Velmurugan R
30	Variable camber morphing wing	30 May 2017 - 29 May 2022	DRDO	1286.10	Dr. Sameen A
31	Design and development of morphing wing with hingeless control surface	30 May 2017 - 29 May 2022	DRDO	514.54	Dr. Nagendra Gopal K V
32	Solid propellant combustion mechanisms and modelling	30 May 2017- 29 May 2022	DRDO	2501.82	Dr. Chakravarthy S R
33	Fund for improvement of S&T infrastructure–three-dimensional stratified flows facility – FIST Program 2017	13 March 2018- 12 March 2023	DST	227.00	Head of the Department
34	J. C. Bose Fellowship	5 March 2019- 19 February 2024	SERB	95.00	Dr. Sujith R I

4.1.4.2. Industrial consultancy projects (ongoing and new)

Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
1.	Dr. Velmurugan R	Characterization testing and FE analysis of composite road wheel and composite top roller of Arjun Tank	Combat Vehicles Research and Development Establishment	14.22
2.	Dr. Velmurugan R	Finite element analysis of composite spray header	Carborundum Universal Limited	3.69
3.	Dr. Chakravarthy S R	ETP sludge drier study	Nitta Gelatin India Limited	2.36



Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
4.	Dr. Chakravarthy S R	FLSMIDTH projects	Common Code	0.00
5.	Dr. Shyam M Keralvarma	Experimental and numerical study of loading path effects on ductile fracture in nuclear steels	Indira Gandhi Centre for Atomic Research	39.49
6.	Dr. Velmurugan R	Design and development of composite bumpers for automotive applications	Mahindra & Mahindra Limited	5.90
7.	Dr. Chakravarthy S R	Drone-based surveillance and inspection	India Cements Limited	9.85
8.	Dr. Murthy H S N	FEM analysis of pedestal components	Bharat Electronics Limited	14.81
9.	Dr. Chakravarthy S R	ETP sludge drier study	Nitta Gelatin India Limited	2.36
10.	Dr. Rajesh G	Simulation study for implosion driven hypervelocity launcher	Armament Research and Development Establishment, Pune	9.95
11.	Dr. Rajesh G	CFD simulations of the flow through muzzle brakes and bore evacuator projectiles	Ordnance Factory	56.50
12.	Dr. Sujith R I	Combustion stability assessment of 800 N throttling engine	Liquid Propulsion Systems Centre	10.74
13.	Dr. Velmurugan R	Crash worthiness study of ICF coach body with CBC design	Integral Coach Factory	19.99
14.	Dr. Velmurugan R	Characterization testing and FE analysis of composite road wheel and composite top roller of Arjun Tank	Combat Vehicles Research and Development Establishment	14.22
15.	Dr. Chakravarthy S R	Drone-based surveillance and inspection	India Cements Limited	9.85
16.	Dr. Velmurugan R	Design and development of composite bumpers for automotive applications	Mahindra & Mahindra Limited	5.90
17.	Dr. Velmurugan R	High strain rate and impact studies of STF impregnated Kevlar/Dyneema fabrics	Defence Materials and Stores Research and Development Establishment	37.55
18.	Dr. Ranjith Mohan	Modeling and simulation of Ballpot	Common Code	0.00
19.	Dr. Sujith R I	Investigating the spatio-temporal dynamics of confined turbulent reacting flow close to lean blowout	Siemens Technology and Services Private Limited	20.78
20.	Dr. Rajesh G	Theoretical estimates of blast effects on various anti-tank threats	High Energy Materials Research Laboratory	9.97
21.	Dr. Velmurugan R	Testing and characterization studies of composite structural components	Common Code	0.00
22.	Dr. Chakravarthy S R	FLSmidth projects	Common Code	0.00
23.	Dr. Sameen A	Magneto-hydrodynamic simulation of reflux type annular linear induction pump for fast reactors	Indira Gandhi Centre for Atomic Research	34.69
24.	Dr. Shyam M Keralvarma	Experimental and numerical study of loading path effects on ductile fracture in nuclear steels	Indira Gandhi Centre for Atomic Research	39.49
25.	Dr. Amit Kumar	Cone Calorimeter Tests: Internal	Common Code	5.00
26.	Dr. Amit Kumar	Cone Calorimeter Tests: External	Common Code	5.00



4.1.4.3.a. Distinguished visitors (faculty/scientist) to the department

Sl. No.	Visitor and Designation	Date of Visit	Purpose of Visit
1.	Prof. Edgar Knobloch, Professor of Physics, University of California, Berkeley	16 July 2018	Lecture on Spatially localized structures: experiments, theory, numerics
2.	Prof. Kumar Shanmugam, Advanced Materials and 3D printing Laboratory, Department of Mechanical Engineering, Masdar Institute, Abu Dhabi, UAE	24 January 2019	Lecture on Multifunctional performance of engineered materials enabled by additive manufacturing and nano engineering
3.	Olivia Fernandes, Director, Trinity Aviation	24 January 2019	Interaction with students
4.	Aero India 2019 panellists	24 January 2019	Future of UAVs and related technologies
5.	Delegates from Moscow Aviation Institute	20 February 2019	Interaction with faculty of the department
6.	Dr. Vikram Hrishikeshavan	7 March 2019	Experimental design and flight testing of rotary and hybrid wing micro aerial vehicles for multi-role missions

4.1.5.3.b. Distinguished visitors (students)

- 39 Students of class 7, 8 and 9 from Ameya World School, Visakhapatnam on 15 December 2018
- Students of class 7, 8 and 11, Ameya World School, Andhra Pradesh on 30 January 2019

4.1.5. Other Activities

4.1.5.1. Socially relevant activities carried out by the department

- Students and staff of the department made an official visit to SDSC SHAR ISRO, Sriharikota on 26 February 2019.
- Student visited from abroad

Sl. No.	Student	Purpose of Visit	Place
1	Ikumu Noishiki	Internship	Kyoto, Japan
2	Omar Anwar Zaki Ali	Exchange Student	Egypt
3	Coic Leo	Exchange Student	France
4	Charlotte Hubert	Exchange Student	France
5	Goizet Siloune	Exchange Student	France
6	Lumain Marine	Exchange Student	France
7	Beatriz Oliveira	Exchange Student	Portugal
8	Anton Kovalov	Exchange Student	Poland





4.2. Department of Applied Mechanics

4.2.1. Introduction

The Department of Applied Mechanics has been in existence since 1962. A full-fledged interdisciplinary graduate research department, it focuses on academic activities in three broad areas of biomedical engineering, fluid mechanics and solid mechanics. The department also offers minor streams for undergraduate students.

4.2.2. Academic Programmes

Ph. D, Direct Ph. D, M. S. (by Research), M. Tech (Computational and Experimental Mechanics), M. Tech (Biomedical Engineering), and Inter-Disciplinary Dual Degree in Biomedical Engineering and Computational Engineering.

Students on roll as of September 2018+M.S. and Ph.D admission in January 2019

Programme	Year I	Year II	Year III	Year IV	Year V and others	Total
Dual Degree		20				20
M.Tech.	21	27				48
M.S.	16	26	13	06	01	62
Ph.D.	28	35	37	27	35	162

Student/Scholar who attended conferences/workshops/seminars/symposia

Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposia/Workshop	Date and Venue	Financial Assistance from
Abroad					
1.	Anila Satheesh B.		International Symposium on Biomedical Imaging (ISBI'18)	4-7 April 2018, Washington DC, USA	IIT Madras
2.	Punitha N.	AM15D037	Society for Imaging Informatics in Medicine (SIIM) 2018 Annual Meeting	31 May-3 June 2018, Maryland, USA	Alumni
3.	Rohini P.	AM16D301	SIIM 2018 Annual Meeting	31 May-3 June 2018, Maryland, USA	IIT Madras
4.	Mrityunjay Singh	AM14D406	European Geoscience Union 2018	8-13 April 2018, Austria	IIT Madras
5.	Saravanakumar D.	AM15D014	55 th Annual Rocky Mountain Bioengineering Symposium (RMBS 2018)	13-14 April 2018, USA	IIT Madras
6.	Shaik Mahabu Subhani	AM15D013	European Conference (ECCM-ECFD 2018)	15 June 2018, UK	IIT Madras
7.	Ashutosh Pandey	AM16S008	75 th International Annual Conference of Society for Experimental Mechanics (SEM Annual 2018)	4-7 June 2018, USA	IIT Madras
8.	Deepak Kumar	AM14D404	10 th European Solid Mechanics Conference (ESMC2018)	2-6 July 2018, Italy	IIT Madras
9.	Aasifa Rounak	AM15D201	Dynamics of Complex Systems Summer School, ICTS	16-25 June 2018, Bengaluru	IIT Madras
10.	Harish Lambadi	AM13D025	1 st Symposium and Workshop for Analytical Youth on Applied Mechanics (SWAYAM 2018)	4-6 July 2018, BITS Pilani, K K Birla Goa Campus	IIT Madras
11.	Agesh Markose	AM14D009	SWAYAM 2018	5-6 July 2018, BITS Pilani	IIT Madras
12.	Ashish Pandey	AM17D031	SWAYAM 2018	5-6 July 2018, BITS Pilani	IIT Madras
13.	K. Srinivas	AM16S021	SWAYAM 2018	5-6 July 2018, BITS Pilani	IIT Madras
14.	G. Jeevitha	AM17M016	SWAYAM 2018	5-6 July 2018, BITS Pilani	IIT Madras
15.	M. Swathika	AM13D032	SWAYAM 2018	5-6 July 2018, BITS Pilani	IIT Madras



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposia/Workshop	Date and Venue	Financial Assistance from
16.	Raghunandan Pratoori	AM16S024	SWAYAM 2018	5-6 July 2018, BITS Pilani	IIT Madras
17.	Ann David	AM16D038	Progress in Clinical Motor Control: Neurorehabilitation	23-25 July 2018, University of Pennsylvania, USA	IIT Madras
18.	Kiran Kumar G R	AM14D405	International Conference on Signal Processing and Communications, 2018	16-19 July 2018, Bengaluru	IIT Madras
19.	Saravanakumar D	AM15D014	SWAYAM 2018	4-6 July 2018, BITS Pilani, K K Birla Goa Campus	IIT Madras
20.	Niraj Bagh	AM15D017	SWAYAM 2018	4-6 July 2018, BITS Pilani, K K Birla Goa Campus	IIT Madras
21.	R. Rakesh	AM14D006	5 th International Conference on Computational Methods for Thermal Problems	9-11 July 2018, Bengaluru	IIT Madras
22.	M. Vishnu	AM15D027	5 th International Conference on Computational Methods for Thermal Problems	9-11 June 2018, Bengaluru	IIT Madras
23.	Abhinav Singh	AM16S005	7 th Conference on Bluff Body Wakes and Vortex-Induced Vibrations (BBVIV-7)	3-6 July 2018, Marseille, France	IIT Madras
24.	Ravali G	AM14D014	EuroHaptics 2018	13-16 June 2018, Pisa, Italy	IIT Madras
25.	Joseph Issac		EuroHaptics 2018	13-16 June 2018, Pisa, Italy	IIT Madras
26.	Payal Patel	AM16M009	EuroHaptics 2018	13-16 June 2018, Pisa, Italy	IIT Madras
27.	Rohini P	AM16D301	Pattern Recognition in Neuroimaging	11 June 2018, Singapore	IIT Madras
28.	Punitha N	AM15D037	40 th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'18)	17 July 2018, USA	IIT Madras
29.	G Ravali I Joseph HR	AM14D014	EuroHaptics 2018	13-16 June 2018, Pisa, Italy	IIT Madras
30.	S. Edward Jero, P. Karthick, Justin Dauwels		8 th International Workshop on Pattern Recognition in Neuroimaging	June 2018, Singapore	IIT Madras
31.	Navaneetha krishna Makaram	AM16D001	EMBC'18	July 2018, Honolulu	IIT Madras
32.	Vipul Dogra	AM15S036	10 th International Aerosol Conference (IAC 2018)	2-7 September 2018, St. Louis, Missouri, USA	IIT Madras
33.	Abhilash Verma	AM16S022	16 th International Tissue Elasticity Conference	8-12 September 2018, Avignon, France	IIT Madras
34.	Sleebea Varghese	AM16S020	12 th European Fluid Mechanics Conference	9-13 September 2018, Austria	IIT Madras
35.	Alan Sam	AM14D010	12 th European Fluid Mechanics Conference	9-13 September 2018, Austria	IIT Madras
36.	Vysakh	AM16D034	COMSOL Conference 2018	9-10 August 2018, Bengaluru	IIT Madras
37.	Anurag Pant	AM11D201	12 th European Fluid Mechanics Conference	9-13 September 2018, Austria	IIT Madras
38.	Sowmiya C	AM13D202	2018 IEEE International Ultrasonics Symposium (IUS)	22-25 October 2018, Kobe, Japan	IIT Madras
39.	Anand R	AM15D026	2018 IEEE International Ultrasonics Symposium (IUS)	22-25 October 2018, Kobe, Japan	IIT Madras



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposia/Workshop	Date and Venue	Financial Assistance from
40.	Fuaad P A	AM13D022	International Conference on Flow Dynamics, ICFD 2018	7-9 November 2018, Japan	IIT Madras
41.	M Swathika	AM13D032	International Mechanical Engineering Congress and Exposition, ASME	11-15 November 2018, Pittsburgh, USA	IIT Madras
42.	Chandan Bose	AM14D403	71 st Annual Meeting of the APS Division of Fluid Dynamics (DFD)	18-20 November 2018, Atlanta, USA	IIT Madras
43.	Allwyn S.	AM15S200	International Workshop on Photonics Polymer for Innovation (IWPPi2018)	15-18 October 2018, Suwa, Japan	IIT Madras
44.	G R Kiran Kumar	AM14D405	9 th International IEEE EMBS Neural Engineering Conference	20-23 March 2019, San Francisco, CA, USA	IIT Madras
45.	Niraj Bagh	AM15D017	9 th International IEEE EMBS Neural Engineering Conference	20-23 March 2019, San Francisco, CA, USA	IIT Madras
46.	Raj Arjunan	AM15D029	IEEE VR	23-27 March 2019, Osaka, Japan	IIT Madras
India					
1.	Edward Jero, Punitha N., Satyavratana G. and Vardhini P	AM15D037 AM16D037 AM17D013	GW/IITM Entrepreneurial Training Program (I-NCUBATE programme)	April 2018, IC&SR	IIT Madras
2.	Abhinav Singh	AM16S005	International Workshop on Cloud Dynamics, Micro Physics, and Small-Scale Simulation	2018, Pune, India	IIT Madras
3.	Dhanush R	AM13D021	5 th Annual Conference of the Association for Cognitive Science	10-12 October 2018, IIT Guwahati	IIT Madras
5.	Salai Jeyaseelan Annamalai	AM17S021	5 th Annual Conference of the Association for Cognitive Science	10-12 October 2018, IIT Guwahati	IIT Madras
6.	Mrityunjay Singh	AM14D406	Carbon Capture, Storage and Re-use in India	11-12 October 2018, IIT Bombay, Mumbai	IIT Madras
7.	Aasifa Rounak	AM15D201	Conference on Nonlinear Systems and Dynamics	11-14 October 2018, Jawaharlal Nehru University, New Delhi	IIT Madras
8.	Abhisek Kundu	AM17M025	International Conference on Complex Fluids and Soft Matter (COMFLU 2018)	6-9 December 2018, IIT Roorkee	IIT Madras
9.	Darish Jeswin Dhas S	AM16D022	COMFLU 2018	6-9 December 2018, IIT Roorkee	IIT Madras
10.	Pijush Patra	AM17S006	COMFLU 2018	6-9 December 2018, IIT Roorkee	IIT Madras
11.	Pijush Patra	AM17S006	FMFP 2018	10-12 December 2018, IIT Bombay	IIT Madras
12.	Darish Jeswin Dhas S	AM16D022	FMFP 2018	10-12 December 2018, IIT Bombay	IIT Madras
13.	Naveen Raj	AM15D024	FMFP 2018	10-12 December 2018, IIT Bombay	IIT Madras
14.	Sreekesh	AM16D015	FMFP 2018	10-12 December 2018, IIT Bombay	IIT Madras
15.	H. Manoharan		International Conference on Fiber Optics and Photonics, Photonics 2018	12-15 December 2018, IIT Delhi	IIT Madras
16.	J. Kuzhandai Shamlee		Photonics 2018	12-15 December 2018, IIT Delhi	IIT Madras
17.	Allwyn S. Rajamani	AM15S200	Photonics 2018	12-15 December 2018, IIT Delhi	IIT Madras



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposia/Workshop	Date and Venue	Financial Assistance from
18.	Anurag Pant	AM11D201	FMFP 2018	12-15 December 2018, IIT Delhi	IIT Madras
19.	K K Prasoon	AM16S026	COMFLU 2018	6-9 December 2018, IIT Roorkee	IIT Madras
20.	K. K. Prasoon	AM16S026	FMFP 2018	10-12 December 2018, IIT Bombay	IIT Madras
21.	Prafulla P. Shevkar	AM16D009	FMFP 2018	10-12 December 2018, IIT Bombay	IIT Madras

Students/scholars who won outside prizes and awards

Sl. No.	Student/Scholar	Roll No.	Name of Prize	Prize awarded by
1.	Aritras Roy	AM17D023	Best Paper Award for paper: Unsteady 3D post-stall aerodynamics accounting for effective loss in camber due to flow separation	
2.	Sri Krishna Sudhamsu Khambammettu	AM15D200	Best Paper Award in the category of Design Engineering for paper: Estimation of leak in elastomeric seals	SWAYAM 2018
3.	M. Swathika	AM13D032	Best Paper Award in the category of Solid Mechanics for paper: Droplet impact for various dripping condition falling from different height	SWAYAM 2018
4.	Chandan Bose	AM14D403	Travel award for excellence in Graduate Research	American Physical Society (APS)
5.	Chandan Bose		Travel award	DST
6.	Mrityunjay Singh	AM14D406	Best Poster Award: Injection pressure induced buoyancy driven CO ₂ dissolution in deep saline aquifers	Carbon Capture, Storage and Re-use in India, IIT Bombay
7.	Allwyn S Rajamani	AM15S200	Student Award for Polymeric fiber optic point-of-care device for biomolecule detection	International Workshop on Photonics Polymer for Innovation Suwa, Japan

Students Grant

Sl. No.	Student/Scholar	Roll No.	Name of Prize	Prize awarded by
1	Shashank Kumar Gupta	AM14S028	2,00,000	Nirmaan (IIT-M pre-incubation cell)

Students/scholars who won Institute Convocation/Institute Day Prize

Sl. No.	Student/Scholar	Roll No.	Prize
1	Koutharapu Aditya	AM16M006	Shrimathi Parvatham Ramalingam Prize

4.2.3. Faculty and Their Activities

Faculty

Name and Qualifications	Major Area of Specialisation
Professors	
S. Ramakrishnan, PhD (Head)	Biomedical instrumentation, signal and image analysis, medical informatics & machine learning, medical device design
M. Ramasubba Reddy, PhD	Bio-signal processing, bio-instrumentation
K. Ramesh, PhD	Digital photomechanics, fracture mechanics, computer applications in experimental mechanics
C. Lakshmana Rao, PhD	Impact mechanics, fracture mechanics, modelling of smart materials, numerical approach
M. S. Sivakumar, PhD	Smart materials and structures, inelasticity / plasticity, fatigue of materials



Name and Qualifications	Major Area of Specialisation
M. Manivannan, PhD	Haptics, medical simulation, biomechanics, virtual reality, computational geometry and physiology
Dr. Mahesh V Panchagnula, PhD	Spray combustion and atomization, surface tension phenomena, multiphase flows, active particles and systems
B.S.V. Prasad Patnaik, PhD	Computational fluid dynamics, CFD tools for FSI, micro, bio-fluid flow systems
A. Arockia Rajan, PhD	Smart materials, composites, material modelling, computational mechanics and experimental mechanics
Anuradha Banerjee, PhD	Fracture and fatigue analysis in metals, composites, bio-materials, brittle materials
Arul Prakash K, PhD	CFD and heat transfer, LES and related techniques, thermal hydraulics, cooling technologies, bio-fluid dynamics
A. Baburaj Puthanveetil, PhD	Coherent structures in turbulent convection, interfacial phenomena and transport across membranes
N. Sujatha, PhD	Biomedical imaging, speckle metrology, non-invasive tissue characterization
Sayan Gupta, PhD	Vibrations, nonlinear dynamics, probabilistic mechanics, structural reliability
S. Vengadesan, PhD	CFD and turbulence modelling-basics, advanced topics and applications to engineering problems, FSI, biofluid flows
Associate Professors	
Arun Kumar Thittai, PhD	Ultrasound imaging, HIFU application in therapy, acoustic radiation force application in mechanics, photoacoustics
Sarith P. Sathian, PhD	Rarefied gas flows and nanofluidics
Vagesh D. Narasimhamurthy, PhD	CFD, DNS, turbulence, transition, bluff body flows, premixed combustion, multiphase flows
Abhijit Chaudhuri, PhD	Modelling hydrothermal systems, water waves, mass transfer in heterogeneous systems
Pijush Ghosh, PhD	Nanomechanics, biomaterials, mechanics of thin films, molecular dynamics simulation
Raghavendra Sai V. V., PhD	Biosensor for healthcare, fibre optic sensor and instrumentation, nanotechnology
Shaikh Faruque Ali, PhD	Vibration and its controls, smart structures and energy harvesting
Saumendra Kumar Bajpai, PhD	Cell mechanics, tissue mechanics, biophysics of tumours, vascular mechanics
Assistant Professors	
Rinku Mukherjee, PhD	Applied aerodynamics-flow modelling, unsteady wake phenomenon, dynamic stall and formation flight, CFD
Satyanarayanan S., PhD	Aerosol mechanics, air quality – sensors, control equipment, renewable thermal energy – WHR/solar
Varadhan S.K.M., PhD	Neural control of human movement, neuro mechanics and biomechanics
Anubhab Roy, PhD	Hydrodynamic stability, microhydrodynamics, geophysical flows, living fluids
Ganesh Tamadapu, PhD	Mechanics of elastomers, encapsulated microbubbles, tensegrity structures

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members

Sl. No.	Coordinator(s)	Title	Period
Conference			
1.	Dr. M. Manivannan	A new global consortium, Digital Wellbeing Consortium initiated	
Workshop			
1.	Dr. M. Manivannan	A workshop on Role of Technology in the Digital Wellbeing	4 July 2018
Short-Term Courses			
1.	Dr. N. Sujatha	AICTE-sponsored STTP on Biomedical Optics and Instrumentation	3-7 December 2018
2.	Dr. Sarith P Sathian	AICTE-sponsored STC on Nanofluidics: Theory, Computation and Applications	28 January-2 February 2019
3.	Dr. Prasad Patnaik	AICTE-sponsored short-term training programme on Mechanics of Impact and Blast: Introduction, Modeling and Prediction (MIB:IMP)	25-30 March 2019



Short-term courses/ workshops/seminars/symposia/conferences/training attended by the faculty members in academic institutions and public sector undertakings

Sl. No.	Faculty Member	Title	Institution	Period
Symposia				
1	Dr. Anubhab Roy	A finite Re slender body theory	IUTAM Symposium on Dynamics of Complex Fluids and Interfaces, IIT Kanpur	17-20 December 2018
Conferences				
1	Dr. N. Sujatha	Spatially resolved diffuse optical correlation spectroscopy (SR-DOCS) for quantitative assessment of skin tissue perfusion matrix	SPIE Europe, Strasbourg, France	23-26 April 2018
2	Dr. Anuradha Banerjee	Attended	13 th World Conference in Computational Mechanics, New York	22-27 July 2018
3	Dr. M. Manivannan	Invited talk: Virtual reality and haptics based medical simulators – challenges	IMSACON 2018, UK	23-25 August 2018
4	Dr. Anubhab Roy	Organised the session, Instabilities and Transition	COMFLU 2018, IIT Roorkee	6-9 December 2018
5	Dr. Varadhan SKM	Use of Flipped Classroom to teach Neuroscience to Engineers – Perception and Performance	Sharing Teaching and Learning Experience Conference, IIT BHU, Varanasi	8-9 March 2019
6	Dr. Rinku Mukherjee	International Conference on Aerospace Engineering, Classification of Flying Vehicles and Flight Software, New York, USA		3-4 June 2018
Training				
1	Prof. S. Ramakrishnan	GW/IITM Entrepreneurial Training Program (I-NCUBATE programme)	IC&SR	April 2018

Special lectures delivered by the faculty in other institutions

Sl. No.	Faculty Member	Topic	Institution	Date
1	Dr. Sarith P Sathian	Computing for water: designing nanofiltration membranes through molecular dynamics simulations	Mechanical and Aerospace Engineering, Hong Kong University of Science and Technology	20 July 2018
2	Dr. Sarith P Sathian	Phonon transport at the liquid-solid interface: Theory and modeling	Thermal Energy Engineering Lab of University of Tokyo, Japan	24 July 2018
3	Dr. Sarith P Sathian	Thermophoretic transport of molecules in nanodevices	Department of Mechanical Engineering and Science, Kyoto University, Japan	26 July 2018
4	Dr. M. Manivannan	VR and haptics - research challenges	Honeywell, Bengaluru	31 July 2018
5	Vagesh D. Narasimhamurthy	On the influence of initial conditions on DNS	International Workshop on Cloud Dynamics, Micro Physics and Small-Scale Simulation, High Performance Computing System, Indian Institute of Tropical Meteorology, Pune	13-17 August 2018
6	Arun K. Thittai	Guest lectures on fundamentals of ultrasound imaging	Workshop on Machine Learning for Medical Image Analysis (WMLMIA 2018), IIT Kgp, India	17-21 September 2018



Sl. No.	Faculty Member	Topic	Institution	Date
7	V. V. Raghavendra Sai	Fiber optic absorbance biosensor as a biomolecular interaction tool	INSCR International Conference (IIC-2018): Trends in biotechnology for innovations in healthcare and environment, Kalinga Institute for Industrial Technology, Bhubaneswar, India	26-27 September 2018
8	Dr. N. Sujatha	Non-invasive optical tools for tissue analysis	INVAS FoS meeting, Hyderabad	December 2018
9	Dr. M. Manivannan	Research challenges in virtual reality and haptics	Hyderabad	6 December 2018
10	Dr. M. Manivannan	Technology-enabled medical education in India	Institute Foundation Day, Stanley Institute of Hand and Rehabilitation, Chennai	26 January 2019
11	Dr. V. V. Raghavendra Sai	Invited talk, National Workshop on Emerging Sensor Technologies (NEST)	Bharathiar University, Coimbatore	7-8 January 2019
12	Dr. M Manivannan	Invited talk: Technology-enabled medical education	AFMC, Pune	19 February 2019
13	Dr. M Manivannan	Invited talk: Story of medical simulation in India	AIIMS, New Delhi	3 March 2019
14	Dr. M Manivannan	Invited talk: Challenges in VR and haptics	IIT Jodhpur	9 March 2019
16	Dr. V Raghavendra Sai	Design and development of fiber optic physical, chemical and biosensor	Andhra University	February 2019
17	Dr. N. Sujatha	Optical holography-principles, wave fronts, interference patterns, applications	SSN College of Engineering, Chennai	February 2019
18	Dr. V Raghavendra Sai	Design and development of fiber optic physical, chemical and biosensor	IIT, Hyderabad	March 2019
19	Dr. V. Raghavendra Sai	Design and development of fiber optic physical, chemical and biosensor	Andhra University	February 2019

Visits abroad by faculty

Sl. No.	Faculty Member	Country Visited	Date	Purpose of visit	Funding from
1	Dr. Arun K. Thittai	USA	4-7 April 2018	International Symposium on Biomedical Imaging (ISBI'18), Washington DC	Institute
2	Dr. N. Sujatha	France	23-26 April 2018	SPIE Europe, Strasbourg	Institute
3	Dr. Sarith P Sathian	Australia	23 May 2018	Swinburne University of Technology and Royal Melbourne Institute of Technology	Indo-Australian Early and Mid Career Award
4	Dr. Rinku Mukherjee	New York	3-4 June 2018	20th International Conference on Aerospace Engineering, Classification of Flying Vehicles and Flight Software, New York, USA	Institute
5	Dr. S.K.M. Varadhan	America	23-25 July 2018	International Conference on Progress in Clinical Motor Control I: Neurorehabilitation, Penn State University	Institute
6	Dr. Anuradha Banerjee	New York	22-27 July 2018	13 th World Conference in Computational Mechanics	Institute



Sl. No.	Faculty Member	Country Visited	Date	Purpose of visit	Funding from
7	Dr. M. Manivannan	Germany	1-15 June 2018	RWTH, Aachen	Institute
8	Dr. S. Ramakrishnan	USA	20 July 2018	Honolulu, Hawaii	Institute
9	Dr. M. Manivannan	UK	23-25 August 2018	IMSACON 2018	Institute
10	Dr. Satyanarayanan S	Israel	1-6 September	Young India Leaders Program by MFA	Institute
11	Prof S. Ramakrishnan	Germany	1-8 October 2018	Institute of Applied Mechanics, Braunschweig University of Technology, Braunschweig	Institute
12	Prof S. Vengadesan	USA	15-16 November 2018	University of Texas, Dallas	Institute
13	Dr. Satyanarayanan Seshadri	Australia	26 November-2 December, 2018	Swinburne University of Technology, Melbourne	Institute
14	Dr. Arun K Thittai	Japan	22-25 October 2018	IEEE International Ultrasonics Symposium (IUS), Kobe	Institute
15	Prof. S. Vengadesan	USA	18-19 November 2018	71 st Annual Meeting of APS-DFD, Atlanta, Georgia, USA	Institute

Honours and awards obtained by faculty

Sl. No.	Faculty Member	Award	Awarded by	Awarded for
1.	Dr. Satyanarayanan Seshadri	University Challenge Competition 2018	Indo-US Foundation	ZeroDnT: Democratizing energy efficient cold logistics

4.2.4. Design and Development Activities

Patents

Patents filed

Sl. No.	Faculty Member	Topic of patent
1	Sujatha N	Low-cost laser speckle fiberscope for immediate detection of extent of cancerous tissues during perioperative procedures and assessment of blood flow
2	Sujatha N	Transdermal collagen and haemoglobin sensor: design and demonstrations there for scleroderic skin
3	Arun K Thittai	Method and apparatus for operator-independent ultrasound elastography
4	Arockiarajan A	Hybrid wing device, method of actuation thereof and aircraft with hybrid wing
5	Satyanarayanan Seshadri	Compressed Air Recuperated Energy Storage (CARES)
6	Satyanarayanan Seshadri	Controlled volumetric expansion system for fixed RPM operation of a rotary or reciprocating expander
7	Satyanarayanan Seshadri	Online device or instrument and methodology to measure fly ash particulate optically in industrial stack emissions independent of moisture

Patents awarded

Sl. No.	Faculty Member	Topic of patent
1	Mahesh V. Panchagnula	Process and applications of encapsulated liquids in particulate materials: formation of liquid micro-marbles

Copyright registered

Sl. No.	Faculty Member	Topic of patent
1	Ramesh K	PSCOPE TM-18.0-Virtual polariscope Software
2	Ramesh K	DigiTFP-18.0 Robust software for whole field evaluation of isochromatics and isoclinics using white light



4.2.5. Research and Consultancy

Sponsored Research Projects (ongoing and new)

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
1	GPU-based software beamformers and advanced colour flow imaging for affordable ultrasound system	1 March 2018-31 August 2019	Biotechnology Industry Research Assistance Council	22.35	Arun K. Thittai, Rupesh Nasre, Ganapathy Krishnamurthi
2	VAJRA Visiting Faculty, Dr. Perumal Nithiarasu	2 April 2018-1 April 2021	Department of Science & Technology	32.81	Arul Prakash K
3	VAJRA Visiting Faculty, Dr. Ranjith Pathegama Gamage	16 April 2018-15 April 2021	Department of Science & Technology	16.67	Abhijit Chaudhuri
4	Development of Wankel expander/compressor based heat pump system for high temperature applications	7 May 2018-6 May 2021	Uchhatar Avishkar Yojana - IIT Madras	158.12	Satyanarayanan Seshadri, Krishna Vasudevan
5	Immersive virtual reality based nursing skills training simulation	7 May 2018-6 May 2021	Uchhatar Avishkar Yojana - IIT Madras	100.00	Manivannan Muniyandi
6	VAJRA Visiting Faculty, Dr. Srinivasan A Mandayam	5 March 2018-4 March 2021	Department of Science & Technology	34.00	Manivannan Muniyandi
7	Bladeless smart wind energy harvesters	10 July 2018-9 July 2021	Department of Science & Technology	30.96	Sayan Gupta, Sunetra Sarkar, Shaikh Faruque Ali
8	Role of hand dominance and movement observation in intramanual transfer of motor learning	7 August 2018-6 August 2021	Department of Science & Technology	44.36	Varadhan S K M
9	Confined living fluids - bacterial motility on surfaces	30 August 2018-29 August 2021	Department of Science & Technology	31.41	Anubhab Roy
10	Development of optical stack emission sensors for handling flue gases downstream of FGD	19 September 2018-18 September 2020	Uchhatar Avishkar Yojana - IIT Madras	228.00	Satyanarayanan Seshadri, Muruganandam T M, Nilesh Jayantilal Vasa
11	Naval Fit (NF)	19 September 2018-18 September 2021	Uchhatar Avishkar Yojana - IIT Madras	290.00	Ramakrishnan S
12	ZeroDnT: Democratizing energy efficient cold logistics, IIGP 2.0 University Challenge 2018	3 October 2018-31 July 2019	Indo-US Science & Technology Forum	11.00	Satyanarayanan Seshadri
13	Development of Novel SMA bearing supports and retrofit for enhanced performance and durability of rotating machinery	6 October 2018-5 October 2021	Uchhatar Avishkar Yojana - IIT Madras	79.40	Sivakumar M S Srikanth Vedantam
14	Evaluation of steam oxidation behavior of materials under ultra super critical steam conditions using a purpose built test rig	11 October 2018-10 October 2021	International Advanced Research Centre for Powder Metallurgy and New Material	81.93	Satyanarayanan Seshadri, Kamaraj M, Subramanya Sarma V
15	Numerical study of performance of inducer and pump used in cryogenic engines under cavitating and non-cavitating conditions	1 November 2018-31 October 2020	Indian Space Research Organisation	31.14	Vengadesan S, Dhiman Chatterjee
16	Label-free detection of cancer biomarker through highly sensitive evanescent wave absorbance-based fiber-optic biosensor	1 January 2019-31 March 2019	Centre for Co-operation in Science and Technology among Developing Societies	1.65	Raghavendra Sai V V



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
17	Development of novel low-cost heat spreader for high-power monolithic microwave integrated circuit (MMIC) amplifiers	24 December 2018-23 December 2021	Impacting Research Innovation and Technology - IMPRINT	106.65	Baburaj A P, Arul Prakash K, Srinivasa Murthy B
18	Design and development of a multi-array sensor for assessment of muscle fatigue and activity status for rehabilitation	6 December 2018-5 December 2021	Science and Engineering Research Board	10.05	Ramakrishnan S
19	Combined experimental and modelling study of stress corrosion cracking in ferritic steels	13 March 2019-12 March 2022	Science and Engineering Research Board	49.45	Ilaksh Adlakha

Industrial Consultancy projects (ongoing and new)

Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
1	Arockiarajan A	Analysing the Strength of Metal Bonding Adhesives	Caterpillar Engineering Design Center, India	2.89
2	Lakshmana Rao C	Proof Checking of Blast Resistant Door Design	L&T Construction Heavy Civil Infrastructure	4.00
3	Lakshmana Rao C	Proof Checking of Blast Resistant Door Design	L&T Construction Heavy Civil Infrastructure	4.72
4	Satyanarayanan Seshadri	Testing of Chimney	Common Code	10.00

RBIC projects (ongoing and new)

Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
1	Satyanarayanan Seshadri	Design of moving electrode precipitator	Bharat Heavy Electricals Limited	12.66
2	Satyanarayanan Seshadri	Design of barometric condenser for CE20 engine high-altitude test facility	Indian Space Research Organisation	29.45
3	Arul Prakash K	Reduced 1D model for measuring fractional flow reserve and in-vitro validation	Swansea University	6.38
4	Satyanarayanan Seshadri	Development of steam quality sensor for geothermal applications	Fuji Electric Co Limited	35.88
5	Arul Prakash K	Energy-efficient tyre curing process	Apollo Tyres Limited	35.95

Testing Projects

Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
1	Pijush Ghosh	Nanoindentation testing facility	Common Code	5.00
2	Pijush Ghosh	Nanoindentation testing facility	Common Code	5.00
3	Raghavendra Sai V V	Fiber optic sensor fabrication facility	Common Code	10.00
4	Raghavendra Sai V V	Fiber optic sensor fabrication facility	Common Code	10.00

CSR Project

Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
1	Pijush Ghosh	1 Lab - 1 School	Verizon Data Services India Private Limited	72

Exchange programme with other universities, including institutions/universities under MoU

Sl. No.	Student	Purpose	Venue and Date
1	Satyavratn G. (AM16D037)	Short-term research exchange programme on an MoU signed between IITM and Innopolis University	Russia, 3-23 August 2018

4.2.6. Distinguished visitors to the department

Sl. No.	Visitor and Designation	Date of Visit	Purpose of Visit
1	Dr. T. Jayachandran, Visiting Faculty, Department of Aerospace Engineering, IIT Madras	5 April 2018	Talk: Numerical simulation of multi-phase flows in propulsion systems
2	Dr. Abhijit Biswas, Consulting investigator of the blood pressure monitoring project at MIT and The School of Medicine, Tufts University	14 May 2018	Talk: Wearable health technologies: continuous non-invasive blood pressure estimation and monitoring
3	Mr. Saptarishi Basu, Continental Corporation, Singapore		Visited the Touch Lab for collaborative projects
4	Dennis Streveler, Gates Foundation	18 July 2018	Visited the Touch Lab for collaborative projects
5	Prof. Joseph Ravi Singapogu, Clemson University	28 June 2018	Visited the Touch Lab and gave a departmental talk: Towards improved patient outcomes via device-mediated clinical skills training
6	Dr. Senthil Murugan Ganapathy, University of Southampton, UK	13 July 2018	Delivered talk: Research discussion on infrared imaging and fibre optics design was carried out
7	Professor SP Venka, Professor Emeritus and Research Professor, Department of Mechanical Science and Engineering, University of Illinois at Urbana-Champaign, USA	22-23 September 2018	Delivered talk: Foundations of computational engineering through multigrid methods
8	Professor SP Venka, Professor Emeritus and Research Professor, Department of Mechanical Science and Engineering, University of Illinois at Urbana-Champaign, USA	24 September 2018	Delivered talk: Computational fluid dynamics-growth to limits and limits to growth
9	Dr. Netaji Ravikiran Kesana, Institute for Energy Technology (IFE), Norway	27 September 2018	Delivered talk: Importance of multiphase flow research and recent advancements in pipe flow measurements
10	Dr. Aniruddha Choudhary, PostDoc, Department of Applied Mechanics, IITM	12 October 2018	Delivered talk: Numerical errors and uncertainties in scientific computing
11	Dr. Sriram Malladi, Postdoctoral Associate, Virginia Tech	30 November 2018	Delivered talk: Multiple facets of structural vibrations: bio-inspired adaptive systems to internet-of-vibrations
12	Dr. Anasuya, Philips Innovation Campus, Bengaluru	12 October 2018	Delivered talk: What is the nature of work in a healthtech MNC?
13	Dr. Jaladhar, Philips Innovation Campus, Bengaluru	12 October 2018	Delivered talk: Image analysis from a clinical perspective
14	Dr. Lalit Gupta, Director, Neurabay Technologies Private Limited, Bengaluru	11 November 2018	Delivered talk: Interesting career journey in BME - Our CS alumni experience
15	Dr. Karla P. Mercado-Shekhar Postdoctoral Fellow, Department of Internal Medicine, Division of Cardiovascular Health & Disease, University of Cincinnati, USA	5 December 2018	Enabling techniques for tissue characterization using ultrasound
16	Dr. Himanshu Shekhar, Postdoctoral Fellow, Department of Internal Medicine, Division of Cardiovascular Health & Disease, University of Cincinnati, USA	5 December 2018	Harnessing ultrasound and microbubbles for imaging and therapy
17	Dr. Priya Nair, Senior Scientist, Medtronic	7 March 2019	Assessing use conditions for Medtronic transcatheter heart valves
18	Dr. Sanjay Yenugal	15 March 2019	Talk: Biomedical ultrasound and CNDE lab visit
19	Dr. Tanzil Ur Rahman	January-March 2019	India Science Research Fellowship sponsored by CCSTDS
20	Schlumberger Limited, Houston, USA	9 March 2019	Recruitment of MS and Ph.D. scholars



4.2.7. Other Activities of the Department/Centre

Faculty visit

Sl. No.	Faculty Member	Purpose of Visit	Institute, Date and Venue
1.	Dr. M. Manivannan	PMRF panel member	IIT Bombay, 3 May 2018
2.	Dr. M. Manivannan	To design curriculum for Biomechanics course in their MSc program	Board of Studies, Tamil Nadu Physical Education and Sports University, 23 April 2018
3.	Dr. Sarith P. Sathian	Ph.D. thesis examiner	IIT Bombay, 19 April 2018
4.	Dr. Sarith P. Sathian	Chairman, TEQIP-Board of Governors	TEQIP BoG meeting of College of Engineering, Kasargod under the Cooperation Department of the Government of Kerala
5.	Dr. Sarith P. Sathian		Swinburne University of Technology and Royal Melbourne Institute of Technology, Australia; 23 May onwards under Indo-Australian Early and Mid Career Award
6.	Dr. M. Manivannan	MS thesis examiner	CMC Vellore, 6 July 2018
7.	Dr. M. Manivannan	Ph.D thesis examiner	Guindy Engineering College, 30 July 2018
8.	Dr. M. Manivannan	Attended a meeting on digital health as an expert	GATES Foundation, Access Health International and World Bank, New Delhi, 23-26 July 2018
9.	Dr. N. Sujatha	Ph.D. viva examination	Indian Institute of Science, Bengaluru, 14 June 2018
10.	Dr. Sarith P Sathian	Delivered lecture: Computing for water: Designing nanofiltration membranes through molecular dynamics simulations	Mechanical and Aerospace Engineering, Hong Kong University of Science and Technology, 20 July 2018
11.	Dr. Sarith P Sathian	Delivered lecture: Phonon transport at the liquid-solid interface: theory and modelling	Thermal Energy Engineering Lab of University of Tokyo, Japan, 24 July 2018
12.	Dr. Sarith P Sathian	Delivered lecture: Thermophoretic transport of molecules in nanodevices	Department of Mechanical Engineering and Science, Kyoto University Japan, 26 July 2018
13.	Varadhan SKM	Co-Chair, session on Medical Devices and Innovation, 12th National Frontiers of Engg Symposium (INAE)	IIT Guwahati, 17-18 September 2018
14.	Dr. Varadhan SKM	National Bioentrepreneurship Bootcamp, organised by BIRAC Regional Entrepreneurship Centre (BREC), CCAMP	Bengaluru, 5-8 September 2018
15.	Dr. Varadhan SKM	Medical Device Innovation Camp (MEDIC)	28 September-2 October 2018
16.	Dr. Varadhan SKM	NPTEL course on Neuroscience of Human Movement	July/August 2018
17.	V V Raghavendra Sai	Chairperson for the session on Nanotechnology during IIC 2018, Trends in biotechnology for innovations in healthcare and environment	KIIT, Bhubaneswar, 26-27 September 2018
18.	Dr. Varadhan SKM	Delivered talk: Using movement coordination metrics to better understand the CNS in health and disease	University of Sydney workshop, IIT Madras
19.	Dr. V V Raghavendra Sai	Multi-WAP, Project Monitoring Meeting, Indo-German Science and Technology Centre (IGSTC) on	Gurugram, 10 September 2018
20.	Dr. M. Ramasubba Reddy	Participated as committee member for DRDO Scientist 'B' recruitment	RAC, DRDO, New Delhi, 30 August-1 September 2018
21.	Dr. M. Manivannan	Expert for PMRF panel	IIT Bombay, 12 December 2018
22.	Dr. M. Manivannan	Expert member for faculty recruitment	IIT Ropar, 18 December 2018
23.	Dr. V V Raghavendra Sai	Invited talk, NEST	Bharathiar University, Coimbatore, 7-8 January 2019

Sl. No.	Faculty Member	Purpose of Visit	Institute, Date and Venue
24.	Dr. Anubhab Roy	Laboratory visit: National Atmospheric Research Laboratory, Panapakkam, Tirupati	25 January 2019
25.	Dr. Varadhan SKM	Sharing Teaching and Learning Experience Conference	IIT BHU, Varanasi, 8-9 March 2019
26.	Dr. M Manivannan	Brainstorming on the National Haptics, Robotics, and Virtual Reality Innovation Hub	Centre for Cellular and Molecular Platforms (C-CAMP), Department of Biotechnology (DBT), Government of India, Bengaluru, 1 February 2019
27.	Dr. M Manivannan	Project Presentation	BIRAC, New Delhi, 4 February 2019
28.	Dr. M Manivannan	Project Review	DBT, New Delhi, 7 February 2019
29.	Dr. M Manivannan	Project Review	BIRAC, New Delhi, 18 February 2019
30.	Dr. M Manivannan	Invited talk: Technology-enabled medical education	AFMC, Pune, 19 February 2019
31.	Dr. M Manivannan	Invited talk: Story of medical simulation in India	AIIMS, New Delhi, 3 March 2019
32.	Dr. M Manivannan	Invited talk: Challenges in VR and haptics	IIT Jodhpur, 9 March 2019
33.	Dr. M Manivannan	Anna University, Inspection for Affiliation	Thiruvannamalai, 27 March 2019

Student visit

Sl. No.	Student	Purpose of Visit	Date and Venue
1.	Navaneethakrishna Makaram	As a graduate research trainee at McGill and Montreal Neurological Institute	Canada, 12 April 2018 under the Shastri Research Student Fellowship for doctoral students

Activities initiated

Sl. No.	Event
1	A new startup, Ariano Technologies is a spin-off of Touch Lab. It has been registered as a private company. The company uses patented technologie from the lab for designing and developing musical keyboards with haptic feedback. It has attracted few private investors. This is the first musical technology company of India.

Visit to IITM Research Park

The faculty members of the Department of Applied Mechanics visited IITM Research Park on 6 December 2018. The visit was organised by IC&SR.

Safety Audit

The process to perform safety audit for all the laboratories was carried out and all the laboratories were visited.





4.3. Department of Biotechnology

4.3.1. Introduction

The Department of Biotechnology at IIT Madras was founded in 2004 with a vision to be recognised as a department of international repute with a strong interdisciplinary research and teaching base in biological sciences and engineering involving an active collaboration with industries and healthcare institutions. The department is housed in Bhupat and Jyoti Mehta School of Biosciences. The thrust areas of research are bioprocess engineering, computational biology, chemical biology and medical biotechnology related to cancer and cardiovascular diseases.

There is a Centre of Excellence in Bioprocess Engineering to develop knowledge and expertise in the domain and a Department of Science & Technology (DST), Ministry of Science and Technology, funded National Facility to identify potential drug targets through cellular dynamics and FIST facility for infrastructure facilities.

Earlier, the Department of Biotechnology (DBT), Ministry of Science and Technology, funded a programme support

on cancer biology. Now, DST is supporting National Cancer Tissue Biobank. A Bioinformatics Centre has also been set up with the funding from DBT. The IIT Madras Bioincubator, initiated by the department and funded by BIRAC, offers lab and office space, including equipment, technical support and centralised utilities for process and product development.

4.3.2. Academic Programmes

A Dual Degree (B. Tech and M. Tech) in Biological Engineering (five years), Dual Degree (B.S. and M.S.) in Biological Sciences (five years), an M. S. (by research) and Ph. D. are the academic programmes offered by the department. In addition, there is M.Tech (Clinical Engineering) and Ph.D (Major: Biomedical Devices and Technology) programmes, conducted jointly with Sree Chitra Tirunal Institute of Medical Sciences and Technology, Trivandrum and Christian Medical College, Vellore. The M.Tech (Clinical Engineering) programme is designed to train students to carry out complete management of the technology aspects in a hospital as well as address the medical technology needs of the country.

New courses introduced

Sl. No.	Course No.	Title
1.	BT5031	Thermodynamics in Biochemical Engineering
2.	BT5111	Bioprocess Engineering Lab 1
3.	BT5121	Bioprocess Engineering Lab 2
4.	BT4811	Undergraduate Research in Biological Sciences
5.	BT4812	Undergraduate Research in Biological Engineering
6.	BT4813	Undergraduate Research in Computational Biology
7.	BT4814	Undergraduate Research in Chemical Biology

Students on roll as of September 2018+M.S. and Ph.D admission in January 2019

Programme	Year I	Year II	Year III	Year IV	Year V and others	Total
B.Tech.	-	-	-	-	15	15
Dual Degree	59	63	53	49	50	274
M.Tech.	30	6	-	-	-	36
M.S.	5	5	3	1	-	14
Ph.D.	19	34	32	31	46	162
Total	113	93	88	81	111	501



Student/scholar who attended conference/seminar/symposium/workshop abroad/India

Sl. No.	Student//Scholars	Roll No.	Conference/Seminar/Symposium/ Workshop	Date and Venue	Financial Assistance
Abroad					
1.	Anila Satheesh B	BT15D033	IEEE International Symposium on Biomedical Imaging	4-7 April 2018, Washington DC	IIT Madras
2.	Kanak Raj	BT12D201	International Conference on Renewable Energy 2018	25-27 April 2018 Barcelona, Spain	IIT Madras
3.	Megha Bedi	BT13D029	International Conference on Renewable Energy 2018	25-27 April 2018, Barcelona, Spain	IIT Madras
4.	S Ram Prasad	BT14D019	International Conference on Nanoscience and Technology (ICNST 2018)	21-22 May 2018, New York	IIT Madras
5.	Prerna Bhalla	BT14D032	Rowett-INRA 2018 Conference	11-14 June 2018, USA	IIT Madras
6.	Tridweep Kumar Sahoo	BT14D037	Metabolic Engineering Conference 2018	24-28 June 2018, Munich, Germany	IIT Madras
7.	Richa Srivasatava	BT16S004	Metabolic Engineering Conference 2018	24-28 June 2018, Munich, Germany	IIT Madras
8.	Akila Parvarthy Dharshini	BT15D012	Galaxy Community Conference and Bioinformatics Open Source Conference 2018	25-30 June 2018, Oregon, USA	IIT Madras
9.	Sivamuthuraman K	BT14D011	19 th Tetrahedron Symposium	26-29 June 2018, Italy	IIT Madras
10.	Chandra Kishore	BT13D036	25 th Biennial Congress of the European Association for Cancer Research	30 June-3 July, 2018 Amsterdam, Netherlands	IIT Madras
11.	Rehna Krishnan	BT12D042	25 th Biennial Congress of the European Association for Cancer Research	30 June-3 July, 2018, Amsterdam, Netherlands	IIT Madras
12.	Manan Vipulbhai Patel	BT13D068	18 th European Congress on Biotechnology	1-4 July 2018, Geneva, Switzerland	IIT Madras
13.	Rehna Krishnan	BT12D042	25 th Biennial Congress of the European Association of Cancer Research, Amsterdam, Netherlands	3-6 July 2018, Netherlands	IIT Madras
14.	Suchetana Gupta	BT13D072	The Protein Society's 32 nd Annual Symposium	9-12 July 2018, Boston, MA, USA	IIT Madras
15.	Sherlyn Jemimah	BT15D008	The Protein Society's 32 nd Annual Symposium	9-12 July 2018, Boston, MA, USA	IIT Madras
16.	Akhil Mohan	BT12D038	40 th Engineering in Medicine and Biology Conference (EMBC)	17-21 July 2018, Honolulu, USA	IIT Madras
17.	Rakesh	BT14D033	Annual International Dictyostelium Conference 2018	12-16 August 2018, Netherlands	IIT Madras
18.	U Shalini	BT14D009	Annual International Dictyostelium Conference 2018	12-16 August 2018, Netherlands	IIT Madras
19.	Puja Kumari	BT13D201	Biointerfaces International 2018	13-17 August 2018, Switzerland	IIT Madras
20.	Arjita Ghosh	BT12D052	15 th International Meeting of the European Calcium Society	August 2018, Hamburg, Germany	IIT Madras
21.	S Gayathri	BT14D024	European Conference on Computational Biology 2018	9-12 September 2018, Athens Greece	IIT Madras
22.	Malvika Sudhakar	BT15D306	European Conference on Computational Biology 2018	9-12 September 2018, Athens Greece	IIT Madras
23.	Sivamuthuraman K	BT14D011	22 nd International Conference on Organic Synthesis	16-21 September 2018, Florence, Italy	IIT Madras
24.	Pronama Biswas	BT16D005	30 th Annual Fanconi Anemia Research Fund Scientific Symposium	27-30 September 2018, California	IIT Madras



Sl. No.	Student//Scholars	Roll No.	Conference/Seminar/Symposium/ Workshop	Date and Venue	Financial Assistance
25.	Shivam Chandel	BT12D044	International Conference on Vascular Biology 2018	14-18 October 2018, Newport Rhode Island, USA	IIT Madras
26.	S Ramprasad	BT 14D019	Bioceramics 30	26-29 October 2018, Japan	IIT Madras
27.	Harsha Narayani R	BT12D006	Asian Crystallographic Association 2018 Conference (International)	2-5 December 2018, New Zealand	IIT Madras
28.	Soundhara Rajan G	BT14D402	Multiscale Modeling from Macromolecules to Cell: Opportunities and Challenges of Biomolecular Simulations	4-6 February, 2019, Lausanne, Switzerland	IIT Madras
29.	P Mareeswari	BT15D305	Asian Federation of Biotechnology	23-25 January 2019, Singapore	IIT Madras
India					
30.	P Mareeswari	BT15D305	Basic Cell Culture Technique workshop	14-17 May 2018, Pune	IIT Madras
31.	Piyush Kumar Gupta	BT12D040	International Conference on Biomaterial Bioengineering and Biotherapeutics (Biomet 2018)	VIT University, Vellore	IIT Madras
32.	Lavanya Vasudevan	BT13D043	Workshop - Training programme on Analysis of Next Generation Sequencing Data	31 July-11 August, 2018 Centre for Cellular and Molecular Biology Hyderabad	IIT Madras
33.	Rajani K	BT16D300	Workshop on Integrative Modeling of Macromolecular RNA Structures	27-29 August 2018, IISc Bangalore	IISc Bangalore
34.	Sherlyn Jemimah	BT15D008	International Conference on Bioinformatics (INCOB18)	26-28 September 2018, New Delhi	IIT Madras
35.	Medha Pandey	BT17D027	INCOB 2018	26-28 September 2018, New Delhi	IIT Madras
36.	Prabakaran R	BT14D200	INCOB18	26-28 September 2018, New Delhi	IIT Madras
37.	Kulandaisamy A	BT15D045	INCOB18	26-28 September 2018, New Delhi	IIT Madras
38.	Akila Parvathy Dharshini S	BT15D012	INCOB18	26-28 September 2018, New Delhi	IIT Madras
39.	Prajakta Naval	BT12D037	LC-MS based proteomics (PROTEO)	3-12 October 2018, Hyderabad	IIT Madras
40.	Lavanya Raajaraam	BT17D401	Biological Engineering Society Conference 2018	25-27 October 2018, Mumbai	IIT Madras
41.	Aarthi R	BT13D031	International Conference on Microbiome Research	19-22 November 2018, Pune	IIT Madras
42.	Divya Sivanesan	BT15D300	87 th Annual Conference of Society of Biological Chemists	25-27 November 2018, Manipal	IIT Madras
43.	P Chinmai	BT15D302	Computational Biology in Disease Mechanisms	7-9 December 2018, IIT Kanpur	IIT Madras
44.	Santhosh Gupta	BT15D040	ACS Publications Forum: Expanding Frontiers in Chemical Science	1 November 2018, IIT BHU	IIT Madras
45.	Sneha Dixit	BT16S002	Computational Biology in Disease Mechanisms	7-9 December 2018, IIT Kanpur	IIT Madras
46.	Mohd Ahsan	BT13D045	Computational Biology in Disease Mechanisms	7-9 December 2018, IIT Kanpur	IIT Madras
47.	Shanka Banerjee	BT17D014	3 rd International Conference of Soft Materials	9-14 December 2018, Jaipur	IIT Madras
48.	Bhim Sen Thapa	BT13D034	59 th Annual Conference of the Association of Microbiologists of India	9-12 December, 2018, Hyderabad	IIT Madras



Sl. No.	Student//Scholars	Roll No.	Conference/Seminar/Symposium/ Workshop	Date and Venue	Financial Assistance
49.	A Gomathi	BT 16D017	Indian Society of Developmental Biologist Meeting 2018	11-15 December 2018, Kanpur	IIT Madras
50.	Vivek R	BT15D308	Bioprocessing India 2018	16-18, December 2018, New Delhi	IIT Madras
51.	Tridweep Kumar Sahoo	BT14D037	Bioprocessing India 2018	16-18, December 2018, New Delhi	IIT Madras
52.	Sruthi Krishna K P	BT17D304	Conference and Exhibition on Non-destructive Evaluation (NDE 2018)	19-21 December 2018, Mumbai	IIT Madras
53.	S Archanaa	BT14D001	Bio-innovation for Environmental and Health Sustainable Developments	27-28 November 2018	IIT Madras
54.	P Mareeswari	BT15D305	APOB 2019	23-25 January 2019, Singapore	IIT Madras
55.	Rajani K	BT16D300	Multiscale Simulation and Mathematical Modeling of Complex Biological Systems	28 January-1 February 2019, JNU Delhi	IIT Madras
56.	Shayantan Banerjee	BT16S001	3 rd PAN IIT Biotech Meet 2019	31 January-2 February 2019, Chennai	IIT Madras
57.	Sneha Dixit	BT16S002	International Conference on Multi-scale Simulation and Mathematical Modelling of Complex Biological Systems	30 January-1 February 2019, New Delhi	IIT Madras
58.	Mohd Ahsan	BT13D045	International Conference on Multi-scale Simulation and Mathematical Modelling of Complex Biological Systems	30 January-1 February 2019, New Delhi	IIT Madras
59.	Abrar Ali Khan	BT12D051	International Society for Heart Research (ISHR2019)	15-17 February 2019, Jaipur	IIT Madras
60.	Sakthi Sree M	BT15D015	ISHR2019	15-17 February 2019, Jaipur	IIT Madras
61.	Anand Kumar Patel	BT18S003	ISHR2019	15-17 February 2019, Jaipur	IIT Madras
62.	Vikas A	BT13D056	International Academy of Cardiovascular Sciences (IACS) 2019	15-17 February 2019, Jaipur	IIT Madras
63.	Bhargavi Natarajan	BT12D208	IACS 2019	15-17 February 2019, Bengaluru	IIT Madras
64.	R Dhanya	BT17D001	IACS 2019	15-17 February 2019, Bengaluru	IIT Madras
65.	Kulandaisamy A	BT15D045	International Conference on Advanced Chemical and Structural Biology (ICACSB 2019)	19-21 February 2019, Chennai	IIT Madras
66.	Sanhita Nandi	BT16D007	International Conference on Translational Research in Cardiovascular Sciences India 2019	15-17 February 2019, Bengaluru	IIT Madras
67.	Shankha Banerjee	BT17D014	Indian Biophysical Society 2019, IISER	15-17 February 2019, Kolkata	IIT Madras
68.	P Chinmai	BT15D302	Free Energy Calculation for Chemical and Biological System	17-22 March 2019, IT Kanpur	IIT Madras
69.	Piyush Kumar Gupta	BT12D040	ChemPlus, Department of Chemical Engineering	15-17 March 2019, Chennai	IIT Madras
70.	Uma Kizhuveetil	BT11D023	7 th International Conference on Translational Cancer Research	8-11 February 2018, Chennai	Uma Kizhuveetil
Workshop					
1.	Sonal Omer	BT17D029	Basic research flow cytometry course jointly organised by CCAMP (Centre for Cellular and Molecular Platforms) and Beckman Coulter Life Sciences	29 January-1 February	IIT Madras


Students/Scholars who won outside prizes and awards

Sl. No.	Student/Scholar	Roll No.	Prize	Prize awarded by
1.	Abhishek Narayan	BT12D050	Institute Research (IR) Award for recognition of the quality and quantity of research work done	IIT Madras
2.	Chellam Gayathri Guide: Dr N. Manoj	BT11D002	Best Young Investigator Talk: Bilayer methods to understand the structure and function of phospholipid scramblase and amino acid decarboxylase	International Centre for Genetic Engineering and Biotechnology (ICGEB), New Delhi
3.	Saravanan K	BT12D043	GE Ecomagination Excellence Award to student with best thesis in environment-friendly (green) technologies, ecological and environmental protection	IIT Madras
4.	Piyush Kumar Gupta Guide: Dr Rama Shankar Verma	BT12D040	Best poster presentation: Enhanced anti-cancerous activity of dual-drug loaded core-shell nanoparticles composed of metal-free fully alternating copolymer, BioMET Conference, VIT University, Vellore	Tamil Nadu Academy of Sciences
5.	Piyush Kumar Gupta; Guide: Dr Rama Shankar Verma	BT12D040	Awarded Rudolf Cimdins Scholarship from European Society for Biomaterials, Strasbourg, France for oral talk, Metal-free alternating copolymer: a novel nanomaterial synthesized by green chemistry approach for use in drug delivery/biomedical application	European Society for Biomaterials
6.	Piyush Kumar Gupta; Guide: Dr Rama Shankar Verma	BT12D040	Best Paper Presentation: Metal-free semi-aromatic polyester as nanodrug carrier: a novel tumour targeting drug delivery vehicle for potential clinical application, ChemPlus	Department of Chemical Engineering, IIT Madras
7.	Kulandaisamy A; Guide: Dr Michael M Gromiha	BT15D045	Best Poster Award	17 th International Conference on Bioinformatics 2018
8.	Vikas Arige; Guide: Dr Nitish R Mahapatra	BT13D056	Best Oral Presentation Award for presentation, Decoding the mechanisms of the neurotransmitter dopamine catabolism by monoamine oxidase B, 3 rd MMM Genetics Meeting	Madras Medical Mission, Chennai
9.	Arijita Ghosh; Guide: Prof Amal Kanti Bera	BT15D052	Roland Pochet Poster Award for poster, Alteration of intracellular calcium dynamics by LRRC8A/SWELL1 in HEK293 cells held at 15 th International meeting of the European Calcium Society (ECS 2018) The award consists of prize money of €250 and an invitation to submit the work presented in the poster to BBA: Molecular Research	European Calcium Society
10.	S Gayathri Guide: Dr Karthik Raman	BT14D024	Travel Fellowship Award by ISCB and ECCB18; presented a poster at ECCB18: Understanding the evolution of functional redundancy in metabolic networks	International Society for Computational Biology (ISCB)
11.	Kirubhakaran Guide: Dr Guhan Jayaraman	BT13D063	Third winning work in Metrohm Young Chemist Award contest conducted by Metrohm India Limited; Research work: Real-time monitoring of Hyaluronic acid production using in-situ transreflectance spectroscopy; prize money of ₹ 1 lakh presented	Metrohm India Limited
12.	R Aarthi	BT13D031	ICMR 2018 Early Career Scientist Travel Award	International Conference on Microbiome Research, Pune, India
13.	R Aarthi	BT13D031	Junior Researcher Grant from AIChE	Munich, Germany
14.	R Aarthi	BT13D031	Best oral presentation award for A graph-theoretic approach to understand metabolic interactions in microbial communities	International Conference on Microbiome Research 2018, Pune, India



Sl. No.	Student/Scholar	Roll No.	Prize	Prize awarded by
15.	R Dhanya; Guide: Dr Nitish R Mahapatra	BT17D001	Best Poster Presentation Award	Indian Academy of Cardiovascular Sciences
16.	Abrar Ali Khan; Guide: Dr Nitish R Mahapatra	BT12D051	N S Dhalla Award for the Best Oral Presentation	International Society for Heart Research (Indian Section)
17.	Anand Kumar Patel; Guide: Dr Nitish R Mahapatra	BT18S003	Best Poster Presentation Award	International Society for Heart Research (Indian Section)

Students/Scholars who won Institute Convocation/Institute Day Prize

Sl. No.	Student/Scholar	Roll No.	Prizes	Donor
Institute Day Prizes				
1.	Shreyansh Umale	BE15B028	Dr Anita Mehta Damani Prize	Sri Ramesh Damani (1985/BT/CH)
2.	Deepak	BS15D010	Institute Merit Prize	IIT Madras
3.	Debayan Chaudhury	BE14B035	Dr Anita Mehta Damani Prize	Sri Ramesh Damani (1985/BT/CH)
4.	Prathamesh Suresh Jain	BS14B018	Akash Dube Prize	Sujatha Dube
5.	Venigalla Siva Sai Krishna	BE13B033	Sri Madan Gopal Damani Prize	Sri Ramesh Damani (1985/BT/CH)
6.	Devanshu	BS13B008	Institute Merit Prize	IIT Madras
7.	Cheyaden Joshua Albin	BS14B011	Rajalakshmi Krishnamurthy English Prize	Prof R Krishnamurti, Former Head, Department of Humanities and Social Sciences, IIT Madras
Convocation Day Prizes				
8.	Saransh Umale	BE13B028	Biocon Prize	Dr. Kiran Mazumdar Shaw
9.	Devanshu	BS13B008	Divashri Award	Mr Shrikumar Suryanarayan (BT/CH/1982)
10.	Mohammed Hashid AK	BT15M004	Dr. S S Srikantha Prize (M.Tech. Clinical Engineering)	Dr. Parasuram Balasubramanian (1971/BT/AE and 1973/MT/IM)
11.	Saravanan K	BT12D043	GE Ecomagination Excellence Award (Civil Engineering—Ecological and environmental protection)	Mr Gopichand Katragadda, General Manager Operations, GE Global Research

4.3.3. Faculty and Their Activities

Faculty

Name and Qualifications	Major Areas of Specialisation
Professors	
D. Karunakaran (Head)	Cancer biology, signal transduction, apoptosis
Anju Chadha	Biocatalysis, green chemistry, biosensors
Guhan Jayaraman	Metabolic engineering, synthetic biology, downstream processing
G.K. Suraishkumar	Understanding and manipulation of biological systems, reactive species and their applications—cancer therapy, nanotoxicology, bio-oil
S. Mahalingam	Molecular virology and cell biology
Rama Shanker Verma	Stem cell biology and tissue regeneration, cancer therapeutics
V. Srinivasa Chakravarthy	Computational neuroscience
Satyanarayana Gummadi	Bioprocess engineering
K. Subramaniam	Developmental biology
Amal Kanti Bera	Ion channels and signaling
Sanjib Senapati	Computational biophysics
Nitish R. Mahapatra	Cardiovascular genetics, molecular medicine
A. Gopala Krishna	Signal transduction and protein biochemistry



Name and Qualifications	Major Areas of Specialisation
Michael Gromiha	Bioinformatics, computational biology, biophysics
K. Chandraraj	Biomass conversion, bio-remediation, functional foods
Rayala Suresh Kumar	Cancer biology
V. Kesavan	Chemical biology
R. Baskar	Developmental genetics
Madhulika Dixit	Vascular biology
Associate Professors	
N. Manoj	Structural biology
Himanshu Sinha	Systems genetics, clinical data analysis
Karthik Raman	Computational systems biology
Vignesh Muthuvijayan	Biomaterials and tissue engineering
Smita Srivastava	Plant biotechnology and bioprocess engineering
Assistant Professors	
R. Murugan	Theoretical biology and biophysics
Athi Narayanan	Experimental/computational protein folding
Hamsa Priya Mohana Sundaram	Protein solution thermodynamics
Vani Janakiraman	Infection biology/infectious diseases
Nirav Pravinbhai Bhatt	Modeling, control, and optimisation of biochemical reaction systems, systems biology, integrated bio-process manufacturing
Emeritus Professors	
Mukesh Doble	Biomaterials, drug design, biochemical engineering
Chandra T S	Microbiology and genetics
Adjunct Faculty	
Dhinakar Kompala	Biochemical engineering
V Mohan	Diabetes
Dr. Krishnaraj Rajalingam	Cell biology
Dr. Ajit S Mullasari	Cardiovascular diseases
Dr. Shrikumar Suryanarayanan	Bioprocess engineering, bio-energy, bio-pharma
Dr. Rohit Gupta	Medical informatics, computational biology
Dr. Satyajit Mayor	Cell biology
INSA Senior Scientists	
K. K. Balasubramanian	Organic chemistry

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

Sl. No.	Coordinator(s)	Title	Date
Seminars			
1.	Dr. Himanshu Sinha and Dr. Karthik Raman	IBSE 2 nd Colloquium	29 June 2018
2.	Dr. Himanshu Sinha and Dr. Karthik Raman	IBSE 3 rd Colloquium	14 February 2019
3.	Dr. Himanshu Sinha and Dr. Karthik Raman	IBSE 4 th Colloquium	7 March 2019
Workshop			
1.	Dr. Karthik Raman	A workshop session by MathWorks Head of Product Marketing, Michelle Hirsch on subject, Big and messy data analysis with MATLAB	20 April 2018
Short-term Courses			
1.	Dr. Guhan Jayaraman	Three-day workshop on Synthetic Biology	26-28 July 2018
2.	Dr. Rama Shanker Verma and Dr. Madhulika Dixit	Recent Advances in Biotechnology related to Tissue Degeneration	23-27 July 2018
3.	Dr. Himanshu Sinha and Dr. Karthik Raman	Grand Challenges India and Program Management Unit, BIRAC (PMU-BIRAC) organise “ki(knowledge integration) Data Challenge for Maternal and Child Health”	24 July 2018



Sl. No.	Coordinator(s)	Title	Date
	Rama Shanker Verma	Recent Advances in Biotechnology related to Tissue Regeneration	7-11 January 2019
	Dr. Himanshu Sinha and Dr. Karthik Raman	IITM-THSTI Conclave, Transforming Maternal and Child Healthcare Using Data Science	22 February 2019

Short-term courses/workshops/seminars/symposia/conferences/trainings attended by the faculty members in academic institutions and public sector undertakings

Sl. No.	Faculty Member	Title	Institution	Period
Conferences				
1.	Dr. Himanshu Sinha	IIT Madras Biomedical Technology Summit 2018	Boston, USA	1-11 June 2018
2.	Dr. Himanshu Sinha	20 th Transcription Assembly Meeting	Hyderabad	25-27 July 2018
3.	Dr. Karthik Raman	33 rd Annual Conference of the Ramanujam Mathematical Society	New Delhi	2-3 June 2018
4.	Dr. V Kesavan	17 th International Conference on Polymers and Organic Chemistry, France	France	3-7 June 2018
5.	Dr. R Baskar	25 th International Congress on Sexual Plant Reproduction	Gifu, Japan	11-16 June 2018
6.	Dr. R Baskar	International Conference on Arabidopsis Research (ICAR)	Turku, Finland	25-29 June 2018
7.	Dr. Amal Kanti Bera	Discussions on India-Israel Project to finalise the preparation of joint publication	Tel Aviv University, Israel	12-25 June 2018
8.	Dr. Guhan Jayaraman	Metabolic Engineering Conference	Munich, Germany	24-28 June 2018
9.	Dr. Rayala Suresh Kumar	Ninth International Conference on Environmental Science and Technology, Texas, USA	USA	25-29 June 2018
10.	Dr. Karthik Raman	Invited lecture at ICTS Summer School Workshop on Dynamics of Complex Systems	IISc Bangalore	26-27 June 2018
11.	Dr. K Chandraraj	4 th NDSU Annual Conference on Food for Health, Global Institute of Food Security and International Agriculture (GIFSIA), North Dakota State University	Radisson Hotel, Fargo, North Dakota	8-11 July 2018
12.	Dr. K Subramanian	8 th Asia-Pacific C-elegans Meeting, Seoul National University, Seoul	Korea (South)	9-12 July 2018
13.	Dr. R Baskar	Poster presentation at International Dictyostelium Conference	Egmond aan Zee, Netherlands	12-16 August 2018
14.	Dr. M Michael Gromiha	2018 International Conference on Intelligent Computing	Wuhan, China	15-21 August 2018
15.	Dr. Sanjib Senapati	Paper: Drug design and allostery in HIV-1 Protease, at the Uppsala University as part of the India-Swedish DST project	Stockholm, Sweden	24-28 September 2018
16.	Dr. Rama Shankar Verma	Fanconi Anemia Scientific Symposium 2018	California, USA	24-29 September 2018
17.	Dr. Madhulika Dixit	Paper: Effects of oral glucose load on peripheral blood mono-nuclear cell (PBMC) gene expression in Asian-Indian men, Vascular Biology Conference	Germantown, Maryland, USA	14-18 October 2018
18.	Dr. Smita Srivastava	International Conference on Traditional Medicine, Phytochemistry, and Medicinal Plants (TMedPM-2018); title of the talk: In vitro cultures of <i>viola odorata</i> as production platforms of known and novel cyclotides	Tokyo, Japan	15-17 October 2018
19.	Dr. Rama Shankar Verma	International Conference on Advances in Polymer Science and Technology	Kathmandu, Nepal	1-3 November 2018
20.	Dr. V Srinivasa Chakravarthy	Neuroscience 2018	San Diego, California	3-7 November 2018



Sl. No.	Faculty Member	Title	Institution	Period
21.	Dr. Nitish Mahapatra	87 th Annual Meeting of Society of Biological Chemists (India)	Manipal	25-27 November 2018
22.	Dr. Rama Shankar Verma	International Scientific Conference on Earth and Geo Sciences (SGEM 2018)	Vienna, Austria	3-6 December 2018
23.	Dr. V Srinivasa Chakravarthy	25 th International Conference on Neural Information Processing (ICONIP 2018)	Siem Reap, Cambodia	13-16 December 2018
24.	Dr. Nitish Mahapatra	16 th Annual Conference of the International Society for Heart Research (Indian Section)	Jaipur	15-17 February 2019
Ph.D. viva voce examination/Selection committee meetings				
25.	Dr. Sathyanarayana M Gummadi	External examiner for Ph.D. viva voce examination	NIT Calicut	5 April 2018
26.	Dr. D Karunagaran	External examiner for Ph.D. viva voce examination	Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram	12 April 2018
27.	Dr. G K Suraishkumar	Expert, Board of Studies	College of Engineering, Bhubaneswar	9 June 2018
28.	Dr. G K Suraishkumar	External examiner for Ph.D. viva voce examination	Cochin University of Science and Technology (CUSAT)	28 July 2019
29.	Dr. G K Suraishkumar	External examiner for Ph.D. viva voce examination	IIT Bombay	28 August 2018
Expert member for selection committee of faculty recruitment				
30.	Dr. G K Suraishkumar	Expert member for Faculty Recruitment Selection Committee	NIT Calicut	7-8 April 2018
31.	Dr. G K Suraishkumar	Expert member for Faculty Recruitment Selection Committee	IIT Hyderabad	24 April 2018
32.	Dr. D Karunagaran	Board of Studies Meeting	Pondicherry University	8 February 2019
33.	Dr. G K Suraishkumar	Expert Member, National monitoring committee on Virtual Labs	IIT Delhi	27 April and 16 November 2018
34.	Dr. G. K Suraishkumar	Expert, BIRAC committee for evaluation	Carot Laboratories	October 2018
35.	Dr. Nitish Mahapatra	External examiner for Ph.D. viva voce examination	IIT-BHU	15 November 2018
36.	Dr. G.K. Suraishkumar	Expert member for Faculty Recruitment Selection Committee	IIT Bombay	28-29 November 2018
37.	Dr. Nitish Mahapatra	Faculty recruitment selection committee member	KIIT University, Bhubaneswar	1 December 2018
Short-term courses				
38.	Dr. Anju Chadha, Mr Raj (Scigenics India Private Limited)	Trends and Future of Bioprocess in India	IIT Madras	12 November 2018
39.	Dr. Himanshu Sinha and Dr. Karthik Raman	4 th IBSE Workshop	IIT Madras	15 November 2018

Special lectures delivered by the faculty in other institutions

Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
1.	Dr. Nitish R Mahapatra	Invited talk in the Department of Biochemistry	University of Madras, Chennai	30 August 2018
2.	Dr. Nitish R Mahapatra	Delivered an invited lecture in the UGC-SAP Conference on Genomic Medicine	Dr. A L Mudhaliar Post Graduate Institute Of Basic Medical Sciences, University of Madras, Taramani	19 September 2018



Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
3.	Dr. M Michael Gromiha	Co-organiser, InCoB2018	JNU, New Delhi	26-28 September 2018
4.	Dr. Nitish R Mahapatra	Invited talk at the 87 th Annual Meeting of Society of Biological Chemists (India)	School of Life Sciences, Manipal University, Manipal	26 November 2018
5.	Dr. Nitish R Mahapatra	Invited talk in the Institute of Medical Sciences	BHU, Varanasi	15 November 2018
6.	Dr. Michael M Gromiha	Invited talk at the International Conference on Chemical and Structural Biology	PRIST University, Chennai	20 February 2019
7.	Dr. Michael M Gromiha	Invited talk at the National Seminar on Bioinformatics	Presidency College, Chennai	22 February 2019
8.	Dr. Rama Shanker Verma	Indian Science Congress; presented paper: Sensitizing cancer cells increase the efficacy of cell death curcumin potentiates TRAIL-induced apoptosis in leukemia through modulation of death receptors and antiapoptotic proteins	Jalandhar, Punjab	3-4 January 2019
9.	Dr. Vani Janakiraman	Biological Transactions: From Molecules to Organisms	IISc Bangalore	17-20 January 2019
10.	Dr. K. Chandraraj	To discuss collaborative projects on utilisation of millet and sorghum biomass for bioenergy	ICAR-Indian Institute of Millet Research, Hyderabad	23 February 2019

Visits abroad by faculty

Sl. No.	Faculty Member	Country Visited	Date	Purpose of Visit	Funding from
1.	Dr Anju Chadha	Michigan State University	May-June 2018	Joint Research efforts between IITM and Michigan State University	Host University
2.	Dr Michael Gromiha	Tokyo, Japan	13-16 May 2018	Joint research discussion at Advanced Computational Drug Discovery Unit at Tokyo Institute of Technology	Host University
3.	Dr M Michael Gromiha	Sweden/ Stockholm	15-21 July 2018	Research discussion on Indo-Swedish bilateral project and deliver a talk	Host University
4.	Dr Amal Kanti Bera	USA	19-23 July 2018	Meeting at Cold Spring Harbor Laboratory, Glia in Health and Disease	Host University
5.	Dr Michael M Gromiha	Tokyo Institute of Technology, Japan	9-22 December 2018	Project discussion	Host University
6.	Dr Srinivasa Chakravarthy	EPFL University, Lausanne, Switzerland, for the Blue Brain Project	2-14 January 2019	Project discussion	Host University
7.	Dr Rama Shanker Verma	Swinburne University, Melbourne, Australia	27-30 March 2018	Joint PhD and research programme discussions	Host University
8.	Dr Rama Shanker Verma	USA	24-29 September 2018	Fanconi Anemia Scientific Symposium	Host University

Honours and awards obtained by faculty

Sl. No.	Faculty Member	Award	Awarded by	Awarded for	Date of Award
Honours					
1.	Prof. K Subramaniam	Elected as the Fellow of the Indian Academy of Sciences	INAE	Outstanding contribution in Sciences	December 2018



Sl. No.	Faculty Member	Award	Awarded by	Awarded for	Date of Award
2.	Prof Nitish R Mahapatra	Dr. C.R. Krishna Murti Award for the year 2018	Society of Biological Chemists	Awarded for his outstanding contributions in the field of Biochemistry and Allied Sciences during the 87 th Annual Meeting, Manipal	December 2018
Awards					
1.	Dr. D Karunagaran	Institute Chair Professor	IIT Madras	Significant contributions to research	May 2018
2.	Dr. Anju Chadha	Institute Chair Professor	IIT Madras	Significant contributions to research	May 2018
3.	Dr. Amal Kanti Bera	Fulbright-Nehru Academic and Professional Excellence Fellowship	Department of Psychiatry, University of Iowa, USA	Fellowship duration: 3 September 2018-31 May 2019	September 2018
4	Dr. Sathyanarayana NGummadi	Fellow of A.P. Akademi of Sciences (FAPAS) 2018	Andhra Pradesh Akademi of Sciences (APAS)	Significant contributions to research	September 2018
5	Dr. Rayala Suresh Kumar	ICMR–Dr. Prem Nath Wahi Award – a highly prestigious award given for significant contributions made by a scientist in the field of basic oncology	Indian Council of Medical Research (ICMR)	The award carries a cash award of ₹ 1 lakh and a certificate of honour.	September 2018
6	Dr. Michael M Gromiha	Tamil Nadu Scientist Award (TANSA Award) in Biological Sciences for 2017	Tamil Nadu State Council for Science and Technology, Chennai	₹ 50,000 cash prize and a citation	October 2018
7	Dr. Rama Shanker Verma	Lifetime Achievement Award	Nature Science Foundation, Tamil Nadu	Significant contributions to research	23 January 2018

Journal Editorial Boards

Sl. No.	Faculty Member	Position (Editor/Member)	Journal Name
1.	Dr. Rama Shanker Verma	Lifetime Achievement Award	<i>Nature Science Foundation</i> , Tamil Nadu
2.	Dr. Michael M Gromiha	Associate Editor	<i>BMC Bioinformatics</i>
3.	Dr. Michael M Gromiha	Editorial Board Member	<i>Scientific Reports</i> (2015-), <i>Genes</i> (2017-), <i>Biology Direct</i> (2013-), <i>Current Computer-Aided Drug Design</i> (2006-); <i>Biologia</i> (2009-), <i>Journal of Bioinformatics and Computational Biology</i> (2015-)

4. 3. 4. Design and Development Activities

Patents filed

Sl. No.	Faculty Member	Topic of Patent
1.	Monika V., Chandraraj K., Raghava Rao J. and Aravindhan, R.	Method for producing sulphide-tolerant bacterial proteases and its uses thereof
2.	Rama Shanker Verma, V Kamakoti, Piyush Kumar Gupta, Pronoma Biswas, Sudha Varadaraj	System and method for encoding and decoding ethnic data into genetic codes
3.	Piyush Kumar Gupta, Anjaneyulu Kummari, Santosh Gupta, Debashis Chakraborty, Rama Shanker Verma	Metal-free approach and method for synthesis of polyesters
4.	Piyush Kumar Gupta, Anjaneyulu Kummari, Santosh Gupta, Debashis Chakraborty, Rama Shanker Verma	Metal-free polyester based nano-drug carrier
5.	Shereena P Joy. and Chandraraj, K	Method for pretreatment of biomass using ammoniacal glycerol

4.3.5. Research and Consultancy

Sponsored research projects (ongoing and new)

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
New projects					
1.	A computational model of neuron astrocyte vessel networks to simulate vascular responses in whisker barrel region of rodent somatosensory cortex	Three years	DBT	37.9	Dr V Srinivasa Chakravarthy, Dr Sanjib Senapati (Co-investigator)
2.	The Initiative for Biological Systems Engineering (IBSE), IIT Madras	Three years	Alumni Association	30	Dr Karthik Raman (Principal Investigator); Dr Himanshu Sinha (Co-investigator)
3.	Institute Research and Development Mid Career Level Award	Three years (26 April 2018-25 April 2021)	IIT Madras and IC&SR	40	Dr Srinivasa Chakravarthy
4.	Determining role of specialised ribosomes in yeast in discriminating translating pools of transcripts in a stress-dependent manner and its effect on phenotypic diversity and adaptation	Three years (2018-2021)	DST	32	Dr Himanshu Sinha
5.	870 KF Titrino Plus (Karl Fischer Titration)	One year	Maintenance of Capital Equipment Research Grant	35,000	Dr Sanjib Senapati
6.	Confocal Laser Scanning Microscopy	One year	Maintenance of Capital Equipment Research Grant	6.4	Dr S Mahalingam
7.	Jasco make HPLC – 2000 plus series primary gradient system with photodiode array (PDA) detector	One year	Maintenance of Capital Equipment Research Grant	1.5	Dr T S Chandra
8.	GC-MS Spectrofluorimeter	One year	Maintenance of Capital Equipment Research Grant	6.5	Dr G K Suraishkumar
9.	A comprehensive framework for treatment of stroke of upper extremity by combining computational modeling, movement behaviour and gaming	One year	MHRD Uchchatar Avishkar Yojana	3,12,00,000 (MHRD: ₹ 156 lakh; Ministry of Health and Family Welfare: ₹ 78 lakh; Tata Consultancy Services: ₹ 78 lakh)	Dr V Srinivasa Chakravarthy
10.	B-glucan based micro particles as an activator of innate immunity and small peptide carrier	18 June 2018-17 June 2021	DST	28.30	Dr Geetha Venkatachalam (Woman scientist) C/o Dr Mukesh Doble
11.	qPCR based method for the detection of coliforms and E.coli in drinking water supply in villages compared with the culture based technique for establishing a rapid detection tool—pilot study	One year (1 October 2018-30 September 2019)	M/s Hermes I Tickets Private Limited	30	Dr Mukesh Doble (Principal Investigator); Dr Indumathi M Nambi (Co-PI)



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
12.	Development and characterization of second generation Chimeric antigen receptor T-Cell tagged with riboflavin photo-activation To specifically target adherent cancers, using patient derived HSCs maintained under microgravity	Two years	LSRB, DRDO	25.60	Rama Shanker Verma (Principal Investigator)
13.	Cloning, production and purification of the Plasmodium Vivax Malaria biomarker tryptophan rich proteins	One year	Biotechnology Industry Research Assistance Council (BIRAC)	30.70	Guhan Jayaraman
14.	Synthesis and 3D bioprinting patches of mangostincarnosine peptide with SF/collagen biomaterial for cardiac tissue engineering	Two years	DST	19.20	Rama S Verma
15.	Investigating the role of trans fatty acids on neuronal ion channels associated with ischemic stroke	Two years	DST	19.20	Amal Kanti Bera
16.	Assessment the antidiabetic potential of glycosaminoglycans from cephalopods - National Post-Doctoral Fellowship (NPFD)	Two years	DST	19.20	Mukesh Doble
17.	A comprehensive framework for treatment of stroke of upper extremity by combining computational modeling, movement behavior and gaming	Three years	Uchatar Avishkar Yojana - IIT Madras	312.00	Srinivasa Chakravarthy V
18.	A study on the mechanism of pannexin mediated ischemic cell death	Two years	DST	19.20	Amal Kanti Bera
19.	B-glucan based micro particles as an activator of innate immunity and small peptide carrier	Three years	DST	28.31	Mukesh Doble
20.	Targeting mitochondrial calcium fluxes using CaCO ₃ NPs - si NCLX -resveratrol NPs for cancer therapy (NPFD)	Two years	DST	19.20	Mukesh Doble
21.	Validation of the effects of functional genetic variations in chormogranin a locus	Three years	DBT	69.60	Nitish Ranjan Mahapatra and Amal Kanti Bera
22.	Creation of Bioinformatics Infrastructure Facility (BIF) for the promotion of biology teaching through bio-informatics (BTBI) - Phase III (Phase I Project No: BIO/06-07/018/DBTX/NMAN, Phase II Project No: BIO/12-13/159/DBTX/NMAN)	Three years	DBT	54.30	Manoj N
23.	Role of N-linked glycosylation in prion protein pre-aggregation: a molecular dynamics study	Two years	DST	19.20	Sanjib Senapati
24.	Understanding the regulation of heat shock proteins under hypoxia: in vitro and in vivo studies	Two years	DBT	12.23	Nitish Ranjan Mahapatra
25.	A combined experimental and computational study of ionic liquid based biocompatible reverse micelles for micellar enzymology	One year	Council of Scientific and Industrial Research	4.52	Sanjib Senapati



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
26.	Exploring CRISPR-Cas9 technology to reprogram cellular metabolic pathways in disease models	One year	Department of Biotechnology	78.92	Rayala Suresh Kumar and V Kesavan
27.	Deciphering the role of different isoforms of AKT in the development of human oral squamous cell carcinoma	One year	ICMR	22.80	Rayala Suresh Kumar
28.	Detection of cancer markers using metal oxide nanotubes immobilized with conducting polymers by photoelectrochemical biosensing (DST Women Scientists Scheme – A)	Three years	DST	31.28	Chandra T S
29.	Characterization of effect of SOX-5 transcription factor on the expression of hPLSCR1, hPLSCR2 and hPLSCR4 human scramblase genes	Three years	DST	28.80	Sathyanarayana Naidu G
30.	Enhanced therapeutic efficacy of plumbagin loaded liposomal formulations for the treatment of oral cancer	Two years	DST	19.20	Karunakaran D
31.	Understanding the origins of dynamic allostery through a structural perturbation approach	Three years	DBT	36.22	Athi Narayanan N and Karthik Raman
32.	Nanomaterials based active and intelligent packaging of selected baked, fermented and fried foods	Three years	DBT	27.57	Chandra T S
33.	Synthesis and biological evaluation of dysideanone and its synthetic analogs for the development of potent and selective anti-oral-cancer agents	Two years	DBT	29.35	Rayala Suresh Kumar
34.	Molecular cloning, biochemical characterization and exploitation of arabitol dehydrogenase from debaryomyces nepalensis	Three years	DBT	46.17	Sathyanarayana Naidu G and Manoj N
35.	Understanding the design principles of a protein nanosensor to combat multidrug resistant enterobacteriaceae	Two years	BIRAC	15	Athi Narayanan N
36.	Identification of genes that regulate differentiation of germ cells in caenorhabditis elegans	10 months	DST	25.85	Subramaniam K
37.	Entrainment of rhythms for improved cancer therapy	February 2017–January 2020	DST	38.30	G. K. Suraishkumar (PI), D. Karunakaran and Raghunathan Rengasamy, CH (co-PIs)
38.	Exploring the role of LRRC8B protein in cellular calcium signaling	Three years	DST	30.20	Amal Kanti Bera
39.	Regulation of mitochondrial transcription factors and mitochondrial biogenesis in essential hypertension	Three years	DST	31.30	Nitish Ranjan Mahapatra
40.	Development of economical bioactive double network hydrogels for combinatorial treatment of diabetic wounds	Three years	DST	22.82	Vignesh Muthuvijayan



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
41.	Determining role of specialised ribosomes in yeast in discriminating translating pools of transcripts in a stress- dependent manner and its effect on phenotypic diversity and adaptation	Three years	DST	31.29	Himanshu Sinha
42.	Production and application of microbial mutanase for prevention and reduction of dental plaques (WOS-A)	Three years	DST	28.33	Sathanarayana Naidu G
43.	National Bioscience Award for Career Development 2017/2018	Three years	DBT	15	Rayala Suresh Kumar
44.	Fine-tuning the expression of genes in lactococcus lactis to improve the production of biopolymer hyaluronic acid	Two years	Science and Engineering Research Board	19.20	Guhan Jayaraman
45.	Re-purposing of anti-hypertensive drugs (beta blockers) and NSAIDS in oral squamous cell carcinoma: newer applications to be explored in preclinical studies	Three years	Science and Engineering Research Board	10.05	Rayala Suresh Kumar
46.	Molecular and genetic bases of cardiovascular diseases: key roles for chromogranin A	Two years	Scheme for Promotion of Academic and Research	65.27	Nitish Ranjan Mahapatra and Amal Kanti Bera
47.	Bioprocess development and preclinical evaluation of novel and TB antibiotic, transitmycin isolated from marine streptomyces Sp. MTCC 5597	10 months	ICMR	20.97	Mukesh Doble
48.	Bioprocess development for production of biopesticide spinosyn-a in streptomyces parvulus	One year	BIRAC	45.50	Guhan Jayaraman
49.	Downstream process development for the bacteriophage cocktail processing lytic activity against vibrios causing vibriosis in shrimp hatcheries	One year	BIRAC	43.31	Guhan Jayaraman
50.	Regulation of proteasome activity during meiotic entry in caenorhabditis elegans	Three years	DBT	62.90	Subramaniam K and Mahalingam S
51.	Identification and characterization of non-enzymatic RAS effector, RASSF7 as a potential transcription factor	Three years	DBT	86.67	Mahalingam S and Subramaniam K
Ongoing Projects					
52.	Clinical Engineering Programme -" Phase-II	Seven years	DST	21.57	Karunakaran D and N Manoj
53.	Strengthening existing and establishing new bioincubators	Six years	DBT	1191.18	Guhan Jayaraman, K B Ramachandran and Mukesh Doble
54.	Role of a Ras effector- Ras Association (RaiGDS/AF-6) domain family member in tumor invasion and migration	Five years	Wellcome Trust UK	172.84	Mahalingam S
55.	Towards designing tunable nano machines: taking advantage of protein disorder	Five years	Wellcome Trust UK	337.54	Athi Narayanan N
56.	Towards Green Chemistry: Development of a chemoenzymatic route for the synthesis of chiral vicinal amino alcohols-applications for the synthesis of Ethambutol, an Antituberculosis drug	Four years	DST	40.22	Anju Chadha and K K Balasubramaniam



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
57.	Investigating the therapeutic potential of RUNX3 peptide loaded self-assembled dipeptide nanoparticles in pre-clinical models of human cancer	Three years	DBT	69.27	Rayala Suresh Kumar and V Kesavan
58.	Development of a novel, rapid and cost-effective method for separation of drug loaded liposomes from unencapsulated drug molecules	Four years	DBT	14.98	Vignesh Muthuvijayan and Edamana Prasad
59.	Nano-mediated gene expression during primordial germ cell development in <i>Caenorhabditis elegans</i>	Three years	DBT	76.22	Subramaniam K and Mahalingam S
60.	Functional role of Weibel-Palade bodies in Thrombin induced endothelial inflammation and barrier dysfunction	Four years	DBT	62.90	Madhulika Dixit
61.	Role angiopoietins in initiation of endothelial dysfunction and progression of cardiovascular diseases	Three years	DST	47.62	Madhulika Dixit
62.	Investigating the receptor binding abilities of radioactive radiolabeled apelin (125I) peptide to it	Three years	Board of Research in Nuclear Sciences	36.77	Gopalakrishna A
63.	Design of sialic acid analog inhibitors to hemagglutinins and neuraminidases of influenza virus by molecular modelling and molecular dynamics simulation	Four years	DBT	17.17	Michael Gromiha M
64.	Development of three-dimensional structural database for biologically and functionally important glycans and glycan-protein complexes through molecular dynamics simulation	Four years	DBT	15.30	Michael Gromiha M
65.	Prediction of disease-relevant mutations in transmembrane proteins	Three years	DST	71.28	Michael Gromiha M
66.	How molecular interactions and ionic hydrations manifest in the physicochemical properties of ionic liquid/water mixtures: a comprehensive study by experimental measurements and molecular dynamics simulations	Three years	DST	24.60	Sanjib Senapati
67.	Targeting P21 activated kinase 1 (PAK1) in pancreatic stellate cell mediated fibrosis: a potential therapeutic approach	Three years	DST	51.06	Rayala Suresh Kumar and V Kesavan
68.	Probing the conformational heterogeneity of a protein molten-globule: a combined experimental-modeling study	Three years	Indian National Science Academy	15.00	Athi Narayanan N
69.	Characterization and functional studies of Rv1987, a probable chitinase from <i>M.tuberculosis</i>	Three years	DST	47.78	Vani Janakiraman
70.	Conformational flexibility and lipid transfer mechanism of cholesteryl ester transfer protein	Three years	DBT	15	Sanjib Senapati
71.	Bioprocess optimization strategies for enhanced and sustainable production of Camptothecin from suspension culture of the endophyte, <i>Fusarium solani</i>	Three years	DST	35.42	Smita Srivastava



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
72.	Systems biology approach for investing the role of two-component regulatory system (covR/covS) of streptococcus in generating polydispersity during hyaluronan polymer synthesis	Three years	DBT	55.37	Guhan Jayaraman
73.	Entrainment of rhythms for improved cancer therapy	Three years	DST	38.05	Suraishkumar G K, Karunakaran D, Raghunathan Rengaswamy
74.	Gene expression profiling and antiviral drug designing for hepatitis E viral infection—an in silico approach	Three years	ICMR	13.56	Michael Gromiha M
75.	The influence of seed age on the rates of spontaneous mutation and meiotic recombination in Arabidopsis thaliana	Three years	DST	40.88	Baskar R
76.	Role of MicroRNAs targeting high mobility group proteins in human cervical cancer cells	Three years	DST	52.74	Karunakaran D
77.	Mutational effects on binding affinity of protein-protein complexes: development of database, tools and applications to diseases	Three years	DST	27.86	Michael Gromiha M
78.	Understanding the structural basis of allosteric regulations in wild and mutant forms of HIV-1 protease and Identification of novel leads to act as allosteric regulators of HIV-1 protease	Three years	DST	19.20	Sanjib Senapati
79.	Examine the role of halogenated marine drug in misfolding and aggregation mechanism of amyloid protein (Alzheimer's Disease)- a case study of halogen bonding (NPDF)	Three years	DST	19.20	Michael Gromiha M
80.	P53 Family protein p73 activation pathway as a potential therapeutic approach towards cervical carcinoma (NPDF)	Three years	DST	19.20	Karunakaran D
81.	Multifunctional nanoparticle- FOXM1 siRNA absorbed dual drug loaded cationic nanoparticles: a therapeutic avenue for drug delivery in triple negative breast cancer therapy (NPDF)	Three years	DST	19.20	Rama S Verma
82.	LIGFUEL: Depolymerization of lignin and bioconversion of lignin-derived monomers to biofuels	Three years	DBT	96.09	Guhan Jayaraman
83.	3D Dual layered nanofibrous scaffold impregnated with signalling factors for bone and tissue regeneration (NPDF)	Two years	DST	19.20	Vignesh Muthuvijayan
84.	Biochemical and biophysical characterization of DnaB helicase of pseudomonas aeruginosa (PaDnaB) to gain insights into ATP hydrolysis, DNA binding and oligomerisation	Two years	DST	19	Manoj N
85.	Deep learning for life sciences	Two years	DST	29.34	Michael Gromiha M



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
86.	Structural and Molecular approach of targeting Bcl-2 family anti-apoptotic proteins	Three years	DBT	41.85	Michael Gromiha M Rayala Suresh Kumar
87.	Predictive modeling of nucleic acid recognition dynamics and structured complex formation by disordered proteins	Three years	Council of Scientific and Industrial Research	17.46	Michael Gromiha M
88.	Role of allosteric mutations in HIV-1 protease drug resistance: useful insights for rational drug design	Two years	DST	33.37	Sanjib Senapati
89.	Early translation accelerator- industrial biotechnology (ETA-IB)	Three years	BIRAC	144.80	Guhan Jayaraman
90.	Exploring the possibility of using venom-derived peptides to mitigate stroke-induced brain damage by targeting acid sensing ion channel	Three years	ICMR	19.07	Amal Kanti Bera Nitish Ranjan Mahapatra
91.	Quantitative tongue tissue proteomics of oral tongue squamous cell carcinoma for novel biomarker discovery - Biocare Award	Three years	DBT	37.93	Mahalingam S
92.	A computational pipeline for identifying the context of key mutations in cancer genomes	Three years	DBT	52.80	Karthik Raman B Ravindran, Raghunathan Rengaswamy
93.	Development of computational tools for analysis and prediction of disease-causing mutations	Three years	DBT	37.85	Michael Gromiha M, Rayala Suresh Kumar
94.	Development of a riboregulator-based platform for control of gene expression and metabolic fluxes in bacterial cell factories	Three years	DBT	91.35	Guhan Jayaraman
95.	Molecular mechanisms of regulation of peroxiredoxin-3 in diabetic cardiomyopathy at transcriptional, post-transcriptional and post-translational levels (NPDF)	Two years	DST	19.20	Nitish Ranjan Mahapatra, Sanjib Senapati
96.	Development of a POC device to detect high-risk HPV in cervical cancer patients and co-relation with the protein markers (Women Scientists Scheme-A, WOS-A)	Three years	DST	29.83	Rayala Suresh Kumar
97.	Rational designing, synthesis, structural and functional analysis of novel anti-hypertensive peptides	Three years	DBT	85.35	Nitish Ranjan Mahapatra
98.	Micro RNA profiling and alteration of signaling pathways following curcumin and emodin treatment in cervical cancer cell lines - BIOCARE 2016	Three years	DBT	60	Karunakaran D
99.	A computational model of neuron-astrocyte-vessel networks to simulate vascular responses in whisker barrel region of rodent somatosensory cortex	Three years	DBT	37.91	Srinivas Chakravarthy, Sanjib Senapati
100.	Cloning, production and purification of the plasmodium vivax malaria biomarker tryptophan rich proteins	Two years	BIRAC	30.70	Guhan Jayaraman



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
101.	Synthesis and 3D bioprinting patches of mangostincarnosine peptide with SF/collagen biomaterial for cardiac tissue engineering	Two years	DST	19.20	Rama S Verma
102.	Investigating the role of trans fatty acids on neuronal ion channels associated with ischemic stroke	Two years	DST	19.20	Amal Kanti Bera
103.	Assessment the antidiabetic potential of glycosaminoglycans from cephalopods –NPDF	Two years	DST	19.20	Mukesh Doble
104.	A comprehensive framework for treatment of stroke of upper extremity by combining computational modeling, movement behavior and gaming	Three years	Uchhatar Avishkar Yojana - IIT Madras	312.00	Srinivasa Chakravarthy V
105.	A study on the mechanism of pannexin mediated ischemic cell death	Two years	DST	19.20	Amal Kanti Bera
106.	B-glucan based micro particles as an activator of innate immunity and small peptide carrier	Three years	DST	28.31	Mukesh Doble
107.	Targeting mitochondrial calcium fluxes using CaCO ₃ NPs - si NCLX - resveratrol NPs for cancer therapy (NPDF)	Two years	DST	19.20	Mukesh Doble
108.	Validation of the effects of functional genetic variations in chormogranin a locus	Three years	DBT	69.60	Nitish Ranjan Mahapatra, Amal Kanti Bera
109.	Creation of Bioinformatics Infrastructure Facility (BIF) for the promotion of Biology Teaching through Bio-Informatics (BTBI) - Phase III (Phase I Project No: BIO/06-07/018/DBTX/NMAN, Phase II Project No: BIO/12-13/159/DBTX/NMAN)	Three years	DBT	54.30	Manoj N
110.	Role of N-linked glycosylation in prion protein pre-aggregation: a molecular dynamics study	Two years	DST	19.20	Sanjib Senapati
111.	Understanding the regulation of heat shock proteins under hypoxia: in vitro and in vivo studies	Two years	DBT	12.23	Nitish Ranjan Mahapatra
112.	A combined experimental and computational study of ionic liquid based bicompatible reverse micelles for micellarenzymology - CSIR RA	One year	Council of Scientific and Industrial Research	4.52	Sanjib Senapati
113.	Deciphering the role of different isoforms of AKT in the development of human oral squamous cell carcinoma	One year	ICMR	22.80	Rayala Suresh Kumar
114.	Exploring CRISPR-Cas9 technology to reprogram cellular metabolic pathways in disease models	Three years	DBT	78.92	Rayala Suresh Kumar, V Kesavan
115.	Detection of cancer markers using metal oxide nanotubes immobilized with conducting polymers by photoelectrochemical biosensing (WOS-A)	Three years	DST	31.28	Chandra T S
116.	Enhanced therapeutic efficacy of plumbagin loaded liposomal formulations for the treatment of oral cancer	Two years	DST	19.20	Karunagaran D



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
117.	Understanding the origins of dynamic allostery through a structural perturbation approach	Three years	DBT	36.22	Athi Narayanan N, Karthik Raman
118.	Nanomaterials based active and intelligent packaging of selected baked, fermented and fried foods	Three years	DBT	27.57	Chandra T S
119.	Synthesis and biological evaluation of dysideanone and its synthetic analogs for the development of potent and selective anti-oral-cancer agents	Three years	DBT	29.35	Rayala Suresh Kumar
120.	Understanding the design principles of a protein nanosensor to combat multidrug resistant enterobacteriaceae	Two years	BIRAC	15	Athi Narayanan N
121.	Exploring the role of LRRC8B protein in cellular calcium signaling	Three years	DST	30.20	Amal Kanti Bera
122.	Regulation of mitochondrial transcription factors and mitochondrial biogenesis in essential hypertension	Three years	DST	31.30	Nitish Ranjan Mahapatra
123.	Development of economical bioactive double network hydrogels for combinatorial treatment of diabetic wounds	Three years	DST	22.82	Vignesh Muthuvijayan
124.	Determining role of specialised ribosomes in yeast in discriminating translating pools of transcripts in a stress- dependent manner and its effect on phenotypic diversity and adaptation	Three years	DST	31.29	Himanshu Sinha
125.	National Bioscience Award for Career Development 2017/2018	Three years	DBT	15	Rayala Suresh Kumar
126.	Re-purposing of anti-hypertensive drugs (beta blockers) and NSAIDS in oral squamous cell carcinoma: newer applications to be explored in preclinical studies	Three years	Science and Engineering Research Board	10.05	Rayala Suresh Kumar
127.	Molecular and genetic bases of cardiovascular diseases: key roles for chromogranin A	Two years	Scheme for Promotion of Academic and Research	65.27	Nitish Ranjan Mahapatra and Amal Kanti Bera

Industrial consultancy projects (ongoing and new)

Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
New				
1.	Srinivas Chakravarthy	Computational engineering of oxalate decarboxylase activity	Continental Automotive Components (India) Private Limited	21.24
2.	Suraish Kumar G K	Consultancy on Artificial Intelligence to Mazagon Docks Limited	Vaayuneer Sciences Private Limited	4.50
3.	Rama S. Verma	qPCR-based method for the detection of coliforms and E. Coli in drinking water supply in villages compared with the culture-based technique for establishing a rapid detection tool—a pilot study	Sipwise Beverages Private Limited	2.36
4.	Athi Narayanan N	Anti-inflammatory activity (in vitro-cell line analysis)	Bhami Research Laboratory Private Limited	6.14



Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
5.	Srinivas Chakravarthy	Bioactivity of silver nanoparticles against trichosporon asahii- in vivo studies	Mazagon Dock Limited	2.60
6.	Mukesh Doble, Indumathi M Nambi	Exploratory studies on identification and quantification of bacterial pathogens—comparison of plating and spectroscopic methods	Hermes I Tickets Private Limited	30.00
7.	Rayala Suresh Kumar	Computational engineering of oxalate decarboxylase activity	Periyar University	1.50
8.	Mukesh Doble	Consultancy on artificial intelligence to Mazagon Docks Limited	Global Mantra Innovations Private Limited	5.66
9.	Srinivas Chakravarthy, Hema A Murthy	qPCR-based method for the detection of coliforms and E. Coli in drinking water supply in villages compared with the culture-based technique for establishing a rapid detection tool—a pilot study	Tata Consultancy Services	31.05
Ongoing projects				
10.	Srinivas Chakravarthy	Popularisation of Bharati script	Cholamandalam Ms General Insurance Co Limited	8.35
11.	Mukesh Doble	Develop a mathematical model to simulate the segregation/stratification of solids in a mixture based on density differences using jiggling operation	Tata Chemicals Limited	2.10
1.	Srinivas Chakravarthy	NeuroMotive—a bio-inspired spatio-temporal deep architecture based on attention for target search from videos	Continental Automotive Components (India) Private Limited	21.24
2.	Mukesh Doble	Biodegradation of polypropylene	Reliance Industries Limited	6.58
3.	Anju Chadha, K K Balasubramaniam	GC-MS-QP 2010	Common Code	5.00
4.	Rayala Suresh Kumar	Bioactivity of silver nanoparticles against Trichosporon asahii- in vivo studies	Periyar University	1.50
5.	Mahalingam S	National Cancer Tissue Biobank	Common Code	5.00
6.	Mukesh Doble	Exploratory studies on identification and quantification of bacterial pathogens - comparison of plating and spectroscopic methods	Global Mantra Innovations Private Limited	5.66
7.	Madhulika Dixit, R Srividhya, D Karunagar	BT Departmental Flow Cytometry Facility (for Aria and Calibur)	Common Code	5.00
8.	Madhulika Dixit, R Srividhya, D Karunagar	BT Departmental Flow Cytometry Facility (for Aria and Calibur)	Common Code	5.00
9.	Rama S Verma	Supplements as nutraceuticals with apical reference to their therapeutic efficacy	Sipwise Beverages Private Limited	2.36
10.	Athi Narayanan N	Computational engineering of oxalate decarboxylase activity	Bhami Research Laboratory Private Limited	6.14
11.	Mukesh Doble	qPCR-based method for the detection of coliforms and E. Coli in drinking water supply in villages compared with the culture-based technique for establishing a rapid detection tool – a pilot study	Hermes I Tickets Private Limited	30.00
12.	Karunagar D	Proteomic analysis using LC/MS	Common Code	5.00
13.	Karunagar D	Proteomic analysis using LC/MS	Common Code	5.00
14.	Guhan Jayaraman	Bioincubator Support Scheme (6 March 2013)	Common Code	5.00
15.	Guhan Jayaraman	Bioincubator Support Scheme (6 March 2013)	Common Code	5.00
16.	Mahalingam S	IIT Madras-Indivumed GmbH Cancer Library	Indivumed GmbH	754.95
17.	Mahalingam S	National Cancer Tissue Biobank	Common Code	5.00
18.	Mahalingam S	Molecular and imaging testing facility	Common Code	5.00
19.	Mahalingam S	Molecular and imaging testing facility	Common Code	5.00



Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
20.	Srinivas Chakravarthy	Design and development of a unified signing (fingerspelling) system for Indian languages	Tata Consultancy Services	31.05
21.	Suraish Kumar G K	Generation of energy from photosynthesis through the use of quinones	Vaayuneer Sciences Private Limited	4.50
22.	Mukesh Doble	Anti-inflammatory activity (in vitro cell line analysis)	Common Code	0.00

RBIC projects (ongoing and new)

Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
1.	G.K. Suraishkumar	Generation of energy from photosynthesis	Vayuneer Technologies Private Limited	4.5

Faculty members' participation with other institutions under MoU

Sl. No.	Faculty Member	Participation details	University/Institution which has MoU
1.	Dr. Jaya Dantas, Professor of International Health and Dean International, Faculty of Health Sciences, Curtin University, and Prof Elizabeth Watkin, Head of School of Psychology (Prof Adrian North) and Deputy Head, School of Pharmacy and Biomedical Sciences	Research collaboration	Curtin University, Australia, 21 August 2018
2.	G. K. Suraishkumar	Guidance for two students in the joint dual PhD programme	Curtin University, Australia

Distinguished visitors to the department

Sl. No.	Visitor and Designation	Date of Visit	Purpose of Visit
1.	Dr. Elayanambi Sundaramoorthy, post-doctoral researcher, University of California, San Diego	10 April 2018	Delivered a special seminar on Ubiquitin-mediated protein homeostasis: Quality control during protein lifecycle
2.	A delegation from Australian National University comprising Prof Kieran Kirk, Dean, ANU College of Science, Prof Tim Senden, Director, ANU Research School of Physics and Engineering and Prof. Steve Eggins, Director, ANU Research School of Earth Sciences among others	12 April 2018	Possible research collaborations
3.	Dr. Katarzyna (Kasia) Pirog, Newcastle University, United Kingdom	19 April 2018	Delivered a special seminar on Elucidating the patho-molecular mechanisms of rare skeletal conditions
4.	Dr. Muthunayanan Muthiah, Research Fellow, Cardiovascular Research Centre & Centre for Systems Biology, Massachusetts General Hospital, Harvard Medical School, USA	10 May 2018	Delivered a special seminar, Therapeutic gene delivery and imaging with non-viral vectors – with an emphasis on cardiovascular disease
5.	Dr. Sadagopan Krishnan, Ph.D., Assistant Professor, Department of Chemistry, Oklahoma State University	22 May 2018	Delivered a special seminar, Electrochemical and surface plasmon bioassays for biomarkers present in body fluids
6.	Dr. Baskar Bakthavachalu, NCBS Campus Fellow	28 June 2018	Delivered a special seminar, A juggling act by intrinsically disordered regions assisted mRNP assembly between memory and neuro degeneration
7.	Lakshman, a PhD student at Stanford University working on Experimental and Computational Biology	5 July 2018	Delivered a special seminar, PrimateAI: Predicting the clinical impact of human mutation with deep neural networks



Sl. No.	Visitor and Designation	Date of Visit	Purpose of Visit
8.	Professor Jonathan W. Essex, University of Southampton, UK	11 July 2018	Delivered a special seminar, Computer simulations of biomolecular electrostatics and hydration
9.	Prof. K. Rajalingam, Head, Cell Biology Unit, Johannes Gutenberg University, Mainz, Germany; Adjunct Faculty, Department of Biotechnology, IIT Madras	23 July 2018	Delivered a special seminar, Targeting prohibition-cRAF interaction in cancers and autoimmune disorders
10.	Dr Ajit Varki, Distinguished Professor of Medicine and Cellular & Molecular Medicine, Co-Director, UCSD/Salk Center for Academic Research and Training in Anthropogeny	6 August 2018	Delivered a special seminar, Distinctly human diseases: relationship to sialic acid biology and human evolution
11.	Dr. Krishnan Raghunathan, Research Assistant Professor, University of Pittsburgh, USA	23 August 2018	Delivered a special seminar, How do bacterial toxins associate with membrane rafts?
12.	Dr. Ramkumar Sambasivan, InStem, Bengaluru	23 August 2018	Delivered a special seminar, Guiding skeletal muscle differentiation from pluripotent stem cells by recapitulating developmental cues
13.	Dr Dharmaraja Allimuthu, Post-doctoral Research Associate, School of Medicine, Department of Genetics and Genome Sciences and Comprehensive Cancer Centre, Case Western Reserve University School of Medicine, Cleveland, OH 44106, USA	28 August 2018	Delivered a special seminar, Chemical biology-based approaches for small molecule therapeutic discovery and extending into covalent chemical probes
14.	Dr. Sachin Kotak, Assistant Professor and Wellcome/DBT Intermediate Fellow, Department of Microbiology and Cell Biology, IISc Bangalore	30 August 2018	Delivered a special seminar, A Biochemical tug-of-war between Cdk1 and PP2A orchestrate spindle orientation in human cells
15.	Dr Raja Mugasimangalam, Founder and CEO Genotypic Technology (P) Limited	20 September 2018	Delivered a special seminar, Nanopore sequencer, its applications in metagenomics, pathogen screening and diagnostics
16.	Dr Shoba Ranganathan, Macquarie University, Sydney, Australia	21 September 2018	Delivered a special seminar, Role of solvent accessibility for aggregation-prone patches in protein folding
17.	Myles Axton, Nature Genetics, New York, USA	25 September 2018	Delivered a special seminar, Publishing research to make sure society gains
18.	Dr Nishant K T, IISER Trivandrum	28 September 2018	Delivered a special seminar, Meiotic recombination: mechanisms, distribution and role in chromosome segregation
19.	Professor Srinivasan Chandrasegaran, Department of Environmental Health and Engineering, Johns Hopkins School of Public Health, Baltimore, Maryland, USA	4 October 2018	Delivered a special seminar, Rewriting the blueprint of life by genome editing and synthetic genomics
20.	Vikas Chaudhary, Product Manager, Perkin Elmer India	5 October 2018	Delivered a special seminar, Introduction to liquid scintillation counters and its application
21.	Dr. Arnab Gupta, Assistant Professor and Wellcome Trust-DBT India Alliance Intermediate Fellow, IISER, Kolkata	5 October 2018	Delivered a special seminar, Understanding decision points in membrane trafficking: lessons from Wilson Disease
22.	Dr. Dilip Kumar, Post-doctoral fellow, Baylor College of Medicine, USA	18 October 2018	Delivered a special seminar, Near atomic resolution cryo-EM structure for rotavirus capping enzyme VP3
23.	A delegation from University of Strasbourg, France, visited the Department of Biotechnology.	9 November 2018	Discussions on prospective project proposals with all the faculty of the department



Sl. No.	Visitor and Designation	Date of Visit	Purpose of Visit
24.	Nathiya Muthalagu, Post-doc at the Beatson Institute for Cancer Research, Garscube Estate, UK	20 November 2018	Delivered a special seminar, MYC drives pancreatic tumourigenesis by mediating immune suppression
25.	Krishna Sarangapani, University of Washington, Seattle, Washington	27 November 2018	Delivered a special seminar, A single molecule approach to interrogate kinetochore-microtubule attachments
26.	Dr. Jens Carlsson, Department of Cell and Molecular Biology, Uppsala University	5 December 2018	Delivered a special seminar, Structure-based discovery of GPCR ligands from chemical libraries
27.	Dr. Elavazhagan Murugan, Founder and Director, PrEl's Technologies	13 December 2018	Delivered a special seminar, Emerging trends in the resurgence of microbial and bacterial significance in medicine, research and industry
28.	Dr Ashok Venkitaraman, Director, MRC Cancer Unit, University of Cambridge (UK) (https://www.mrc-cu.cam.ac.uk/research/ashok-venkitaraman-folder)	8 January 2019	Delivered a special seminar, From cancer susceptibility mechanisms to early intervention in cancer
29.	John Cheriyan, Ph.D, Visiting Research Associate, Department of Anesthesia, Indiana University School of Medicine, Indianapolis, IN 46202, USA	11 January 2019	Delivered a special seminar, Alterations in cortical pain modulatory networks in chronic neuropathic pain
30.	Dr. Aishwarya Sundaram, Editor, Nature Communications	16 January 2019	Delivered a special seminar, Publishing research papers in Nature/Nature titled journals, research integrity and career options in the publishing industry
31.	Dr. Narayanan Madaboosi Srinivasan, Molecular Diagnostics Unit, Science for Life Laboratory, Department of Biochemistry and Biophysics Stockholm University, Sweden	23 January 2019	Delivered a special seminar, At the crossroads of biotechnology and biomedicine: cellular and molecular bioengineering
32.	Professor Raghavendra Gadagkar, IISc Bangalore, India, Founder President, Indian Society of Evolutionary Biologists (ISEB)	28 January 2019	Speaker of the 11 th Dr. Joseph Thomas Memorial Lecture; delivered a lecture, War and peace: conflict and co-operation in an insect society
33.	Mahak Singhal, IIT Madras B.Tech. alumnus and doing Ph.D. in Germany	28 January 2019	Delivered a special seminar, Angio-regulation of liver neovascularization and lung metastatic progression
34.	Dr. Vivek S. Bharadwaj, Scientist, Biosciences Division, National Renewable Energy Laboratory (NREL) Golden, Colorado, USA	30 January 2019	Delivered a special seminar, Advancing bioenergy science with computational lenses: elucidating enzymatic mechanisms with molecular modelling
35.	Joel L. Sussman, Department of Structural Biology, Weizmann Institute of Science, Rehovot 76100, Israel	18 February 2019	Delivered a special seminar, Enlightening macromolecular structure-function relationship with Proteopedia
36.	Sandhya P. Koushika, Associate Professor, Department of Biological Sciences, TIFR, Mumbai	25 February 2019	Delivered a special seminar, Organelle counting: a mitochondria story



4.3.6. Other Activities of the Department

Student visit

Sl.No	Students	Purpose of Visit	Date and Venue
1.	Nikunj Mehta BS14B026	Internship offer from Prof.David Sabatini at Whitehead Institute, MIT, USA	10 May-25 July 2018, sponsored by Khorana Program, USA
2.	Kapeleshh K S BE15B012	KHUST School of Engineering Summer Camp for Elite Students	15-21 July 2018, Hong Kong
3.	Vaishnavi S BT16D030	As a part of the Joint Development Programme under the MoU	1 July 2018-30 June 2019, Germany
4.	Haritha Polagari	Doctoral research on Mutations in GNB1 alter regulation of GIRK and Cav channels: relation to mechanisms of a severe neurological disorder	1 January-31 December 2019, Tel Aviv University
5.	Krishna Chaitanya Medepudi BE15B018	Exchange programme	September 2018-January 2019, University of Luxembourg
6.	Aditya Jeevannavar BS16B001	Exchange programme	January-May 2019, University of Turku
7.	V Divagar BT17D302	Exchange programme	October-December 2018, University of Braunschweig
8.	Sandeep Kumar Panda BT16D032	Participated in the International Winter School on Social Entrepreneurship. The course has 12 academic credits.	3-14 December 2018, IIT Madras, organised by Centre for Social Innovation and Entrepreneurship, IIT Madras





4.4. Department of Chemical Engineering

4.4.1. Introduction

The Department of Chemical Engineering was established in 1950. It has a rich pool of permanent faculty members, who are not only dedicated teachers, but also researchers carrying out cutting-edge research in frontier areas of chemical

engineering and inter/multi-disciplinary subjects. The focus of the research is on reaction and transport processes, energy, materials and environment. The faculty work towards analysing these systems at multiple scales by understanding their behaviour from the molecular to macroscopic levels as well as using a system-based approach.

4.4.2. Academic Programmes

New courses introduced

Sl. No.	Course No.	Title
1	CH1010	Introduction to Chemical Engineering

Students on roll as of September 2018+M.S. and Ph.D admission in January 2019

Programme	Year I	Year II	Year III	Year IV	Year V and others	Total
B.Tech.	68	74	70	63	00	275
Dual Degree	16	16	17	20	24	93
M.Tech.	37	33	00	00	00	70
M.S.	10	07	05	01	00	23
Ph.D.	20	25	17	25	49	136
Total	151	155	109	109	73	597

Students/scholars, who attended conference/seminar and symposia abroad/India

Sl. No.	Student/Scholars	Roll No.	Conference/Seminar/Symposia/Workshop	Date and Venue	Financial Assistance from IITM
Abroad					
1.	Ashna R	CH13D019	Annual European Rheology Conference 2018: Liquid crystalline domains and associated sol-gel transition in cellulose ionic liquid/water mixtures	17-20 April 2018, Sorrento, Italy	Yes
2.	Dhivakar.G	CH10D018	SETAC Europe 28 th Annual Meeting: Enhanced migration of non-aqueous phase liquid (NAPL) in wet sand during drying	13-17 May 2018, Rome, Italy	Yes
3.	Pachimatla Rajesh	CH15D004	233 rd ECS meeting: Nonlinear impedance spectra analysis of CO poisoning on PEM fuel cell performance	13-17 May 2018, USA	Yes
4.	Aswathy K Raghu	CH15D400	25 th International Symposium on Chemical Reaction Engineering (ISCRE 25): Design of thermally integrated microreactor for Sabatier reaction	20-23 May 2018, Italy	Yes
5.	Devj Raghav V	CH16S001	25 th International Symposium on Chemical Reaction Engineering (ISCRE 25): Automated simulation error-based reduction of large chemical mechanisms	20-23 May 2018, Italy	Yes
6.	Indu Chanchal Polpaya	CH14D011	Geometry of Soft Matter Workshop 2018: Contribution of auxetic behavior to the piezo-resistivity of polyaniline composites	21-25 May 2018, Brazil	Yes



Sl. No.	Student/Scholars	Roll No.	Conference/Seminar/Symposia/Workshop	Date and Venue	Financial Assistance from IITM
7.	Kavimonica V.	CH14D210	22 nd International Symposium on Analytical and Applied Pyrolysis (Pyro 2018): Effect of pressure and temperature on the production of hydrocarbons from hydrolysis of biomass	3-8 June 2018, Kyoto, Japan	Yes
8.	J V Jayarama Krishna	CH15D015	22 nd International Symposium on Analytical and Applied Pyrolysis (Pyro 2018): Evaluation of global kinetic parameters for polymers under fast pyrolysis conditions	3-8 June 2018, Kyoto, Japan	Yes
9.	Busigari Rajasekhar Reddy	CH14D400	22 nd International Symposium on Analytical and Applied Pyrolysis (Pyro 2018): Production of char from different coals via microwave heating and comprehensive characterization	3-8 June 2018, Kyoto, Japan	Yes
10.	Damodara Priyanka	CH15D207	5 th International Conference on Fluid Flow, Heat and Mass Transfer (FFHMT'18): Role of curvature on heatflow visualization and irreversibilities during natural convection	7-9 June 2018, Spa and Waterpark, Niagara Falls, Canada	Yes
11.	Shumaila Shahid	CH14D409	92 nd ACS Colloid & Surface Science Symposium: Thermal stability of emulsions stabilized by a mixture of charged particle and polyelectrolyte	10-13 June 2018, Pennsylvania, USA	Yes
12.	Anjali T. G.	CH11D018	92 nd ACS Colloid & Surface Science Symposium: Stimuli-responsive Pickering emulsions stabilized by pH-sensitive peanut-shaped particles	10-13 June 2018, Pennsylvania, USA	Yes
13.	Jacob John	CH14D402	Polymer Networks and Gels Conference 2018: Role of distinct microstructures on the rheological behavior of pectin-Ca gels	17-21 June 2018, Prague, Czech Republic	Yes
14.	Sujatha S.	CH14S025	EMEA 2018: Effect of silica nanoparticles on PVA-SSA based polymer electrolyte membranes	26-28 June 2018, Bad Zwischenahn, Germany	Yes
15.	Arvind R.	CH15D401	Process Systems Engineering (PSE) 2018: Distributed model predictive control of a system with multi-rate and delayed measurements	1-5 July 2018, California, USA	Yes
16.	Varghese Kurian	CH14D412	PSE 2018: Operation of intermittent water distribution systems: an experimental study	1-5 July 2018, California, USA	Yes
17.	Manokaran V.	CH16D001	PSE 2018: Identification of reaction systems using spectroscopic measurements and micro-reactors	1-5 July 2018, California, USA	Yes
18.	Vivek Shankar Pinnamaraju	CH13D026	IFAC Symposium on System Identification (SYSID 2018): Wavelet-based Steiglitz-McBride algorithm for identification of multiscale output-error models	9-11 July 2018, Stockholm, Sweden	Yes
19.	Ravendra Gundlapalli	CH15D016	International Flow Battery Forum (IFBF) 2018: Optimization of stack design for vanadium redox flow battery	10-12 July 2018, Lausanne, Switzerland	Yes



Sl. No.	Student/ Scholars	Roll No.	Conference/Seminar/Symposia/ Workshop	Date and Venue	Financial Assistance from IITM
20.	Kunche Lakshmi Kumar	CH14D403	Foundations of Molecular Modelling and Simulation (FOMMS 2018): Structure and Dynamics of Aqueous Solutions Containing Poly(acrylic acid) and Non-ionic Surfactant	15-20 July 2018, Wisconsin, USA	Yes
21.	Raviteja Kurapati	CH15D403	FOMMS) 2018: Investigation of Poly(methacrylic acid) Structure at CCL4-H ₂ O Interface by Molecular Dynamics	15-20 July 2018, Wisconsin, USA	Yes
22.	Prasanna M.	CH16S301	1 st WDSA/CCWI Joint Conference, 2018: An Experimental Study for Leak Detection in Intermittent Water Distribution Networks	23-25 July 2018, Kingston, Canada	Yes
23.	C. Saravanan	CH15D301	1 st International WDSA/CCWI Joint Conference: IoT Enabled Water Distribution Network Monitoring and Control	23-25 July 2018, Kingston, Canada	Yes
24.	Ranjith P M	CH15D007	Electrochemical Methods in Corrosion Research (EMCR 2018): EFM technique: Accounting for solution resistance and double layer capacitance	22-27 July 2018, Robinson College, Cambridge, UK	Yes
25.	Sushil Machindra Pachpinde	CH15D304	International Symposium on Polyelectrolytes (ISP2018)	26-31 August 2018, Wageningen, The Netherlands	Yes
26.	R Bharathi Ganesan	CH15D006	5 th World Congress on Chemical Engineering and Catalysis	28-30 August 2018, Paris, France	Yes
27.	Saif Ul Mehdi	CH16D200	5 th World Congress on Chemical Engineering and Catalysis	28-30 August 2018, Paris, France	Yes
28.	Akhil Gopinath	CH17S001	5 th World Congress on Chemical Engineering and Catalysis	28-30 August 2018, Paris, France	Yes
29.	Sathish S	CH15D203	International Conference of Advanced Energy Materials, 2018	10-12 September 2018, University of Surrey, Guildford, England	Yes
30.	Lineesh P	CH13D203	16 th International Heat Transfer Conference	10-15 September, 2018, Beijing, China	Yes
31.	Leo Lukose	CH15D404	16 th International Heat Transfer Conference	10-15 September, 2018, Beijing, China	Yes
32.	Suseendiran S. R.	CH15D201	3 rd International Conference on Advanced Energy Materials	10-12 September 2018, University of Surrey, Guildford, England	No
33.	Piyali Dhar	CH14D407	2 nd International Conference on Bioresource Technology for Bioenergy, Bioproducts	16-19 September 2018, Barcelona, Spain	Yes



Sl. No.	Student/Scholars	Roll No.	Conference/Seminar/Symposia/Workshop	Date and Venue	Financial Assistance from IITM
34.	Shumaila Shahid	CH14D409	Society of Rheology 90th Annual Meeting	14-18 October 2018, Houston, USA	Yes
35.	Rumiaya Pervin	CH14D010	Society of Rheology 90th Annual Meeting	14-18 October 2018, Houston, USA	Yes
36.	Preetika Rastogi	CH16S004	Society of Rheology 90th Annual Meeting	14-18 October 2018, Houston, USA	Yes
37.	Ramya KA	CH14D408	Society of Rheology 90th Annual Meeting	14-18 October 2018, Houston, USA	Yes
38.	Ashna R	CH13D019	Society of Rheology 90th Annual Meeting	14-18 October 2018, Houston, USA	Partial funding
39.	Neha Y	CH15D410	AICHE 2018	28 October-2 November 2018, Pittsburgh, USA	Yes
40.	Palla Sridhar	CH15D405	AICHE 2018	28 October-2 November 2018, Pittsburgh, USA	Yes
41.	Chinta Sivadurgaprasad	CH15D008	AICHE 2018	28 October-2 November 2018, Pittsburgh, USA	Yes
42.	Ribhu Gautam	CH14D209	AICHE 2018	28 October-2 November 2018, Pittsburgh, USA	Yes
43.	Dheeraj Kumar	CH14D401	AICHE 2018	28 October-2 November 2018, Pittsburgh, USA	Yes
44.	Palla Sridhar	CH15D405	AICHE 2018	28 October-2 November 2018, Pittsburgh, USA	Yes
45.	Mohd Faheem Ullah	CH14D405	AICHE 2018	28 October-2 November 2018, Pittsburgh, USA	No
46.	Akash Choudhary	CH15D206	American Physical Society – Division of Fluid Dynamics (APS-DFD) 71 st Annual meet	18-20 November 2018, Atlanta, Georgia	Yes
47.	Indu Chanchal Polpaya	CH14D011	Advances in organic and hybrid electronic materials AOHM 2019; paper: Polydiacetylene thin films for strain sensing applications	17-20 March 2019, Dubrovnik, Croatia	No
India					
1.	Ribhu Gautham	CH14D209	2 nd National Symposium on Shaping the Energy Future: Challenger and Opportunities (SEFCO 2018)	11-12 May 2018, Dehradun	Yes
2.	Raviteja Kurapati	CH15D403	Soft Matter: Young Investigators Meet 2018 (SMYIM 2018)	22-26 May 2018, Shimla	Yes
3.	Kunche Lakshmi Kumar	CH14D403	SMYIM 2018	22-26 May 2018, Shimla	Yes
4.	Sushil Pachpinde	CH15D304	SMYIM 2018	22-26 May 2018, Shimla	Yes



Sl. No.	Student/Scholars	Roll No.	Conference/Seminar/Symposia/Workshop	Date and Venue	Financial Assistance from IITM
5.	Bhadra Hrishikesh	CH16D403	SMYIM 2018	22-26 May 2018, Shimla	Yes
6.	Remya Ann Mathews K.	CH14D216	SMYIM 2018	22-26 May 2018, Shimla	Yes
7.	Indu Chanchal Polpaya	CH14D011	SWAYAM 2018: A comparative study of strain sensing characteristics of intrinsically conducting polymers	4-6 July 2018, BITS Pilani, Goa	Yes
8.	Babita Kumari Verma	CH14D207	Bioinformatics and Systems Biology 2018	26-28 October, IIT Allahabad	Yes
9.	T. Krishnaveni	CH15D200	International Conference on Complex Fluids and Soft Matter 2018; paper: Dynamics of a particle in liquid-liquid stratified flow in a microchannel	6-9 December 2018, IIT Roorkee	Yes
10.	Kinhal Krishna Vadirajacharya	CH14D214	International Conference on Complex Fluids (COMPFLU) 2018; paper: Microfluidic synthesis of silver nanoparticles in aqueous two-phase system	6-9 December 2018	Yes
11.	Kinhal Krishna Vadirajacharya	CH14D214	Indo-US Workshop on Soft Matter (IUWSM) 2018; paper: Microfluidic synthesis of silver nanoparticles in aqueous two phase system	9-12 December 2018, IIT Roorkee	Yes
12.	P. Logesh Kumar	CH14D020	International Conference on Soft Matter (ICSM) 2018; paper: Does gravity affect patterns formed by drying drops containing colloids?	9-14 December 2018, MNIT Jaipur	Yes
13.	G. Prasanth	CH14D212	ICSM 2018; paper: Experimental investigation of sedimentation of non-spherical colloidal dispersions	9-14 December 2018, Jaipur	Yes
14.	Preetika Rastogi	CH16S004	3 rd ICSM 2018; paper: Comparison of thermodynamic stability of emulsions using diesel surrogates and diesel as fuels	9-14 December 2018, Jaipur	Yes
15.	Ranajit Mondal	CH15D017	3 rd ICSM 2018; paper: Patterns of dried drops dictated by curvature driven interfacial particle transport	9-14 December 2018, Jaipur	Yes
16.	Kunche Lakshmikummar	CH14D403	ICSM 2018; paper: Structure and dynamics of aqueous solutions containing poly-(acrylic acid) and non-ionic surfactant: a comparative study between surfactants pentaethylene glycol n-octyl ether (C8E5), octaethylene glycol n-decyl ether (C10E8)	9-14 December 2018, MNIT Jaipur	Yes
17.	Vishnuvardhan Pinjala	CH13D004	Fluid Mechanics and Fluid Power Conference (FMFP 2018); paper: Effect of flow field design on the thermal management of the cooling plate for a disc shape polymer electrolyte membrane fuel cell	10-12 December 2018, IIT Bombay	Yes
18.	Avula Thulasi Ram	CH14D414	FMFP 2018; paper: Clustering-based optimization algorithm for a flow manifold	10-12 December 2018 IIT Bombay	Yes
19.	Binu TV.	CH15D013	FMFP 2018; paper: Fluid drop rising through an immiscible fluid: hydrodynamics study	10-12 December, IIT Bombay	Yes



Sl. No.	Student/Scholars	Roll No.	Conference/Seminar/Symposia/Workshop	Date and Venue	Financial Assistance from IITM
20.	Kanala Venkata Sravana Chaithanya	Ch17D200	FMFP 2018; paper: Effects of isotropic discretization in pseudopotential lattice Boltzmann method	10-12, December 2018, IIT Bombay	Yes
21.	Busigari Rajasekhar Reddy	CH14D400	Carbon Capture and its Utilization; paper: Microwave assisted co-pyrolysis of high ash Indian coal and rice husk: evidence of interactions	14-15 December 2018, NCL Pune	Yes
22.	Bharathi Raja R	CH16D301	Carbon Capture and its Utilization; paper: CO ₂ and CH ₄ conversion using dielectric barrier discharge with different electrode configurations	15-16 December 2018, CSIR-NCL Pune	Yes
23.	Aswathy K Raghu	CH15D400	National Symposium on Chemical Reaction Engineering; paper: Cooling and dilution effects in a thermally integrated Sabatier reactor	17-18 December 2018	Yes
24.	C.Saravanan	CH15D301	Indian Water Work Association 51th Annual Convention; paper: Internet of Things in water network monitoring and control	18-19 January 2019	Yes
25.	Sruthi L	CH15D014	SPSI MACRO 2018; paper: Evolution of conformations and consequent rheological changes in casein solution during drying	19-22 December, IISER Pune	Yes
26.	Sanjeet Kumar Singh	CH16D012	Society of Polymer Science India (SPSI MACRO 2018); paper: Molecular simulation of glassy and melt phases of polybutylene terephthalate	19-22 December 2018, IISER, Pune	Yes
27.	Raviteja Kurapati	Ch15D403	SPSI MACRO 2018; paper: Effect of polymer charge and interface concentration on structure of poly(acrylic acid) at oil-water interface	19-22 Dec 2018, IISER, Pune	Yes
28.	Ashna R	CH13D019	SPSI MACRO 2018; paper: Spatio-temporal growth of spherulites from cellulose/ionic liquid solutions and effect of film thickness	19-22 Dec 2018, IISER Pune	Yes
29.	Pooja Sahu	CH17D005	SPSI MACRO 2018; paper: Molecular dynamics simulation of structure and thermodynamics properties of symmetric polystyrene-poly(Methacrylic acid) block copolymer micelle in salt-free aqueous solution	19-22 Dec 2018, IISER Pune	Yes
30.	Gangotree Rai	CH17D006	SPSI MACRO 2018; paper: Molecular dynamics simulations of poly(itaconic acid) in dilute aqueous solution: chain conformations, hydration and thermodynamic properties	19-22 Dec 2018, IISER Pune	Yes
31.	Yogendra Kumar	CH16D006	SPSI MACRO 2018; paper: Complexation between poly(methacrylic acid) (PMA) and poly(allylamine hydrochloride) (PAH) in aqueous solution: a molecular dynamics simulations study	19-22 December 2018, IISER Pune	Yes
32.	Suseendiran S R	CH15D201	CHEMCON 2018; paper: Experimental optimization of tubular PEM fuel cell performance using Nelder-Mead Algorithm	27-30 December 2018, NIT Jalandhar	Yes



Sl. No.	Student/ Scholars	Roll No.	Conference/Seminar/Symposia/ Workshop	Date and Venue	Financial Assistance from IITM
33.	Twinkle Paul	CH14D411	12th International Symposium on Electrochemical Science and Technology (ISAEST 12); paper: Mechanistic analysis of zinc electrodeposition process in acidic sulphate bath	8-10 January 2019, Chennai	Yes
34.	Shubham Jagdish Raut	CH18S007	International Conference on Perovskite and Hybrid Photovoltaics (ICPHPV 2019); paper: Towards stable non-toxic perovskite solar cells	2-6 February 2019, IIT Delhi	Yes
35.	Halpati Jigar Shaileshkumar	CH17D202	ICPHPV 2019; paper: Perovskite solar cells	4-6 February 2019, IIT Delhi	Yes
36.	Sanjeet Kumar Singh	CH16D012	7 th International Conference on Electroactive Polymers (ICEP-2019); paper: Molecular simulation of glassy and melt phases of polybutylene terephthalate	3-8 February 2019, Udaipur	Yes
37.	Raviteja Kurapati	CH15D403	ICEP 2019; paper: Structure of poly(acrylic acid) in adsorbed films at oil-water interface: a molecular dynamics simulation study	3-8 February 2019, Udaipur	Yes
38.	Yogendra Kumar	CH16D006	ICEP 2019; paper: Complexation between poly(methacrylic acid) (PMA) and poly(allylamine hydrochloride) (PAH) in aqueous solution: A molecular dynamics simulation study	3-8 February 2019, Udaipur	Yes
39.	Kunche Lakshmi Kumar	CH14D403	ICEP 2019; paper: Structure and dynamics of aqueous solutions containing poly(acrylic acid)	3-8 February 2019, Udaipur	Yes
40.	Pooja Sahu	CH17D005	ICEP 2019; paper: Molecular dynamics simulations of structure and thermodynamic properties of symmetric poly(styrene-block-methacrylic acid) (PS-b-PMAA) micelle in salt-free aqueous solution	3-8 February 2019, Udaipur	Yes
41.	Gangotree Rai	CH17D006	ICEP 2019; paper: Molecular dynamic simulation studies of poly(itaconic acid): chain conformation, hydration and thermodynamic properties	3-8 February 2019, Udaipur	Yes
42.	Bincy George Abraham	CH13D021	Indo-German Bilateral Workshop on Membranes for Water and Energy at CSIR-Central Salt and Marine Chemicals Research Institute, Bhavnagar, Gujarat; paper: Electrodeposited bimetallic catalysts on titanium support for methanol oxidation in direct methanol fuel cell	18-20 February 2019, Gujarat	No
43.	Remya Ann Mathews K	CH14D216	Chemplus 2019; paper: Self-assembly of amphiphilic patchy colloids in an oil-water system	15-17 March 2019, IIT Madras	Yes
44.	Kinhal Krishna Varirajacharya	CH14D214	Chemplus 2019; paper: A green route for the synthesis of silver nanoparticles in an aqueous two phase system	15-17 March 2019, IIT Madras	Yes
45.	Chinta Sivadurgaprasad	CH15D008	Chemplus 2019; paper: Let's direct the Butterfly Effect: A robust way of assigning students to them mess caterers by allowing equal preferences	15-17 March 2019, IIT Madras	Yes



Sl. No.	Student/Scholars	Roll No.	Conference/Seminar/Symposia/Workshop	Date and Venue	Financial Assistance from IITM
46.	Ravendra Gundlapalli	CH15D016	Chemplus 2019; paper: Study of scale up of active surface area on the performance characteristics of vanadium redox flow batteries	15-17 March 2019, IIT Madras	Yes
47.	Akash Choudhary	CH15D206	Chemplus 2019; paper: Lateral migration of an electrophoretic particle: Newtonian vs viscoelastic flows	15-17 March 2019, IIT Madras	Yes
48.	Kanchan Aggarwal	CH15D204	Chemplus 2019; paper: Detecting P-wave onset using wavelet packet transformation	15-17 March 2019, IIT Madras	Yes
49.	Akhil Gopinath	CH17S001	Chemplus 2019; paper: Elephant herd optimisation algorithm for estimating adsorption kinetics model parameters	15-17 March 2019, IIT Madras	Yes
50.	Attada Yerrayya	CH15D010	Chemplus 2019; Hydrothermal liquefaction of bagasse: optimisation of yield and quality of bio-crude using 23–full factorial design	15-17 March 2019, IIT Madras	Yes
51.	Priyan Bhattacharya	CH16D202	Chemplus 2019; paper: Biological networks that can achieve adaptation: a systems theoretic approach	15-17 March 2019, IIT Madras	Yes
52.	Y.V.S. Sivaram Prasad	CH17D405	Chemplus 2019; Photoelectrochemical reduction of CO ₂ on electrodeposited Cu ₂ O	15-17 March 2019, IIT Madras	Yes
53.	Neelam Venkata, Phani Chandra	CH17D003	Chemplus 2019; Synthesis and characterization of rhenium disulfide for photovoltaic application	15-17 March 2019, IIT Madras	Yes
54.	Dheeraj Kumar	CH14D401	Chemplus 2019; Non-linear model predictive control of module temperature in photovoltaic system	15-17 March 2019, IIT Madras	Yes
55.	Shubham Kumar	CH18S007	Chemplus 2019; Coordination frameworks for solar water splitting	15-17 March 2019, IIT Madras	Yes

Students/scholars who won outside prizes and awards

Sl. No.	Student/Scholar	Roll No.	Prize	Prize awarded by
1.	Sarin John, Siddharth Singh, <i>et al</i>	CH17B069 CH17B070	Team Anveshak comprising of IIT students on winning the first place at the Indian Rover Challenge 2019	Manipal, 9-12 January 2019
2.	Preetika Rastogi	CH16S004	Best Presentation Award for presenting her paper, A comparative study of thermodynamic stability of emulsions using diesel surrogate and diesel as fuel	ICSM 2018, 9-14 December 2018
3.	Preetika Rastogi	CH16S004	Royal Society of Chemistry for her poster, A comparative study of thermodynamic stability of emulsions using diesel surrogate and diesel a fuels	ICSM 2018, 9-14 December 2018
4.	Ranjit Mondal	CH15D017	Best Presentation Award for presenting his paper, Patterns of dried drops dictated by curvature driven interfacial particle transport	ICSM 2018, 9-14 December 2018
5.	Raviteja Kurapati	CH15D403	Best Presentation Award for his presentation, Structure of poly(acrylic acid) in adsorbed films at oil-water interface: A molecular dynamics simulation study	ICEP-2019, 3-8 February 2019
6.	Mohammed Ayub Shareef	CH18D414	Cleared UPSC exams with third rank as Scientific Officer	24 January 2019
7.	Akash Choudhary	CH15D206	Best Presentation Award for paper: Lateral migration of an electrophoretic particle: Newtonian vs viscoelastic flows	Chemplus 2019, IIT Madras, 15-17 March 2019



Sl. No.	Student/Scholar	Roll No.	Prize	Prize awarded by
8.	Neelam Venkata Phani Chandra	CH17D003	First Prize for Best Poster: Synthesis and characterization of rhenium disulfide for photovoltaic application	Chemplus 2019, IIT Madras, 15-17 March 2019
9.	Bincy George Abraham	CH13D021	Second Prize for Best Poster: Electrodeposited bimetallic catalysts on titanium support for methanol oxidation in direct methanol fuel cell	Chemplus 2019, IIT Madras, 15-17 March 2019
10.	Akhil Gopinath	CH17S001	First prize in "Explain your research in 3 minutes in layman terms"	Chemplus 2019, IIT Madras, 15-17 March 2019
11.	Akhil Gopinath	CH17S001	<ul style="list-style-type: none"> • Third prize in paper presentation: EHO (elephant herd optimisation) algorithm for estimating adsorption kinetics model parameters • First prize in Chemical Dumbsharads • First prize in mock interview • First prize in Minutes to Disaster • Second prize in How Stuff Works (general tech quiz) • Third prize in ChemRapids (chemistry quiz) 	Chemfluence 2019, ACT, Anna University, 25-27 March

Students/scholars who won Institute Convocation/Institute Day Prize

Sl. No.	Student/Scholar	Roll No.	Prizes	Donor
1.	Neethu Thomas	CH12D020	Institute Research Award 2018	Institute Day (26 April 2018)
2.	Sanjay Kumar	CH14D006	Institute Research Award 2018	Institute Day (26 April 2018)
3.	Pradeep Natarajan	CH13B086	Highest CGPA in Dual Degree, Convocation Day 2018	Sri V Srinivasan Memorial Prize
4.	Pradeep Natarajan	CH13B086	Highest CGPA in Dual Degree Chemical Engineering Convocation Day 2018	B Ravichandran Memorial Prize
5.	Praneeth Srivanth Ramesh	CH14B049	Highest CGPA in B.Tech Chemical Engineering, Convocation Day 2018	Reliance Heat Transfer Private Limited Prize
6.	Rinu Chacko	CH16M013	Highest CGPA in M.Tech Chemical Engineering, Convocation Day 2018	Dr K. Subba Raju Memorial Prize
7.	Vishnu Prasad	CH14S021	Best M.Tech/Dual Degree student/M.S scholar who has done project in the area of Environmental Engineering/Reaction Engineering	Smt. D. L. Saraswati Memorial Prize, Convocation Day (20 July 2018)
8.	M.S. Amrutha	CH13D018	Keshav Ranganath (KR) Award and Institute Research (IR) Award (Even Sem) on recognition of the Quality and Quantity of Research Work	AlumniNite (19 July 2018)

4.4.3. Faculty and Their Activities

Faculty

Name	Major Areas of Specialization
Professors	
Dr. Abhijit P Deshpande	Rheology of complex fluids, polymers and polymeric composites, processing flow visualization
Dr. Arun K Tangirala	Process systems engineering, control, identification and monitoring, applied signal processing
Dr. Kannan A	Mathematical modeling, simulation and optimization of chemical processes
Dr. Nagarajan R (Head)	Ultrasonic and megasonic fields, cleanroom and contamination control, nano-particle synthesis and nano-composite formulation
Dr. Niket S Kaisare	Catalytic combustion, micro-reactors, advanced process control, energy and fuel processing
Dr. Panda T	Bioprocess optimization, enzyme design, bionanotechnology
Dr. Preeti Aghalayam	Chemical reaction engineering
Dr. Pushpavanam S	Modeling and simulation, non-linear dynamics, flow visualization
Dr. Raghunathan Rengasamy	Process systems engineering, fuel cells, computational discrete microfluidics
Dr. Raghuram Chetty	Electrocatalysis, fuel cells, wastewater treatment, CO ₂ reduction
Dr. Rajagopalan Srinivasan	Safety, sustainability and resilience of complex systems, cognitive engineering, supply chain management and enterprise optimization



Dr. Ramanathan S	Electrochemistry, chemical mechanical planarization for semiconductor processing
Dr. Ravi R	Applied statistical mechanics, foundations of thermodynamics and mechanics, process dynamics and control
Dr. Ravikrishna R	Contaminated sediment remediation, contaminant fate and transport, air pollution process and control
Dr. Sai P.S.T	Chemical reactor analysis and design
Dr. Shankar Narasimhan	Process design, data mining, fault diagnosis
Dr. Sreenivas Jayanti	Fuel cells, combustion, energy systems
Dr. Sridharakumar Narasimhan	Process system engineering, optimization, process control, fault diagnosis
Dr. Susy Varughese	Physics and mechanics of polymeric materials, polymeric nano composites
Dr. Tanmay Basak	Microware application, mathematical modeling and simulation
Dr. Upendra Natarajan	Polymer science and engineering, molecular simulation, statistical thermodynamics of complex fluids, nanostructured hybrid composite materials

Associate Professors

Dr. Basavaraja M Gurappa	Directed assembly of colloids, microstructure and rheology of colloids, surfactants, polymer and their mixtures, interfacial rheology, ionic liquids, particulate gels
Dr. Ethayaraja Mani	Molecular simulations, self-assembly, mathematical modeling
Dr. Rajnish Kumar	Gas hydrates (formation, inhibition and recovery), carbon dioxide capture, storage and utilisation methane and hydrogen storage hydrothermal liquefaction at sub-critical and supercritical conditions
Dr. Renganathan T	Multiphase systems, gasification, capture of CO ₂
Dr. Vinu R	Thermo-catalytic conversion of biomass to useful intermediates, photocatalysis for environmental decontamination, microkinetic modeling of complex reactions

Assistant Professors

Dr. Aravind Kumar Chandiran	Solar cells, solar water splitting, carbon dioxide reduction, photoconductivity, oxide semiconductors and solar energy research
Dr. Jithin John Varghese	Atomistic and computational modelling of catalytic reactions: catalytic conversion of light alkanes, biomass derivatives and carbon dioxide to fuels and chemicals
Dr. Ramnarayanan R	Applying physical chemistry concepts to biology, light and state of matter interaction, Solid state materials
Dr. Sumesh P Thampi	Hydrodynamics of complex fluids, interfacial flows, active matter

Professor Emeritus

Dr. M.S. Ananth	Molecular thermodynamics and mathematical modelling
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INSPIRE Fellow

Dr. Swagatika Sahoo	System biology, constraint-based metabolic modeling, human metabolism, metabolic disorders, and inherited metabolic disorders
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Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members

Sl. No.	Coordinator(s)	Title	Period
Symposia			
1	Dr. Basavaraja M Gurappa Dr. Sumesh P Thampi	Soft Matter	25 January 2019
2	Dr. Rajagopalan Srinivasan	International Symposium on Process Safety	14-16 February 2019
Short-term Course			
1	Dr. R. Vinu and Prof. Eliseo M. Ranzi, Politecnico di Milano, Italy	GIAN course: Mechanistic Modeling of Thermochemical Conversion of Hydrocarbons and Solid Fuels	28 May-1 June 2018
2	Dr. Raghuram Chetty (CH) and Dr. Mathava Kumar S (CE)	AICTE-QIP short-term programme: Membrane Technologies for Water and Wastewater Treatment (MTWWT 2018)	12-17 November 2018
3	Dr. Arun K Tangirala	Short-term course: EECS-IEEE-Practical Adaptive Control	21-25 January 2019



Sl. No.	Coordinator(s)	Title	Period
Training Programme			
1	Dr. Rajagopalan Srinivasan	Two sets of training programmes on "Human Factors" was organised for the employees of Atomic Energy Regulatory Board (AERB)	26-27 July and 24-25 September 2018

Short-term courses/workshops/seminars/symposia/conferences/training attended by the faculty members in academic institutions and public sector undertakings

Sl. No.	Faculty Member	Title	Institution	Period
Workshops				
1	Dr. Raghuram Chetty	Recent Advances in Electrochemical Energy Storage and Conversion Systems (RAEEC 2018)	Nanotech Research Innovation and Incubation Centre (NRIIC) and PSG College of Technology, Coimbatore	20 September 2018
2	Dr. Niket S Kaisare	SPOC Workshop and PIC meeting	Kolkata	3 August 2018
3	Dr. Aravind Kumar Chandiran	Technologies for Solar-Driven Fuel Generation; talk: Metal-organic frameworks for solar water splitting	CSIR-CEERI Chennai	2 November 2018
4	Dr. Raghuram Chetty	Indo-German bilateral workshop on Membranes for Water and Energy (IGWMWE-2019) - Electrodeposited bimetallic catalysts on titanium support for methanol oxidation in direct methanol fuel cell	Bhavnagar, Gujarat	17-20 February 2019
Conferences				
1	Dr. Tanmay Basak	Finite Element Based Simulation Studies on Various Heating Applications	Department of Mathematics and Science, Mohandas College of Engineering and Technology, Trivandrum	17-20 December 2018
2	Dr. Tanmay Basak	International Conference on Mathematical Modeling and Computations (ICMMC 2018)	Department of Mathematics, South Asian University, New Delhi	1-3 December 2018
3	Dr. Tanmay Basak	Computational Modeling of Fluid Dynamics Problems (CMFDP 2019)	NIT Warangal	18-20 January 2019
4	Dr. R. Nagarajan	MHRD Academic Leadership Development Programme at NIT Trichy -Alumni Engagement and Fundraising	NIT Trichy	4 February 2019
5	Dr. Tanmay Basak	Research and Innovation in Chemical Engineering and Technology (RICET-2019)- Analysis of heat flow visualization and thermodynamic efficiency during thermal convection in cavities with distributed solar heaters	Chandigarh	2-3 March 2019
6	Dr. Tanmay Basak	Advances in Chemical and Environmental Engineering-Microwave Material Processing: Energy-efficient approach	Jalandhar	23-24 March 2019
7	Dr. R. Vinu	National Conference on Advances in Chemical Engineering and Science (ACES 2019), IISER Bhopal, Methane-to-hydrogen via pyrolysis, Brainstorming Session on Hydrogen Generation, and Co-pyrolysis of biomass with plastics to produce high quality biofuels - from fundamentals to applications	Thermax Limited Pune	8 March 2019, 5 February 2019



Sl. No.	Faculty Member	Title	Institution	Period
Short-term courses				
1	Dr. T. Renganathan	Resource person in the AICTE-QIP short-term course on Recent trends in clean technology for sustainable environment	Coimbatore Institute of Technology, Coimbatore	21 April 2018
2	Dr. Ethayaraja Mani	Participated in the AICTE-QIP sponsored short-term course on Current scenario in nano and bio-technological applications (CSNBA) at Department of Chemical Engineering	Coimbatore Institute of Technology, Coimbatore	2 April 2018
3	Dr. R. Vinu	Participated in the AICTE-QIP sponsored short-term course on Recent trends in clean technology for sustainable environment, Department of Chemical Engineering	Coimbatore Institute of Technology, Coimbatore	20 April 2018

Special lectures delivered by the faculty in other institutions

Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
1.	Dr. R. Vinu	Waste heat recovery boiler using municipal solid waste: analysis, model testing and pilot plant design, commissioning and testing	IIT Delhi	13 April 2018
2.	Dr. Raghuram Chetty	Visited plant and given presentation	Bharat Petroleum Corporation Limited (BPCL)	10 April 2018
3.	Dr. S. Ramanathan	Application of EIS to CMP and Post CMP cleaning characterisation	Hanyang University, Korea	24 May 2018
4.	Dr. R. Vinu	Energy Transition Technology Summit; title: Kinetic studies of biomass devolatilization via hydrolysis: evaluation of temperature and pressure effects	Shell Technology Centre, Bangalore	5-6 September 2018
5.	Dr. Raghuram Chetty	Participated and delivered talk on R&D in EV technologies, National Institution for Transforming India	NITI Aayog, New Delhi	1 September 2018
6.	Dr. Sridharakumar Narasimhan	Delivered lecture part of Chemical Engineering Seminar series	IIT, Gandhinagar, Gujarat	7 September 2018
7.	Dr. S. Ramanathan	EIS-An introduction	Crescent University	8 September 2018
8.	Dr. Aravind Kumar Chandiran	Delivered lecture on Materials and Technologies for Energy Conversion and Storage (M-TECS 2018)	BARC, Mumbai	26-29 September 2018
9.	Dr. Tanmay Basak	Delivered lecture at Department of Mechanical Engineering	NIT Silchar	24-28 September 2018
10.	Dr. Basavaraja M. G.	Patterns in drying drops of colloidal dispersions	IIT Gandhinagar	31 August 2018
11.	Dr. Basavaraja M. G.	Designing Modular Emulsions – Using Particles as Stabilizers	VIT Vellore	12 September 2018
12.	Dr. Basavaraja M. G.	Self-assembly of micro and nanoparticles: Some examples of bio-inspired design	VIT Vellore	12 September 2018
13.	Dr. Sreenivas Jayanti	Presentation: Proposal for 3D CFD modelling of a fluidised bed coal gasifier to the screening committee	CHT Office, Greater Noida	10 October 2018
14.	Dr. R. Vinu	Invited talk: Unravelling reaction pathways in fast pyrolysis of microalgae through model compounds and kinetics, Symposium on Chemical Reaction Engineering 2018	National Chemical Laboratory, Pune	17-18 December 2018
15.	Dr. Tanmay Basak	Invited talk: Finite element simulations on flow and thermal dynamics at multiple steady solutions for mixed convection in square and trapezoidal enclosures	IIT Bombay, Mumbai	10-12 December 2018



Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
16.	Dr. R. Vinu	Invited talk: Production of renewable chemicals and fuel molecules from fast pyrolysis of algae, National Conference on Recent Advances in Chemistry (RAC-19)	College of Engineering, Anna University, Chennai	4 January 2019
17.	Dr. R. Vinu	Invited talk: Insights on thermal analysis of fuels, propellants and ablative TPS materials, Propulsion Seminar Series	Vikram Sarabhai Space Centre (VSSC-ISRO), ISRO, Trivandrum	18 January 2019
18.	Dr. Tanmay Basak	Participated and delivered lecture on Recent developments in theory, computation and application of differential equations	Faculty of Mathematics and Computer Science, South Asian University, New Delhi	21-23 January 2019
19.	Dr. R. Vinu	Characterizing synthetic polymers and biomass using analytical pyrolysis techniques, a knowledge sharing session on Analytical and Applied Pyrolysis	Organised by Frontier Laboratories, Japan in collaboration with MRSC Trivandrum and SPSI Trivandrum	25 January 2019

Meetings attended by the faculty in other institutions

Sl. No.	Faculty Member	Purpose	Institution	Date
1.	Dr. T. Panda	Participated as a Member of the Board of Studies in the Department of Biotechnology	GITAM Institute of Technology (Gandhi Institute of Technology and Management), Visakhapatnam	7 April 2018
2.	Dr. S. Ramanathan	Attended D.C. Meeting	National Institute of Technology Tiruchirappalli	3 May 2018
3.	Dr. P.S.T. Sai	Expert to evaluate UG Engineering programs in Tier-II format for grant of NBA accreditation	S. Jondhale College of Engineering, Maharashtra	20-22 April 2018
4.	Dr. Rajnish Kumar	Invited to conducting interview for faculty selection	IIT Kharagpur	13-14 May 2018
5.	Dr. Raghuram Chetty	Visited	Attero, New Delhi	10 April 2018
6.	Dr. R. Vinu	Participated 3 rd Meeting of Sub-Committee on 'Biomass to Drop-in Fuel and Biomass to Bio Crude for Co-Refining'	New Delhi	3 May 2018
7.	Dr. A. Kannan	Invited to attend for the selection of Professor/Associate Professor/Assistant Professor	Hindustan Institute of Technology and Science, Padur, Chennai	10 May 2018
8.	Dr. A. Kannan	Faculty Development Exercise	VIT, Vellore	26 May 2018
9.	Dr. Tanmay Basak	Invited to conduct viva-voce exam	National Institute of Technology, Calicut	16 August 2018
10.	Dr. R. Nagarajan	Participated in day-long summit	San Jose, CA, USA	8 September 2018
11.	Dr. Sreenivas Jayanti	Participated for discussion on the Redox flow battery project	HPCL, Bangalore	19 September 2018
12.	Dr. Rajnish Kumar	Attended Ph.D viva-voce Examination of Mr. Nilesh Choudary	SSBLT, PAML	17 August 2018
13.	Dr. Ethayaraja Mani	Delivered the Inaugural Address for Chemistry Association Activities	Sri S. Ramasamy Naidu Memorial College, Virudhunagar	3 August 2018
14.	Dr. R. Vinu	Participated in the Doctoral Committee Meeting in Department of Chemical Engineering	Kongu Engineering College, Perundurai, Erode	9 August 2018
15.	Dr. Sumesh P Thampi	Visited National Atmospheric	Research Laboratory, Gadanki	31 August 2018



Sl. No.	Faculty Member	Purpose	Institution	Date
16.	Dr. Abhijit P Deshpande	Invited to conduct Ph.D Viva-voce examination	National Institute of Technology Warangal.	7 August 2018
17.	Dr. R. Ravikrishna	Invited to attend monitoring ongoing review meeting by the PAC of Chemical and Environmental Engineering, for the ongoing project of SERB	IIT Delhi	23-24 August 2018
18.	Dr. Shankar Narasimhan	Participated Selection Committee meeting for the post of Assistant Professor in the Chemical Engineering	IIT, Jammu	31 August 2018
19.	Dr. Raghuram Chetty	Participated Performance Review Committee (PRC) meeting for renewal/ extension of tenure of Senior/Junior Fellows	International Advanced Research Centre for Powder Metallurgy and New Materials, Taramani, Chennai	20 August 2018
20.	Dr. Kannan A	Participated to conduct viva voce	NIT Calicut	18 September 2018
21.	Dr. P. Sessa Talpa Sai	Participated selection committee meeting act as an expert for the selection of faculty members	National Institute of Technology Durgapur	10-11 August 2018
22.	Dr. Tanmay Basak	Participated selection committee meeting for faculty selection	IIT, Roorkee	17 September 2018
23.	Dr. P. Sessa Talpa Sai	Participated selection committee meeting act as an expert for the selection of faculty members	Sardar Vallabhbhai National Institute of Technology, Surat	7 August 2018
24.	Dr. S. Pushpavanam	Participated in review on ongoing R&D projects pursued with financial assistance	Ministry of Steel (Government Fund)	5 September 2018
25.	Dr. S. Ramanathan	Participated in Ph.D Viva-voce examination at A.C Tech Campus	Anna University, Chennai	27 September 2018
26.	Dr. R. Nagarajan	Attended board meeting	Indian Additives Limited	21 September 2018
27.	Dr. R. Nagarajan	Moderated panel on “Unleashing the Power of Philanthropy” in IITMAA Sangam – Confluence for Impact	IITMAA Sangam-	29 September 2018
28.	Dr. S. Ramanathan	Invited to conduct viva voce exam	National Institute of Technology, Warangal	26 October 2018
29.	Dr. R. Nagarajan	Participated in the Board of Directors Meeting	Coromandel International Limited, Secunderabad	24-25 September 2018
30.	Dr. R. Nagarajan	Participated in the Board of Directors Meeting	Indian Additives Limited, Chennai	17 October 2018
31.	Dr. S. Ramanathan	Invited as an Expert Member of the Selection Committee to evaluate and recommend on the eligibility of the faculty members	Anna University, Chennai	16 October 2018
32.	Dr. Basavaraj M Gurappa	Invited to one-day meet on Soft Matter and Biophysics	SRM Institute of Science and Technology, Kattankulathur	9 October 2018
33.	Dr. Sumesh P Thampi	Invited to one-day meet on Soft Matter and Biophysics	SRM Institute of Science and Technology, Kattankulathur	9 October 2018
34.	Dr. Raghuram Chetty	Invited to visit the research centre for discussion of the project, Nano Materials- Reverse osmosis antifouling membrane formulations for water desalination	Academy of Scientific Research and Technology (ASRT), Egypt, and the Department of Science and Technology, Government of India	29 November 2018
35.	Dr. Abijit P Deshpande	Participated in RuTAG Technologies for STINER	IIT Guwahati	22 October 2018
36.	Dr. R. Nagarajan	Participated in the Board of Directors Meeting	Indian Additives Limited, Chennai	11 January 2019
37.	Dr. R. Nagarajan	Participated in the Board of Directors Meeting	Coromandel Fertilizers, Chennai	21 January 2019



Sl. No.	Faculty Member	Purpose	Institution	Date
38.	Dr. R. Nagarajan	Presented on "Alumni Relations & Fund-Raising" in General Body Meeting	Alumni Association of College of Engineering, Guindy	5 December 2018
39.	Dr. R. Nagarajan	Panelist in IITM CSR Conclave	Mumbai	10 December 2018
40.	Dr. S. Ramanathan	Invited as an External Expert in interview committee	ISRO, Bengaluru	12 December 2018
41.	Dr. Ramnarayanan R	Meeting with Professor K Vijayraghavan, Principal Scientific Advisor, Government of India		13 January 2019

Visits abroad by faculty

Sl. No.	Faculty Member	Country Visited	Date	Purpose of visit	Funding from
1.	Dr. Aravind Kumar Chandiran	United Kingdom	26 February-2 March 2018	EPSRC Global Challenges Research Fund Discussion at Cardiff University, UK	No
2.	Dr. Niket S Kaisare	United Kingdom	26 February-2 March 2018	EPSRC Global Challenges Research Fund Discussion at Cardiff University, UK	No
3.	Dr. R. Vinu	United Kingdom	26 February 2018 to 02 March 2018	EPSRC Global Challenges Research Fund Discussion at Cardiff University, UK	No
4.	Dr. Rajnish Kumar	Malaysia	20-23 March 2018	Offshore Technology Conference Asia 2018	Yes
5.	Dr. T. Renganathan	United Kingdom	27 April-7 May 2018	First Project Meeting, Heriot-Watt University, Edinburgh, UK	No
6.	Dr. S. Pushpavanam	United Kingdom	27 April-7 May 2018	First Project Meeting, Heriot-Watt University, Edinburgh, UK	Project
7.	Dr. T. Renganathan	Italy	20-23 May 2018	25 th International Conference on Chemical Reaction Engineering, Florence, ISCRE25, Italy	Partial assistance from CPDA
8.	Dr. S. Ramanathan	Korea (South)	20-25 May 2018	Visit to Hanyang University	No
9.	Dr. Rajnish Kumar	China	27 May-8 June 2018	Visit to College of Chemical Engineering, China University of Petroleum, Beijing	No
10.	Dr. R. Nagarajan	USA	10 May-20 June 2018	10 th International Symposium on Cavitation and University Visits, Baltimore, USA	CPDA
11.	Dr. Niket S Kaisare	Italy	20-23 May 2018	25 th International Conference on Chemical Reaction Engineering, Florence, Italy	Partial assistance from CPDA
12.	Dr. Raghuram Chetty	USA	20-23 May 2018	Visit to Michigan State University, USA	No
13.	Dr. Preeti Aghalayam	Italy	18-22 June 2018	6 th Annual International Sulcis CCUS Summer School, Carbonia, Italy	No
14.	Dr. Rajagopalan Srinivasan	USA	1-5 July 2018	13 th International Symposium on Process Systems Engineering (PSE) 2018	Project
15.	Dr. Sridharakumar Narasimhan	Sweden	9-11 July 2018	18 th IFAC Symposium on System Identification (SYSID 2019)	CPDA
16.	Dr. Arun K Tangirala	Sweden	9-11 July 2018	SYSID 2019	CPDA



Sl. No.	Faculty Member	Country Visited	Date	Purpose of visit	Funding from
17.	Dr. Shankar Narasimhan S	China	9-12 July 2018	Meeting at Zhejiang Jianhua Foreign Experts Development Co. Ltd.	Project
18.	Prof. Upendra Natarajan	USA/Boston	17-25 August 2018	American Chemical Society National Meeting Conference and Expo Boston 2018	CPDA
19.	Dr. Rajnish Kumar	Hong Kong	21-24 August 2018	International Conference on Applied Energy	Partial CPDA
20.	Prof. Shankar Narasimhan S	Japan/Sagamihara City	26-29 August 2018	Meeting with Organo Corporation	Project
21.	Prof. Nagarajan R	Canada, USA/Toronto, Bay Area	3-11 September 2018	Alumni Meetings, University Visits	Project
22.	Dr. Ramnarayanan R	USA	8-12 October 2018	Sackler Colloquia on Status and Challenges in Science for Decarbonizing our Energy Landscape	No
23.	Dr. Rajagopalan Srinivasan	Singapore	13-20 October 2018	Project discussions at National University of Singapore	Project
24.	Dr. Niket Kaisare	USA	27 October-3 November 2018	AIChE Annual Conference	Partial from CPDA
25.	Dr. R. Nagarajan	USA	12-17 November 2018	IEST Fall Conference-- Working Group Meetings	Partial from CPDA
26.	Dr. R. Vinu	Taiwan	15-18 November 2018	Signing of an MoU with National Formosa University, Taiwan during their 38 th Anniversary Celebrations	Project
27.	Dr. Shankar Narasimhan	China	17-19 November 2018	Zhejiang Jianhua Foreign Expert Development Co. Ltd.	No
28.	Dr. Raghuram Chetty	Egypt/Cairo	28 November-5 December 2018	Discussion on Indo-Egypt Project titled "Nano materials- Reverse Osmosis Antifouling Membrane Formulation for Water Treatment" funded by DST	Partial from Project
29.	Dr. Arun K Tangirala	Flordia, USA	17-19 December 2018	57 th IEEE Conference on Decision and Control (CDC 2018)	Partial Funding from CPDA
30.	Dr. Rajagopalan Srinivasan	Bangkok, Thailand	13-16 January 2019	8 th International Symposium on Design, Operation & Control of Chemical Processes (PSE Asia 2019)	Partial Funding from CPDA
31.	Dr. R. Vinu	USA	21 February-4 March 2019	<ol style="list-style-type: none"> Seminar at ExxonMobil Corporate Strategic Research Labs in Clinton, New Jersey (22 February 2019) 3rd International Conference on Catalysis and Chemical Engineering, Houston Texas, USA (25-27 February 2019) Invited lecture on MSW Management Technologies for Indian in Shell Technology Center, Houston (27 February 2019) Invited lecture in Institute of Sustainability and Energy at Northwestern (ISEN), Northwestern University (1 March 2019) 	CPDA and Project



Honours and awards obtained by faculty

Sl. No.	Faculty Member	Award	Awarded by	Awarded for	Date of Award
i. Honours					
1	Dr. R. Nagarajan	Institute Chair Professor	IIT Madras	Excelled in teaching and service to the institute/nation/profession	May 2018
2	Dr. Raghunathan Rengasam	Institute Chair Professor	IIT Madras	Excelled in teaching and service to the institute/nation/profession	April 2019
ii. Awards					
1	Dr. R. Vinu	Early Career Research and Development Award (2017-18)	IIT Madras	Early Career Research and Development	April 2018
3	Prof. Raghunathan Rengasamy	Prof. Dr. Y. B. G. Varma Award	Alumni Nite IIT Madras	Teaching Excellence for the academic year 2017-2018	19 July 2018
4	Dr. R. Nagarajan	Distinguished Service to Alumni	IITMAA Sangam-Confluence for Impact	Distinguished Service to Alumni	29 September 2018
6	Dr. R. Nagarajan	Eminent Engineer Award	Institution of Engineers (India) Tamil Nadu State Centre	Eminent Engineer Award	27 October 2018
7	Dr. Rajnish Kumar	2018 Highly Cited Researcher	Web of Science Group	Exceptional research performance demonstrated by production of multiple highly cited papers, those that rank in the top 1% by citations for field and year, in Engineering	27 November 2018
8	Dr. S. Pushpavanam	Hikal Chemcon Distinguished Speaker Award 2018	Chemcon 2019, Jalandhar	Hikal Chemcon Distinguished Speaker	29 December 2018
9	Dr. R. Vinu	NASI Young Scientist Platinum Jubilee Award-2018	88 th Annual Session of NASI and Symposium on Science, Technology and Ecosystem for Sustainable Rural Development, Mahatma Gandhi Chitrakoot Gramoday Vishwavidyalaya Chitrakoot, Satna, Madhya Pradesh	NASI Young Scientist	6-8 December 2018
10	Dr. R. Vinu	INSA Young Scientist Medal in the category of Engineering Sciences	Anniversary General Meeting of the Indian National Academy (INSA-AGM), 2018, Physical Research Laboratory (PRL) Ahmedabad	INSA Young Scientist Medal in the category of Engineering Sciences	26-28 December 2018

Journal Editorial Boards

Sl. No.	Faculty Member	Position (Editor/Member)	Journal Name
1	Dr. Arun K. Tangirala	Editor-in-Chief	<i>Journal of the Institution of Engineers India: Series E, April 2018</i>
2	Dr. Rajagopalan Srinivasan	Academic Editor	<i>PLOS One, May 2018</i>
3	Dr. Rajagopalan Srinivasan	Editor	<i>South African Journal of Chemical Engineering</i> , an Elsevier journal published in collaboration with Institution of Chemical Engineers UK (ICChemE)
4	Dr. R. Vinu	Editor Editorial Board Member	<i>Advanced Powder Technology, Elsevier; Journal of Analytical and Applied Pyrolysis, Elsevier</i>



4.4.4. Design and Development Activities

New facilities added or major equipment procured

Sl. No.	Equipment	Value (Rs. in lakhs)
1	LEICA SP8 – Confocal Laser Scanning Microscope Features: Equipped with highly sensitive super resolution spectral detector, multiple laser lines, 120 nm lateral resolution; typical applications: 2D and 3D imaging of materials—biological, polymeric, nanoparticles under fluorescence and reflection mode	143
2	Q-Sense Explorer Biolin Scientific-Modular QCM-D instrument Biosensing and Biophysics; Study of cell adhesion; drug discovery; materials science; characterization of viscoelastic films; to study the conformational changes of deposited macromolecules; to analyse the build-up of polyelectrolyte multilayers; to study the degradation or corrosion of films and coatings	52
3	Spectrofluorimeter to the Solar Energy Research Group—an ultrafast (100 picosecond resolution) fluorescence lifetime systems.	45

Patents filed

Sl. No.	Faculty Member/Student	Topic of Patent
1	Dr. Raghunathan Rengaswamy	Tubular PEM fuel cell and cell stack thereof
2	Dr. Raghunathan Rengaswamy	Rapid Impedance Spectroscopy (RIS) using phase shifted chirp signals (Chirp Impedance Analysis)
3	Dr. Pushpavanam S	Sequential extraction of metals from printed circuit boards by hydrometallurgical route using the same acid
4	Dr. Pushpavanam S	Method for fabricating microfluidic devices on printable porous substrates using laser printing
5	Dr. Raghuram Chetty	An effective strategy to remove chromium from wastewater
6	Mr. Rishabh Verma CH16B021	Automating refilling of pesticides and other fluids along with battery swapping system primarily for agriculture drone

Patents awarded

Sl. No.	Faculty Member	Topic of Patent
1	Dr. Sreenivas Jayanti	Fuel cell with enhanced cross-flow serpentine flow fields
2	Dr. Raghuram Chetty	Electrochemical synthesis of palladium dendrites on carbon nanotubes
3	Dr. Raghuram Chetty	Method of preparing palladium dendrites on carbon paper

4.4.5. Research and Consultancy

Sponsored research projects (ongoing and new)

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
1	Enabling Technologies for Enhancing Access of Medicines in India Through Point-of-Demand Production of Oral Dosage Forms	7 May 2018 - 6 May 2020	Uchhatar Avishkar Yojana, IIT Madras	200	Dr. Raghunathan Rengaswamy Dr. Basavaraja Madivala Gurappa
2	Fabrication of a Microfluidic Device for Intraocular Pressure Monitoring in the Management of Glaucoma	24 April 2018 - 23 April 2020	Department of Science and Technology (DST)	19.20	Dr. Pushpavanam S.
3	Coordination Frameworks for Solar Energy Conversion	2 May 2018 - 1 May 2021	Council of Scientific and Industrial Research	19.32	Dr. Aravind Kumar Chandiran
4	Studies on the Development of Devices Using MXenes/2D Materials for Energy Harvesting Applications	28 May 2018 - 27 May 2021	Board of Research in Nuclear Sciences	34.98	Dr. Aravind Kumar Chandiran



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
5	Evaluation of Pyrolysis Behavior, Pyrolysis Kinetics and Product Analysis of Thermal Protection System (TPS) Materials	1 November 2018-30 April 2020	Indian Space Research Organisation	19.08	Dr. Vinu R
6	A Low-Cost Option for the Catalytic Reduction of Automotive NOx in Lean Burning Engines	1 November 2018-31 October 2020	Uchhatar Avishkar Yojana - IIT Madras	130.00	Dr. Preeti Aghalayam Dr. Selvam P Dr. Niket S. Kaisare
7	Bench Scale Studies For Gas Hydrate Based Continuous Gas Separation Process: Separation of Industrially Relevant Binary and Ternary Gas Mixture like Co ₂ /H ₂ , Co ₂ /CH ₄ /H ₂ S and CH ₄ /N ₂ /H ₂	2 November 2018-1 November 2021	DST	45.75	Dr. Rajnish Kumar Dr. Jitendra S Sangwai
8	Ferroelectric Photo Electrochemical Water Splitting	26 November 2018 - 25 November 2021	DST	70.28	Dr. Aravind Kumar Chandiran
9	Detection and Diagnosis of Model-Plant-Mismatch in Model Predictive Control Schemes	15 November 2018 - 14 November 2021	Science and Engineering Research Board	10.05	Dr. Arun K Tangirala
10	Next Generation Multifunctional Aerogels for Treating Soluble Microplastics, Pesticides and Drugs in Water, and Recovery	15 March 2019-14 March 2021	Scheme for Promotion of Academic and Research	78.48	Dr. Rajnish Kumar Dr. Mohan S (CE)

Industrial consultancy projects (ongoing and new)

Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakhs)
1	Dr. Ethayaraja Mani	Improving flow properties of potassium chlorate	Common Code	1.50
2	Dr. Raghuram Chetty Dr. Lakshman Neelakantan	Evaluation of lithium ion battery recycling technology	Bharat Petroleum Corporation Ltd	2.66
3	Dr. Sridharakumar Narasimhan Dr. Shankar Narasimhan	Analysis of Udaipura Multi-village Scheme	Common Code	0.00
4	Dr. Ramanathan S.	Detailed Technical Report to Distinguish PVC and CPVC	DCW Limited	5.90
5	S. Ramanathan Co-PI. (PI is Prof. K. Murali, OE)	Common User Manifold for Edible Oil and Chemicals	JNPT, India	77.9

RBIC Projects (ongoing and new)

Sl. No.	Faculty Member	Title	Industry	Period	Amount (Rs. in lakhs)
1	Dr. Basavaraja Madivala Gurappa Dr. Abhijit P Deshpande	Investigation of Wax Deposition and Wax-Pipe Wall Interaction	Chevron Energy Technology Company Limited	1 April 2018-30 September 2019	30.00
2	Dr. Vinu R	Testing of Catalysts for Ethanol Combustion	Renault Nissan Technology & Business Centre India Private Limited (RNTBCI)	15 May 2018-14 May 2019	39.93
3	Dr. Raghunathan Rengaswamy	Setting up a Centre for Industrial Internet applications for Digital Aluminium Smelter	GE T&D India Limited	1 June 2018-30 June 2019	10.62



Sl. No.	Faculty Member	Title	Industry	Period	Amount (Rs. in lakhs)
4	Dr. Raghunathan Rengaswamy	Study of Association of Air Pollution on Pregnancy Outcomes in a Semi-urban district in North India	Translational Health Science and Technology Institute	1 November 2018-29 April 2019	7.54
5	Dr. Vinu R Dr. Chakravarthy S R	Development of a 100 L batch hydrothermal liquefaction facility for converting seaweeds to chemicals/fuels	Dr. Shrikumar Suryanarayan, IITM ALUMNUS	1 December 2018-31 May 2020	25.00
6	Dr. Raghunathan Rengaswamy Dr. Mahesh V Panchagnula	Development of ML Tools for Cricket Data Analysis	Espn Digital Media (India) Private Limited	1 December 2018-30 June 2019	47.20
7	Dr. Raghunathan Rengaswamy	Module 4 - Modeling of Aluminium Smelter	GE T&D India Limited	1 January-30 June 2019	10.62
8	Dr. Raghunathan Rengaswamy	Predictive Maintenance	Mahindra & Mahindra Limited	1 January-30 June 2019	7.14
9	Dr. Arun K Tangirala	Application of Deep Learning in System Identification	Honeywell Technology Solutions Laboratory Private Limited	1 January-13 December 2019	8.76
10	Dr. Pushpavanam S Dr. Nirav Pravinbhai Bhatt	Establishment of a Bench Scale Demonstration Plant to Process Typical E-waste and recover Valuable Metals through a Green Hydrometallurgical route	Bharat Heavy Electricals Limited	15 January 2019-15 January 2020	37.16
11	Dr. Arun K Tangirala	Estimating Fault Propagation Times from Faulty Data	Ericsson India Private Limited	1 January 2019-31 December 2020	20.00

Retainer consultancy (ongoing and new)

Sl. No.	Faculty Member	Title	Industry	Period	Amount (Rs. in lakhs)
1	Dr. Arun K. Tangirala	Advanced Digital PID Temperature Controller with Auto-Tuning and Self-Tuning	Sansel Instruments and Control	20 August-30 November 2018	0.94

Industrial consultancy projects (ongoing and new)

Sl. No.	Faculty Member	Title	Period	Amount (Rs. in lakhs)
1	Dr. Abhijit P Deshpande Dr. Sumesh P Thampi Dr. Susy Varughese Dr. Basavaraja Madivala Gurappa Dr. Ethayaraja Mani	Testing for Equipment in Polymer Engineering and Colloid Science Group	27 October 2018-26 October 2023	5.00
2	Dr. Abhijit P Deshpande Dr. Sumesh P Thampi Dr. Susy Varughese Dr. Basavaraja Madivala Gurappa Dr. Ethayaraja Mani	Testing for Polymer Engineering and Colloid Science Group	27 October 2018-26 October 2023	5.00



Faculty members' participation with other institution under MoU

Sl. No.	Faculty Member	Participation details	University/Institution
1	Dr. R. Vinu	38 th Anniversary Celebrations of National Formosa University (NFU), Taiwan from 15-17 November	NFU to enable student exchange and research

4.4.6. Distinguished visitors to the department

Sl. No.	Name and Designation	Date of Visit	Purpose of Visit/Seminar Talk
1.	Dr. Leja Hattiangadi, Adjunct Professor, IIT Bombay	28 February 2018	Reliance Hazira complex audio visual presentation
2.	Prof. R. Kannan, John Hopkins School of Medicine, USA	1 March 2018	Precision nanomedicines for neurological disorders—from chemistry to the clinic
3.	Dr. Shrikumar Suryanarayanan, Chairman and Co-Founder, Sea6 Energy Private Limited	14 March 2018	Career opportunities for practitioners of chemical engineering in biotechnology
4.	Prof. Devang Vitin Khakhar, Director, IIT Bombay	20 March 2018	Department visit
5.	Portugal Team	26 March 2018	Department visit
6.	Dr. Alf Isaksson, Global Research Area Manager, ABB Corporate Research, Sweden	3 April 2018	Department visit
7.	Dr. Nandkishor Kubal and Mr. Pritham Yalla, Group Managers, ABB Corporate Research, Bengaluru	3 April 2018	Department visit
8.	Dr. Alasdair Campbell, Senior Lecturer, Department of Chemical and Process Engineering, University of Surrey	10 April 2018	Flames, explosions, plumes and ponds - buoyancy effects in chemical engineering systems
9.	Mr. Saravan Alagarsamy Chandrasekhar, IAL	19 April 2018	Industrial lecture: Chemical industry: An insight; the presentation briefly covers landscape of global/national chemical industries with future growth potential, opportunities, including next-generation developments and challenges
10.	Dr. Satya Gupta, Distinguished Alumni, IITM, Technology Fellow, Baker Hughes, USA	26 April 2018	Department visit
11.	Dr. Nagu Daraboina, University of Tulsa	26 June 2018	Industrial perspective on managing hydrate issues in subsea developments
12.	Dr. Trivikram Nallamilli, Postdoctoral fellow, Max Planck Institute for polymer research, Mainz, Germany	6 August 2018	Role of surfactant-polysaccharide interactions in modern food preservation systems
13.	Mr. Vijaysai from Suez Water Technology Solutions	31 August 2018	Differentiated solutions through analytics
14.	Dr. Tarak Patra, Center for Nanoscale Materials, Argonne National Laboratory, USA	20 September 2018	Molecular design of polymeric ionic liquids
15.	Dr. Akshat Tanksale, Monash University, Malaysia	4 December 2018	Catalysis for green and sustainable chemicals production
16.	Dr. Rajesh Singh (Post-Doctoral Research Fellow, University of Cambridge)	4 December 2018	Chemohydrodynamics of active colloids: incomplete phase separation
17.	Mr. Narayan Subramanian	3 January 2019	Mid-century strategies: pathways to a low-carbon future?
18.	Prof. S Balachandar, University of Florida	4 January 2019	An improved point-particle approach that captures fully-resolved physics
19.	Dr. Aravind Raghunathan (Mitsubishi Electric Research Laboratories)	16 January 2019	Combinatorial optimization by decision diagrams
20.	Dr. Mayank Agarwal, Georgia Institute of Technology, USA	18 January 2019	Advancements in computational methods to study adsorption in nanoporous materials



Sl. No.	Name and Designation	Date of Visit	Purpose of Visit/Seminar Talk
21.	Dr. Sulalit Bandyopadhyay, NTNU, Norway	23 January 2019	Multifunctional nanomaterials at the junction of polymer science and colloid chemistry
22.	Dr. Harish Dixit, IIT Hyderabad	11 March 2019	On the role of surface viscosity effects in thin film flows
23.	Prof. Peter Englezos, Department of Chemical and Biological Engineering, The University of British Columbia, Vancouver, Canada	14 March 2019	Gas hydrate based gas separation technologies

4.4.7. Other Activities of the Department/Centre

Results obtained in research work (from M.S. and Ph.D thesis) of the scholar/faculty

Sl. No.	Name	Roll No.	Guide	Title
Dual Degree (MS and Ph.D)				
1.	Anupriya S	CH12D026	Dr. Sreenivas Jayanti	Response of upward/downward vertical annular flow in pipe expansion/contraction
2.	Amrutha M S	CH13D018	Dr. S Ramanathan	Mechanistic analysis of anodic dissolution of group IV valve metals in HF using electrochemical techniques
Dual Degree (M.Tech and Ph.D)				
3.	Swaminath Bharadwaj G	CH11D036	Dr. Abhijit P Deshpande, Dr. P B Sunil Kumar, PH	Coarse grained simulation and mean-field modeling of LCST in thermoresponsive polymer solutions
4.	Resmi Suresh M P	CH12D024	Dr. Raghunathan Rengasamy	Modeling, control and diagnosis of rechargeable battery systems
Doctor of Philosophy – Ph.D				
5.	Saranya G	CH11D010	Dr. R Ravikrishna	Studies on passive release of fungal spores from simulated solid waste surfaces
6.	Venkata Sivarama Ravi Kanth Mukku	CH11D014	Dr. S Pushpavanam Dr. Shankar Narasimhan, CH Dr. B Narasimha Murthy	A unified thermodynamic framework for modeling distribution of metal salts between aqueous nitric acid and an organic solvent
7.	Savitha R	CH12D004	Dr. Raghuram Chetty Dr. R Ravikrishna	Electrochemical synthesis of titanium dioxide nanotubes and its application in photocatalysis
8.	Debayan Das	CH12D014	Dr. Tanmay Basak	Analysis of heatline and entropy generation for natural convection within square and triangular enclosures involving discrete heaters
9.	Volga M	CH12D019	Dr. Raghuram Chetty	Electrochemical fabrication of nanostructured platinum-based electrodes for direct liquid fuel cells
10.	Deepak Kumar Ojha	CH13D001	Dr. R.Vinu	Fundamentals of fast (co-) pyrolysis of lignocellulosic biomass and polymers for resource recovery
11.	Janakey Devi V K P	CH13D022	Dr. P S T Sai Dr. A.R.Balakrishnan	Study of entrainers on isobaric vapour-liquid equilibrium and vapour-liquid-liquid equilibrium of aqueous azeotropic mixtures
12.	Sanjay Kumar	CH14D006	Dr. Sreenivas Jayanti	Experimental and CFD studies of flow field-electrode interaction in all-vanadium redox flow battery
13.	Dadi V Suriapparao	CH15D009	Dr. R Vinu	Microwave assisted pyrolysis of mixed feedstocks, including lignocellulosic biomass, waste plastics, kitchen wastes and e-wastes for resource and energy recovery
Master of Science by Research – M.S				
14.	Tobiul Hussain Ahmed	CH14S007	Dr. A Kannan	Studies on microwave aided drying of capsicum Chinense JACQ
15.	Akshaya	CH14S008	Dr. A Kannan	CGCC and exergy analyses of distillation systems
16.	Anoop C	CH14S010	Dr. S Pushpavanam	Modelling coupled autocatalytic reaction



Sl. No.	Name	Roll No.	Guide	Title
17.	Arun M	CH14S011	Dr. A Kannan	Analyses of single and binary dye adsorption using simulations and design of experiments
18.	Srikanth R	CH14S018	Dr. Sridharakumar Narasimhan Dr. Basavaraja M G	Automation of Pap smear test for cervical cancer screening
19.	Vishnu Prasad S	CH14S021	Dr. Preeti Aghalayam	Experiments and microkinetic modelling of selective catalytic reduction of NO on Pt and Ag catalysts
20.	Yogesh Prakash Shelke	CH14S024	Dr. Ethayaraja Mani	Self-assembly of spherical-cap colloids
21.	Sarkar Ila Jogesh Ramala	CH14S027	Dr. Raghuram Chetty	Development of manganese and iron-based non-precious cathode catalysts for alkaline membrane fuel cells
22.	Srinesh C	CH14S300	Dr. Shankar Narasimhan Dr. Guhan Jayaraman	Fusing online spectral measurements and offline concentration measurements for monitoring of reacting systems
23.	Kommu Moulis	CH15S002	Dr. Niket Kaisare	Modeling and simulation of catalytic micro-reactors for energy applications
24.	Piyush Agarwal	CH15S006	Dr. Arun K Tangirala	Reconstruction of causal graphs from data with missing observations
25.	Devyani Sharma	CH15S015	Dr. Niket S Kaisare	Identifying reaction pathways for the Sabatier reaction on stepped metal (211) surface

Faculty achievements/matters

1. Dr. R. Nagarajan has been nominated Alumni Community Chair Professor with effect from (w.e.f.) May 2018.
2. Dr. R. Ravikrishna was promoted as Professor w.e.f. 20 July 2018.
3. Dr. Niket S Kaisare was promoted as Professor w.e.f. 20 July 2018.
4. Dr. Raghuram Chetty was promoted as Professor w.e.f. 20 July 2018.
5. Dr. Sridharakumar Narasimhan was promoted as Professor w.e.f. 20 July 2018.
6. Dr. R. Nagarajan has taken over charge as the Head, Department of Chemical Engineering w.e.f. 29 October 2018.
7. Dr. R. Nagarajan has been nominated as the Professor-in-charge, Heritage Centre, IIT Madras w.e.f. 29 November 2018.
8. Dr. Jithin John Varghese has been appointed as Assistant Professor w.e.f. 24 October 2018.
9. Dr. Sanat Kumar was appointed as Chevron Chair Professor in the Department of Chemical Engineering from 1 December 2018 to 27 January 2019.
10. Dr. Dominique Bonvin was appointed as Chevron Chair Professor in the Department of Chemical Engineering from 12 January-28 March 2019.
11. Prof. Upendra Natarajan—Synthesis and characterization of novel organo-montmorillonites (article), Tiwari, R.R., Khilar, K.C., Natarajan, U. (2008) Applied Clay Science 38 (3-4), pp. 203-208. The paper has crossed 100 citations.
12. Dr. Raghunathan Rengasamy has been appointed as Institute Chair Professor w.e.f. 1 April 2019.

Students Matters

1. **Chemplus 2019:** In association with **ChE** and **AIChE**, the Department of Chemical Engineering conducted 12th annual technical edition of technical festival, Chemplus from 15-17 March 2019. Previously, being a separate event for undergrads (ChemClave) and postgrads (ChemSymp), Chemplus has transformed into an event that incorporates both the fun part in engineering as well as the research element of a symposium. The prime events organised during Chemplus 2019 were Aquarocket, Chem-e Car, Chem-e Debate, Chemical Engineering Entrepreneurship, Chemical X, Main Quiz, paper and poster presentation, workshops, Aspen Plus, R, LaTex, Matlab and a felicitation function for Prof. P.S.T. Sai.
2. First-year B.Tech students were taken for plant visits to the following industries:
 - Coromandel Fertilizers Limited, Ennore on 16 March 2019
 - Saint Gobain India Private Limited, Sriperambadur on 30 March 2019
 - Indian Additives Ltd, Manali on 6 April



3. 20-Week Training programme on Effective Communication and Working in Teams: The training programme for Chemical Engineering Department, IIT Madras was organised February-June 2019 taken by Dr. Sumathi Narayanan, President, Creative Communication and Management Centre, Chennai.

Objectives

To enable participants:

- To become aware of one's own effectiveness in communication
- To face challenges in day to day interactions in a pro-active manner
- To understand nuances in communication
- To prepare for effective presentations
- To become more professional in their communication skill
- To show sensitivity in interpersonal interactions
- To learn to work in teams amicably

Around 40 students/scholars enrolled and undergoing the training programme.

4. PG lounge facility opened in CHL for MS and Ph.D scholars

International collaboration achievements by the department

Sl. No.	Details of Collaboration	Date of Visit
1	Dr. Gianni Serra and Dr. Alberto Pettinau, Director, Communications and International Relations, Sotacarbo, and Director, Research Department, Sotacarbo, Sardinia, Italy, respectively, held interactions and discussions. They showed their interest on the topics such as biomass gasification, catalysts for CO ₂ -to-methanol, and syn gas to methanol, combustion and oxy-combustion, thermochemical technologies for bio-crude and biofuels production, including microwave-assisted pyrolysis and hydrothermal liquefaction, and CO ₂ capture, storage and sequestration.	27 November 2018
2	Dr Tushar K Sen, Associate Professor in the Department of Chemical Engineering at Curtin University, Perth, Australia. Currently, more than 10 Ph.D. students from IIT Madras are enrolled at Curtin University (host institution) under this collaborative Ph.D. programme. Therefore, the university effectively started this programme. In this visit, they further strengthened existing research collaboration and explored more collaborative research activities, including joint Ph.D. supervision from Chemical Engineering of IIT Madras under Curtin-IITM collaborative Ph.D. programme.	28-29 November 2018
3	Visit by University of Utah: Dr. Darryl Butt, Dr. Siva Guruswamy and Dr. Milind Deo from University of Utah met the faculty to identify possible research and other academic collaborations of mutual interest	4 February 2019
5	IIT Madras is collaborating with Technical University of Denmark (DTU) to promote scientific and student exchange. Krist Gernaey, Professor, Head of Center, Process and Systems Engineering Center (PROSYS), DTU Chemical Engineering visited to interact with co-researchers to promote collaborations in the new agreement and try and identify defined projects/steps forward.	23 March 2019

Activities initiated**Department Advisory Board formed**

1. Prof. M.S. Ananth, Former, Director, IIT Madras and currently Faculty Fellow in the Department
2. Shri M. M. Murugappan, Executive Chairman, Murugappa Group
3. Dr. Yashwanth Narendar, VP, St Gobain Research India
4. Dr. Laxmi Narasimhan, General Manager, Centre of Novel Catalytic Materials, Shell R&D, Bengaluru
5. Shri M. S. Srinivasan, Industry Relations Officer, IC&SR, IIT Madras
6. Shri T. Shivaraman, MD and CEO, Shriram EPC

The first meeting was held on 12 January 2019 and the second meeting was held on 4 April 2019.

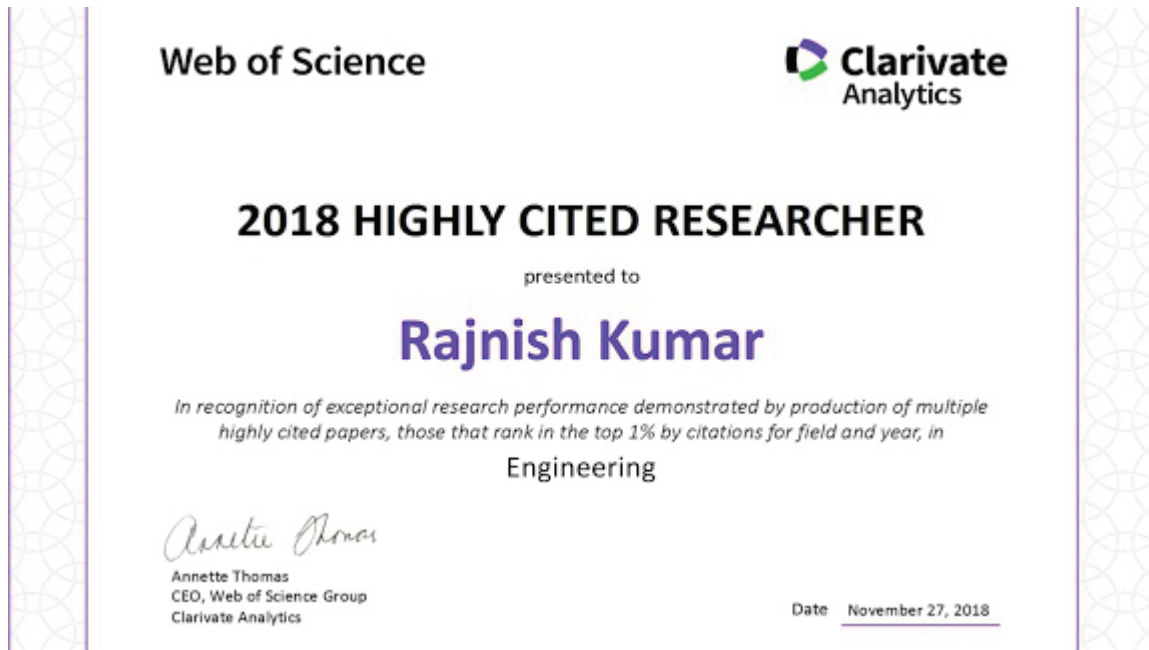
Faculty Awards



Prof. Raghunathan Rengasamy was awarded Prof. Dr. Y. B. G. Varma Award for Teaching Excellence for the academic year 2017-2018 on AlumNite (19 July 2018).



Dr. R. Vinu was awarded INSA Young Scientist Medal from Prof. A.K. Sood, President, INSA on 8 December 2018.



Dr. Rajnish Kumar was awarded 2018 Highly Cited Researcher by Web of Science on 27 November 2018.

Courses conducted

'Human Factors'

Atomic Energy Regulatory Board (AERB), through Centre for Continuing Education of IITM organized training for its employees during July 26 – 27, 2018. The training program was inaugurated by Shri D. K. Shukla, Executive Director, AERB, Shri K. Srivasista, Director, Resources & Documentation Division (R&DD) and Shri K. Ramprasad, Head, Manpower Development and Information Technology Support Section (MD & ITSS), R&DD, AERB. Prof. Rajagopalan Srinivasan, Coordinator, Department of Chemical Engineering, IIT Madras imparted with a number of animated case studies. 35 officers of AERB participated in the programme. At the end of training, certificates were awarded.



Shri D. K. Shukla, Executive Director, AERB awarding certificates to the participants after training on 'Human Factors'

GIAN course on “Mechanistic Modeling of Thermochemical Conversion of Hydrocarbons and Solid Fuels” (28 May – 1 June, 2018)

Instructors: Prof. Eliseo M. Ranzi, Politecnico di Milano, Italy and Dr. R. Vinu

No. of participants: 43 (37 students + 6 faculty), Lectures: 17 hours



MoU signed between NFU and IIT Madras

Dr. R. Vinu attended 38th Anniversary Celebrations of National Formosa University (NFU), Taiwan, from 15-17 November 2019. The MoU signed between NFU and IIT Madras is to enable student exchange and research.

Awards to students

T. Akhil and J. Aneesh, students of Chemical Engineering Department, IIT Madras bagged three prizes in waste management innovation challenge held on 12 February 2019. The UK-India Social Innovation Challenge aims to find, fund and support innovative and sustainable solutions to the global problem of waste management. The students clinched the third position prize at the competition.





Departments

1. Sarin John	CH17B069	8. Pavan Vemuri	EE17B036
2. Siddharth Singh	CH17B070	9. Vaishnavi Lakkalkatti	EE17B065
3. Tanay Dwivedi	ME17B180	10. S. Tarun Prasad	ME17B114
4. R Abhishek	ME16B030	11. Achu Shankar	AE16B102
5. Shashank R	ME16B164	12. Aswin Vijay	NA17B105
6. Shubham Jain	ME16B165	13. Gunda Sai Venkat	ME17B013
7. Naveen Reddy Dyava	ME17B140	14. Sambhav Redasani	ED17B023



The PG Lounge opened in CHL



B.Tech (first year) students visited Coromandel Fertilizers Limited, Ennore on 16 March 2019



Students visited Saint Gobain India Private Limited, Sriperumbudur on 30 March 2019



Students visited Indian Addivities Limited, Manali on 6 April 2019.



The Department of Chemical Engineering's faculty, staff and families went for a picnic on 26 January 2019.



4.5. Department of Chemistry

4.5.1. Introduction

The Department of Chemistry was a part of the Department of Chemical Engineering from 1959-1961. It was set up as an independent department in 1961 with Prof. V. Srinivasan as the Head-in-Charge. Prof. M.V.C. Sastri assumed charge as the first Head of the Department in November 1961. He was instrumental in building the department as well as the Applied Chemistry Building (completed in 1973). Prof. Sastri was also responsible for the Special Instruments Laboratory (established in 1970; later known as RSIC and presently known as SAIF), and the MSRC (established in 1974 with Prof. Sastri as the Head and Prof. V. Srinivasan as the Associate Head).

The department offers M.Sc. and Ph.D. programmes in chemistry. Various aspects of chemistry are also taught at the preparatory level (for weaker section students) and in the B.Tech. programme (core as well as minor stream courses in chemistry).

4.5.2. Academic Programmes

New courses introduced

Sl. No.	Course No.	Title
1	CY6127	Chemical Processes at Surfaces and Interfaces
2	CY6128	Computational Quantum Chemistry and Molecular Simulations
3	CY6129	Advanced Methods in Experimental Physical Chemistry

Students on roll as of September 2018+M.S. and Ph.D admission in January 2019

Programme	Year I	Year II	Year III	Year IV	Year V and others	Total
M.Sc.	50	53				103
Ph.D.	57	34	36	49	77	253
Total	107	87	36	49	77	356

Endowment prize instituted

The Institute Research Award was given to the following research scholars in recognition of the quality and quantity of their research work. The award consists of a merit certificate and a cash prize of Rs. 20,000.

Sl. No.	Student/Scholar	Roll No.
1	Hareesha Dasary	CY12D014
2	Isai Ramakrishna	CY14D057
3	Ayan Bhattacharyya	CY14D041

Student/scholar who attended conferences/workshops/seminars/symposia abroad/India

Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue
1.	Kalapaneni Mohan Rao	CY13D050	Dalton 2018	3-5 April 2018, University of Warwick, UK
2.	Sudhakar G	CY12D092		
3.	Papri Chakraborty	CY15D054	Gordon Research Seminar and Conference on Noble Metal Nanoparticles (GRS and GRC 2018)	16-17 June 2018, Mount Holyoke College, South Hadley, MA, USA
4.	Amrita Chakraborty	CY15D052		
5.	Debasmita Ghosh	CY14D050		
6.	Sugi K S	CY15D065	Noble Metal Nanoparticles, GRC 2018	17-22 June 2018, Mount Holyoke College
7.	Esma Khatun	CY14D201		
8.	Harekrishna Sahoo	CY14D055	19 th Tetrahedron Symposium	26-29 June 2018, Lake Garda, Italy



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/ Workshop	Date and Venue
9.	Kuzhanthaivelan S	CY15D005	25 th International Symposium on Gas Kinetics and Related Phenomena	22-26 July 2018, Lille, France
10.	Jyotirmoy Ghosh	CY15D066	Astrochemistry: Past, Present and Future	10-13 July 2018, California Institute of Technology, Pasadena, USA
11.	Parth Gupta	CY15D037	25 th International Symposium on Gas Kinetics and Related Phenomena	22-26 July 2018, Lille, France
12.	Avinash Kumar	CY15D074		
13.	Revathy K	CY15D072		
14.	Md Bodiuzzaman	CY15D055	EuCheMS2018	26-30 August 2018, Royal Society of Chemistry, UK
15.	Biswajit Mondal	CY13D203		
16.	Abhijit Nag	CY13D202		
17.	Md. Bodiuzzaman	CY15D055		
18.	Md Rabiul Islam	CY15D053		
19.	Swathy J R	CY15D301	8 th IUPAC International Conference on Green Chemistry	9-14 September 2018, Bangkok, Thailand
20.	Sanjeev Gupta	CY13D028	10 th International Mesoporous Material Symposium (IMMS10)	10-13 September 2018, University of California Los Angeles, USA
21.	Surya Kumar V	CY13D070	IMMS10	10-13 September 2018, University of California Los Angeles, USA
22.	Sudip Mandal	CY14D084	International Workshop on Evaluation of Electronic Structure through Experimental Realization	11-15 September 2018, SRMIST and IIT Madras
23.	Kandregula Ganapathi Rao	CY17D038		
24.	Chinta Bhavani Shankar	CY14D005	22 nd International Conference on Organic Synthesis (22-ICOS)	16-21 September 2018, Florence, Italy
25.	Santu Sadhukhan	CY14D203		
26.	Jampani Santhi	CY14D059		
27.	Sudhakar Maddala	CY14D083		
28.	Sumitava Mallik	CY15D026		
29.	Isai Ramakrishna	CY14D057		
30.	Sudesh Mallick	CY15D013		
31.	Arunprasath D	CY14D002		
32.	Rajib Saha	CY14D018		
33.	Harekrishna Sahoo	CY14D055		
34.	Pramila Devi	CY14D017		
35.	Wakeel Ahmed Dar	PDF	Chemistry in-House Symposium (CIHS)	28 September 2018, IIT Madras
36.	Amrita Chakraborty	CY15D052		
37.	Abhijit Nag	CY13D202	47 th CHEMECA 2018	30 September-3 October 2018, Queenstown, New Zealand
38.	Sruthi Guru	CY15D099		
39.	Dasthaiah Keshapolla	CY14D049	27 th Conference on Molten Salts and Ionic Liquids-EuCheMSIL 2018	7-12 October 2018, Lisbon, Portugal
40.	Rabi Narayan Patra	CY14D074	EuCheMSIL 2018	7-12 October 2018, Lisbon, Portugal
41.	Basaiahgari Anusha	CY14D044		
42.	Swayam Prakash	CY16D039		
43.	Anuja Singh	CY15D036	FCS 2018: National Workshop on Fluorescence and Raman Spectroscopy	11-17 November 2018, JNU, New Delhi
44.	Ayan Bhattacharyya	CY14D041		
45.	Tripti Ahuja	CY14D204		
46.	Anand Kumar Sahu	CY16D063		
47.	Imran Kazi	CY14D056		
48.	Gowri Sankar Grandhi	CY14D054	The 14 th International Kyoto Conference on New Aspects of Organic Chemistry	12-16 November 2018, Kyoto, Japan
49.	Kirana D V	CY15D004		
50.	Mallu Kesava Reddy	CY15D006		
51.	Swathy J R	CY15D301	International Conference on Water Energy NEXUS – Advanced Technology and Best Practices	14-17 November 2018, Salerno, Italy
52.	Sritama Mukherjee	CY15D303		



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/ Workshop	Date and Venue
53.	Kandregula Ganapathi Rao	CY17D038	Energy Storage for Solar PV	27-30 November 2018, IIT Bombay, Mumbai
54.	Jambu S	CY16D095	XIV J-NOST Conference for	28 November-1 December 2018,
55.	Kirana D V	CY15D004	Research Scholars	CSIR-IICT, Hyderabad
56.	Md Bodiuzzaman	CY15D055		
57.	Papri Chakraborty	CY15D054	10 th Bengaluru India Nano 2018	5-7 December 2018, Bengaluru
58.	Tripti Ahuja	CY14D204		
59.	Wakeel Ahmed Dar	PDF		
60.	Randhir Rai	CY14D076	Frontiers in Chemical Science, FICS 2018	6-8 December 2018, Department of Chemistry, IIT Guwahati
61.	Prabaharan T	CY14D072		
62.	Alphy Sebastian P	CY16D012	III International Conference on Soft	9-14 December 2018, MNIT, Jaipur,
63.	Malay Krishna Mahato	CY16D042	Materials	Rajasthan
64.	Jhili Mishra	CY14D062	10 th Asian Photochemistry Conference	16-20 December 2018, Taipei, Taiwan

Students/Scholars who won outside prizes and awards

Sl. No.	Student/Scholar	Roll No.	Prize	Prize awarded by
1	Arnab Dey	CY14D001	Best Student Poster Prize	National Magnetic Resonance Society of India
2	Ayan Bhattacharyya	CY14D041	One of the Best Posters in Phytochemistry	Indian Society for Radiation and Photochemical Sciences (ISRAPS)
3	Chinmaya M R	CY16D043	Best Poster Presentation	Indian Society for ElectroAnalytical Chemistry
4	Ramavath Janraj Naik	CY16D083	Chemcomm Oral Prize	Indian Society for ElectroAnalytical Chemistry
5	Sanjeev Gupta	CY13D028	Best Oral Presentation Award	Catalysis Society of India-Bengaluru Chapter
6	Basaiahgari Anusha	CY14D044	Best Oral Presentation Award	International Conference on Recent Trends in Analytical Chemistry (ICORTAC-2018)
7	Pawan Kumar	CY15D049	Best Poster	23 rd CRSI National Symposium in Chemistry
8	Jagadeeswari S	NPDF	Best Oral Presentation Award	3 rd National Conference on Materials for Energy Conversion and Storage
9	Papri Chakraborty	CY15D054	Karnataka DST Nanoscience Awards	The Bengaluru India Nano 2018
10	Kirana D V	CY15D004	Short-term Research Internship For Inspire Fellow under Newton-Bhabha Placement Programme 2018-19	India (DST) and UK (British Council)
11	Prabaharan T	CY14D072	ACS-Langmuir Best Poster Presentation	Frontiers in Chemical Sciences, IIT Guwahati, Guwahati
12	Sumana Brahma	CY15D038	Best Paper Award (First Prize)	International Conference on Supercapacitors, Energy Storage and Applications (ICSEA 2019), Thrissur
13	Prithi Jayaraj	CY14D029	Best Paper Award (First Prize)	Twelfth International Symposium on Advances in Electrochemical Science and Technology (ISAEST-12), Chennai
14	Anuradha Nandy	CY16D021	Best Poster Award	24 th CRSI National Symposium in Chemistry (CRSI NSC-24)
15	Papri Chakraborty	CY15D054	Best Poster Award	CRSI NSC-24
16	Bhaswati Sarkar	CY16D040	Best Poster Award	CRSI NSC-24
17	Ayan Bhattacharyya	CY14D041	Best Poster Award	CRSI NSC-24
18	Swathy J R	CY15D301	Best Poster Award	8 th IUPAC International Conference on Green Chemistry, Bangkok, Thailand
19	Surya K Vatti	Cy13D070	Best Poster Award	10 th International Mesostructured Materials Symposium (IMMS10), Los Angeles, USA



Sl. No.	Student/Scholar	Roll No.	Prize	Prize awarded by
20	Swathy J R	CY15D301	Gandhian Young Technological Innovation (GYTI) Award	Rashtrapati Bhavan, New Delhi
21	Pallab Basuri	CY14D202	GYTI Award	Rashtrapati Bhavan, New Delhi
22	Pallab Basuri	CY14D202	Overseas Visiting Doctoral Fellowship	Science and Engineering Research Board of India
23	Md. Bodiuzzaman	CY15D055	Best Poster Award	7 th EuCheMS Chemistry Congress, ACC Liverpool, UK
24	Amrita Chakraborty	CY15D052	Best Poster Award	CIHS

Students/Scholars who won Institute Convocation/Institute Day Prize

Sl. No.	Student/Scholar	Roll No.	Prize	Donor
Convocation Prize				
1	Ruchira Basu	CY16C029	Dr S R Ramadas 60th Birthday Commemoration Award and Ratna Rao Memorial Prize	IIT Madras
2	Manthena Chaitanya	CY13D019	Prof C N Pillai Prize	IIT Madras
3	Atanu Ghosh	CY11D048	Prof Langmuir Prize	IIT Madras
4	Prabhakar Rao	CY13D059	Prof G Sundararajan Endowment Prize	IIT Madras
5	Soumyakanta Prusty	CY12D036	Prof Werner Prize	IIT Madras
Institute Day Prize				
1	Ruchira Basu	CY16C029	1. Chilukuri Ramasastry Memorial Prize 2. Swati/Jayalakshmi Memorial Award	IIT Madras
2	Sandeep Kumar Yadhav	CY16C035	R Padmanabhan Memorial Prize	IIT Madras

4.5.3. Faculty and Their Activities

Faculty

Name and Qualifications	Major Areas of Specialisation
Professors	
Sankararaman S, Ph.D. (Victoria, Canada)	Synthetic and mechanistic organic chemistry
Dhamodharan R, Ph.D. (U.Mass, USA)	Chemistry of macromolecules
Mishra A K, Ph.D. (IIT Kanpur)	Physical photochemistry, fluorescence spectroscopy
Pradeep T, Ph.D. (IISc, Bangalore)	Solid state chemistry, materials science
Sangaranarayanan M V, Ph.D. (IISc, Bangalore)	Electrochemistry
Varadaraju U V, Ph.D. (IISc, Bangalore)	Solid state chemistry, materials science
Selvam P, Ph.D. (IIT Madras)	Catalysis, solid state chemistry
Archita Patnaik, Ph.D. (BHU)	Physical chemistry, colloid and interface science, nanoscience and nanotechnology
Baskaran S, Ph.D. (IIT Kanpur)	Organic synthesis and asymmetric synthesis
Indrapal Singh Aidhen, Ph.D. (University of Pune)	Synthetic organic chemistry
Mangala Sunder K, Ph.D. (McGill, Canada) (Head)	Theoretical spectroscopy, magnetic resonance and molecular spectra, quantum chemistry and quantum information processing, online digital content development and online teaching; technology-enhanced learning
Vidyasagar K, Ph.D. (IISc, Bangalore)	Solid state chemistry
Bhyrappa P, Ph.D. (IISc, Bangalore)	Bio-inorganic, supramolecular and materials chemistry of porphyrinoids
Ranga Rao G, Ph.D. (IISc, Bangalore)	Materials chemistry, solid state electrochemistry, surface chemistry and heterogeneous catalysis
Sanjay Kumar, Ph.D. (IIT Kanpur)	Theoretical chemistry, quantum chemistry
Narasimha Murthy N, Ph.D. (IISc, Bangalore)	Bio-inorganic chemistry, inorganic chemistry, spectroscopy
Dillip Kumar Chand, Ph.D. (IIT Kanpur)	Supramolecular chemistry, inorganic chemistry
Sekar G, Ph.D. (IIT Kanpur)	Enantioselective organic synthesis
Sundaragopal Ghosh, Ph.D. (IIT Bombay)	Organometallic and metalloborane chemistry
Rajakumar B, Ph.D. (IISc, Bangalore)	Atmospheric chemistry, gas-phase kinetic and high-resolution cavity ring down spectroscopy, computational chemistry
Muraleedharan K M, Ph.D. (RRL, Trivandrum)	Bio-organic chemistry, medicinal chemistry



Name and Qualifications	Major Areas of Specialisation
Prasad Edamana, Ph.D. (RRL, Trivandrum)	Divalent lanthanide and dendrimer chemistry
Debashis Chakraborty, Ph.D. (University of Gottingen, Germany)	Organometallic chemistry
Associate Professors	
Arti Dua, Ph.D. (IISc. Bangalore)	Statistical mechanics, polymer theory, stochastic processes
Amrendra Vijay, Ph.D. (IISc. Bangalore)	Theoretical physical chemistry
Ramesh Gardas, Ph.D. (South Gujarat University)	Solution thermodynamics, ionic liquids
Pazhamalai Anbarasan, Ph.D. (IISc. Bangalore)	Design and development of new synthetic methodologies based on carbenes, trifluoromethylation and trifluoromethylthiolation, synthesis of therapeutically important natural products
Kothandaraman R, Ph.D. (IISc. Bangalore)	Electrochemical systems and electrocatalysis
Jeganmohan M, Ph.D. (NTHU, Taiwan)	Metalcatalysed organic reactions, total synthesis and asymmetric synthesis
Beeraiah Baire, Ph.D. (IISc. Bangalore)	Organic synthesis
Md Mahinddin Baidya, Ph.D. (CLMU, Munich, Germany)	Design and development of new synthetic methodologies, asymmetric organic synthesis, synthesis of therapeutically important natural products
Assistant Professors	
Venkatakrishnan P, Ph.D. (IIT Kanpur)	Organic functional materials
Kartik Chandra Mondal, Ph.D. (Karlsruhe Institute of Technology, Germany)	Inorganic chemistry
Arnab Rit, Ph.D. (University of Muenster, Germany)	Organometallic chemistry and catalysis, main-group chemistry

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members

Sl. No.	Coordinator(s)	Title	Period
Conferences			
1	Prof. Mangala Sunder K (Local organising chair)	International Conference on Technology for Learning Fully Sponsored By IEEE (USA)	10-13 December 2018
2	Prof. Prasad Edamana (Financial chair)		
3	Prof. Mangala Sunder K (Incharge)	Spectroscopy and dynamics of molecules and clusters SDMC - 2019	21-24 February 2019
Symposia			
1	Dr. Venkatakrishnan P (Convenor)		
2	Dr. Md. Mahiuddin Baidya (Co-convenor)	Chemistry in-House Symposium (CiHS 2018)	28 September 2018
Training			
1	Prof. Selvam P	Annual programme for training Ph.D. students from all over India, Orientation Programme in NCCR Catalysis for Research Scholars	30 November-17 December 2018
Workshop			
1	Prof. Mangala Sunder K	MHRD Swyam partner workshop organised by Patliputra University, gave a lecture, interacted with 200 faculty members. The workshop was inaugurated the Governor of Bihar.	11-12 April 2019
Short-term courses			
1	Prof. Mangala Sunder K	Atomic structure and chemical bonding, SWAYAM/NPTEL	July 2018-October 2018
2	Prof. Sankararaman S	Pericyclic reactions and organic photochemistry, SWAYAM/NPTEL	August 2018-October 2018
3	Prof. Mangala Sunder K	Atomic structured and chemical bonding, Massive Open Online Courses (MOOCs), NPTEL	12-week MOOCs Course
4	Prof. Selvam P	GIAN course: Self-assembled nanoporous and hybrid silica materials: applications in catalysis, nanomedicine and optics with Dr. Michel Chi Man Wong	18-27 February 2019

**Short-term courses/workshops/seminars/symposia/conferences/training attended by the faculty members in academic institutions and public sector undertakings**

Sl. No.	Faculty Member	Title	Institution	Period
Workshop				
1	Prof. Prasad Edamana	Workshop	Government Engineering College at Kannur, Kerala	16-19 July 2018
2	Dr. Venkatakrishnan P	Photochromic molecules and materials for sustainable future	NIT Rourkela, Odisha	14-18 February 2019
Seminars				
1	Prof. Muraleedharan K M	National Seminar on Advanced Functional Materials for Energy Production and Medicinal Applications	Christ College, Irinjalakuda, Thrissur, Kerala	27 July 2018
2	Prof. Selvam P	Platinum Seminar Series: Morphologically-controlled nanomaterials and ordered nanoporous-materials for sustainable catalysis	Monash University, Clayton, Australia	31 July 2018
Symposia				
1	Dr. Venkatakrishnan P	23 rd CRSI National Symposium in Chemistry	IISER Bhopal	13-15 July 2018
2	Dr. Venkatakrishnan P	XIV J-NOST Conference; National Organic Symposium Trust	CSIR, IICT Hyderabad	22-25 November 2018
3	Prof. Selvam P	National Symposium on Frontiers in Heterogeneous Catalysis	Baroda	8-9 December 2018
4	Dr. Venkatakrishnan P	24 th CRSI National Symposium in Chemistry	CSIR-CLRI, Chennai	7-10 February 2019
Conferences				
1	Dr. Kothandaraman R	Conference meeting	HPCL, Bangalore	9 March 2018
2	Prof. Selvam P	Conference on Advanced (Nano and Energy) Materials – AEM2018	University of Surrey, UK	10-12 September 2018
3	Prof. Pradeep T	Reactions between nanoparticles	CiHS 2018, IIT Madras, Chennai, India	28 September 2018
4	Prof. Muraleedharan K M	Property control at molecular and supra-molecular levels towards new drug leads and drug-delivery systems	CiHS 2018, IIT Madras	28 September 2018
5	Dr. Ramesh Gardas	EuCheMSIL 2018	Lisbon, Portugal	7-12 October 2018, Lisbon, Portugal
6	Prof. Selvam P	The 3 rd Conference on Emerging Advanced Nanomaterials	Newcastle, Australia	30 October-2 December 2018
7	Prof. Pradeep T	Advanced Materials for Clean Water, AICTE-QIP	Civil Engineering Department, IIT Madras, Chennai, India	13 November 2018
8	Prof. Sankararaman S	Chairing a session, Indigo Six Indo-German Conference	Hyderabad, India	25-27 November 2018
9	Prof. S. Baskaran	Chairing a session, Indigo Programme	Hyderabad, India	26-27 November 2018
10	Prof. Pradeep T	TWAS 14 th General Conference and General Meeting	Trieste, Italy	27-29 November 2018
11	Prof. Sundargopal Ghosh	To chair a session at International Conference on Organometallics and Catalysis and presented a poster	Goa	13-14 December 2018
12	Prof. Selvam P	Conference on Material and Technologies in Energy Conversion and Storage	IIITDM Kancheepuram	28-29 December 2018
13	Prof. Baskaran S	Chemical and Biological Sciences in Drug Discovery -2019 (CBSDD 2019)	India/Berhampur, Orissa	8-10 March 2019
14	Prof. Mangala Sunder K	Valedictory function for chemistry conference	MCC, Chennai	13 March 2019



Sl. No.	Faculty Member	Title	Institution	Period
15	Prof. Baskaran S	Recent Advances in Organic and Bioorganic Chemistry (RAOBC)	India/Mohali	22-24 March 2019

Visits

1	Dr. Kothandaraman R	Factory visit	Vaishali Industries, Karaikal	8 May 2018
4	Dr. Ramesh Gardas	DST-FCT, India-Portugal Bilateral Project visit	University of Aveiro, Portugal	1-12 October 2018
5	Prof. Mishra A K	Visit to Hokkaido University (HU), Japan in connection with STSI Faculty Exchange Visit Program between IIT Madras and HU	Sapporo, Japan	13-16 March 2019

Meetings

1	Prof. Sangaranarayanan M V	Project discussion	PSG College, Coimbatore	13 March 2018
2	Prof. Sangaranarayanan M V	Editorial Board meeting	Indian Academic of Sciences, Bengaluru	20 April 2018
3	Prof. Sanjay Kumar	Viva voce examination	NIT, Rourkela	23-24 April 2018
4	Dr. Venkatakrishnan P	External examiner for project evaluation	NIT, Trichy	4 June 2018
5	Prof. Varadarajan U V	Board of Studies meeting	Andhra University, Visakhapatnam	20 July 2018
6	Dr. Venkatakrishnan P	Alumni meet	MDT Hindu College, Tirunelveli	23 August 2018
7	Prof. Managala Sunder K	National Coordinators Meeting	DTH Swayam Prabha	29 August 2018
8	Prof. Sangaranarayanan M V	Selection Committee meeting	CECRI, Karaikudi	17-18 September 2018
9	Prof. Managala Sunder K	Faculty Selection Committee (Chemistry)	IIT Bhilai, Raipur	17-18 September 2018
10	Prof. Sangaranarayanan M V	Editorial Board Meeting: Journal of Chemical Sciences	IISc Bangalore	5 October 2018
11	Prof. Managala Sunder K	Anna University, Chemistry Department, Faculty Promotion Meeting	Anna University	9 October 2018
12	Prof. Managala Sunder K	NPTEL MOOCs presentation in Madras University	Madras University	15 October 2018
13	Prof. Managala Sunder K	Faculty Selection Committee (Chemistry)	IIT Kanpur	31 October 2018
14	Prof. Muraleedharan K M	Ph.D. viva voce examination	NIIST, Trivandrum	2 November 2018
15	Prof. Pradeep T	20th meeting of the Japan-India Science Council	India Science Council, Tokyo, Japan	27 February-2 March 2019
16	Dr. Arti Dua	IPC-Day celebration	Bengaluru, India	1-3 March 2019
17	Prof. Managala Sunder K	LEAP Programme, IIT Bombay and MHRD	IIT Bombay	6 March 2019
18	Prof. Managala Sunder K	Governing Body Council meeting on LEAP Programme by NASSCOM	IIT Bombay, (NASSCOM IT-ITeS)	6 March 2019
19	Prof. Managala Sunder K	Adobe Education Leaders Summit	Kathmandu, Nepal	7-9 March 2019
20	Dr. Arnab Rit	Interaction Meeting	IIT Kharagpur	29 March 2019

Special lectures delivered by the faculty in other institutions

Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
1.	Prof. Pradeep T	Infinite possibilities of the infinitesimal, Science Academies' refresher course on nanoscience and its applications	K. S. Rangasamy College of Technology, Tiruchengode, India	16 April 2018
2.	Prof. Pradeep T	Reactions between nanoparticles, Science Academies' refresher course on nanoscience and its applications	K. S. Rangasamy College of Technology, Tiruchengode, Tamil Nadu, India	16 April 2018



Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
3.	Prof. Pradeep T	Clusters: The interface of molecules and materials	Saiva Bhanu Kshatriya College, Aruppukottai, Tamil Nadu, India	7 May 2018
4.	Prof. Pradeep T	Nanostructures for clean water: From science to devices, an academy refresher course	Saiva Bhanu Kshatriya College, Aruppukottai, Tamil Nadu, India	8 May 2018
5.	Prof. Pradeep T	Molecular chemistry of monolayer protected noble metal clusters, Asian Symposium on Nanoscience and Nanotechnology	Plenary lecture, University of Tokyo, Japan	12 May 2018
6.	Prof. Pradeep T	Molecular chemistry of monolayer protected noble metal clusters	Research Institute for Electronic Science, Hokkaido University, Japan	15 May 2018
7.	Prof. Pradeep T	Nanostructures for clean water: From science to devices	Centre for Interdisciplinary Studies, Kolkata, India	11 June 2018
8.	Prof. Pradeep T	Clean water using advanced materials: Science, technology, incubation and industry	CSIR-IMMT, India	27 June 2018
9.	Prof. Pradeep T	Reactions between noble metal clusters	International Conference on Chemical Bonding, Lihue, Hawaii	13-17 July 2018
10.	Prof. Muraleedharan K M	From organic templates to drug leads and drug delivery systems, National Workshop on Computer-Aided Drug Design	Srinivasa Ramanujan Institute for Basic Sciences (SRIBS) and KSCSTE, Thellakom, Kottayam	21 July 2018
11.	Prof. Muraleedharan K M	Drugs, drug delivery systems and diagnostic probes— chemistry as a central discipline in healthcare research, National Seminar on Advanced Functional Materials for Energy Production and Medical Applications	The PG and Research Department of Chemistry, Christ College, Irinjalakuda, Thrissur	27 July 2018
12.	Prof. Pradeep T	Chair of a session - introductory remarks	Gordon Research Conference in Green Chemistry, Spain	28 July-3 August 2018
13.	Prof. Managala Sunder K	Material Chemistry (IC 3000, 2 credits)	IIT Bhilai	30 Aug -5 September 2018
14.	Prof. Pradeep T	Reactions between nanoparticles, ACS On Campus	NIT Calicut, India	7 August 2018
14.	Prof. Pradeep T	From materials to clean water: Growing companies from wet labs	IISER Tirupati, India	14 August 2018
16.	Prof. Pradeep T	Reactions between noble metal clusters	Chemical Frontiers Goa@10	19-22 August 2018
17.	Prof. Pradeep T	Reactions between nanoparticles, one-day symposium on Recent Advances in Nanoscience and Technology	Department of Atomic and Molecular Physics, MAHE, India	24 August 2018
18.	Prof. Pradeep T	Atomically precise nanoparticles of noble metals	Emerging frontiers, Tosoh Corporation R&D Centre, Japan	27 August 2018
19.	Prof. Managala Sunder K	UGC refresher course, computational chemistry lecture, special lecture, physical chemistry	University of Madras	4 September 2018
20.	Prof. Muraleedharan K M	Control of conformation and supramolecular organization in designer peptides and lipids for introducing new functional attributes	IIT Bhubaneswar	6-7 September 2018
21.	Prof. Pradeep T	Reactions between nanoparticles in inorganic and physical chemistry	Indian Institute of Science, Bengaluru	13 September 2018
22.	Prof. M. V. Sangaranarayanan	Electro-chemicals and super capacitors	PSG, Coimbatore	20 September 2018
23.	Dr. Ramesh Gardas	Utilizing ionic liquids as additives for enhancing the extraction, absorption and dissolution processes	13 th International Chemical and Biological Engineering Conference, Portugal	2-4 October 2018



Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
24.	Dr. Ramesh Gardas	Physicochemical properties of fluorinated anion based ionic liquids: comparison between protic and aprotic ionic liquids	EuCheMSIL 2018, Portugal	7-12 October 2018
25.	Prof. Pradeep T	Reactions between nanoparticles	International Conference on Recent Trends in Materials Science and Technology (ICMST-2018), IIST, Thiruvananthapuram	10-13 October 2018
26.	Prof. Pradeep T	Advanced materials for clean water	9 th MRS Trilateral Conference on Advances in Nanomaterials: Energy, Water and Healthcare (9 th MRSTC), CeNS, Bengaluru	22-24 October 2018
27.	Prof. Muraleedharan K M	Phage display of peptides and antibodies	Popular Science Lecture series organised by Tamil Nadu Science Forum (TNSF)	28 October 2018
28.	Dr. Ramesh Gardas	Invited talk: Green solvents for the technological applications	Yogi Vemana University, Kadapa	11 November 2018
29.	Prof. Muraleedharan K M	Design of organic scaffolds for bio-medical applications, National seminar on Recent Advances in Chemistry	Government Brennen College, Thalassery, Kerala	16 November 2018
30.	Prof. Pradeep T	Atomically precise nanoparticles of noble metals: Emerging frontiers, HNB Garhwal University	Srinagar, Garhwal, Uttarakhand, India	17 November 2018
31.	Prof. Sangaranarayanan M V	Talk: Partition functions for two-dimensional nearest neighbour Ising models and applications in chemistry	Paderborn, Germany	22-27 November 2018
32.	Prof. Pradeep T	Atomically precise materials, Emerging Frontiers in Chemical Sciences (EFCS) 2018	Farook College	23-24 November 2018
33.	Dr. Md. Mahiuddin Baidya	Talk: Transition metal catalyzed C-H bond functionalization via weak coordination	DRL, Hyderabad	26-27 November 2018
34.	Dr. Ramesh Gardas	Invited talk: Ionic liquids and deep eutectic solvents as green solvents	Vignan University (VFSTR), Guntur	27 November 2018
35.	Prof. Pradeep T	Reactions between nanoparticles	TWAS 14 th General Conference and 28 th General Meeting, Trieste, Italy	27-29 November 2018
36.	Prof. Pradeep T	Advanced materials for clean water	Dipartimento di Chimica, Politecnico di Milano, Milan, Italy	30 November 2018
37.	Dr. Md. Mahiuddin Baidya	Talk: Transition metal catalyzed C-H bond functionalization via weak coordination	IIT Guwahati, Guwahati	5-7 December 2018
38.	Prof. Pradeep T	Nanotechnologies for clean water	10 th Bengaluru India Nano, Bengaluru, India	5-7 December 2018
39.	Prof. Pradeep T	Water for Life – Through Materials	Industry-academia collaboration for social impact, Mumbai, India	10 December 2018
40.	Prof. Mangala Sunder K	Prof. Venkatasubramaniam Endowment Lecture	University of Madras, Chennai	12 December 2018
41.	Dr. Ramesh Gardas	Invited talk: Green Solvents for the Sustainable Development	NIT, Surathkal	13 December 2018
42.	Dr. Anbarasan P	Oral presentation: Transition metal catalyzed selective functionalization of metallocarbenes to N-heterocycles	Holiday Inn, Goa	13-16 December 2018
43.	Dr. Jeganmohan M	Oral presentation: Ruthenium(II)-catalyzed redox-neutral C-H bond functionalization of organic molecules	Holiday Inn, Goa	13-16 December 2018



Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
44.	Prof. Mishra A K	Oral presentation: Using inner filter effect to advantage	Taipei, Taiwan	14-21 December 2018
45.	Dr. Ramesh Gardas	Invited talk: Thermodynamic analysis of the interactions between superbase ionic liquids and CO ₂	NCL, Pune	15 December 2018
46.	Prof. Mangala Sunder K	UGC-sponsored fully development programme for teachers on pedagogy and techniques in online learning	Annamalai University	16 December 2018
47.	Dr. Ramesh Gardas	Invited talk: Chemistry in everyday life	JNTU, Hyderabad	17 December 2018
48.	Prof. Muraleedharan K M	Control of molecular and supramolecular structures towards new functional systems, a one-day seminar on Material Science	Malabar Christian College, Kozhikode, Kerala	18 December 2018
49.	Prof. Dhamodharan R	Oral presentation: Sustainable methods for separating chitin from seafood (crustacean shell) waste	IISER, Pune, India	18-24 December 2018
50.	Prof. Pradeep T	Atomically precise nanoparticles	International Conference on Chemistry and Physics of Materials, St. Thomas College, Thrissur, Kerala, India	19 December 2018
51.	Prof. Mangala Sunder K	SWAYAM Credit courses and Credit Transfer Process	Pondicherry University, South Indian Universities Vice Chancellors' Conclave Association of Indian Universities	22 December 2018
52.	Dr. Ramesh Gardas	Challenges, opportunities and recent advances in ionic liquids as green solvents for chemical and technological applications, Recent Advances in Materials and Chemical Sciences (RAMCS 2019)	Sri Venkateswara University, Tirupati	28 March 2019
53.	Prof. Prasad Edamana	Teaching workshop	TLC programme of Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMTTP)	7-8 March 2019

Visits abroad by faculty

Sl. No.	Faculty Member	Country Visited	Date	Purpose of Visit	Funding from
1.	Prof. Selvam P	London, UK	16-28 May 2018	Lightening presentation, Faraday Discussion Meeting	Others
2.	Prof. Selvam P	Harwell, UK	23 May 2018	Synchrotron Facility	Others
3.	Prof. Selvam P	Guildford, UK	25 May 2018	Invited for seminar at University of Surrey	Others
4.	Prof. Selvam P	Manchester, UK	25 June 2018	Distinguished Lecture Series	Others
5.	Prof. Selvam P	Liverpool, UK	26-29 June 2018	UK Synchrotron Radiation Conference (UKSR50)	Others
6.	Prof. Sundargopal Ghosh	Boston, USA	26-30 June 2018	BORAM XVI	CPDA
7.	Prof. Selvam P	Liverpool, U.K.	30 June 2018	Invited for Seminar at University of Liverpool	Others
8.	Prof. Selvam P	Brisbane, Australia	30 July 2018	Invited Seminar Series, Queensland University of Technology	Others
9.	Prof. Selvam P	Clayton, Australia	31 July 2018	Platinum Seminar Series	Others
10.	Prof. Selvam P	University of Surrey, UK	10-12 September 2018	Conference on Advanced (Nano and Energy) Materials – AEM2018	Others



Sl. No.	Faculty Member	Country Visited	Date	Purpose of Visit	Funding from
11.	Dr. Ramesh Gardas	University of Aveiro, Portugal	1-12 October 2018	DST-FCT, India-Portugal Bilateral Project Visit	Project
12.	Dr. Ramesh Gardas	Lisbon, Portugal	1-12 October 2018	EuCheMSIL 2018	Project
13.	Dr. Ramesh Gardas	Portugal	2-4 October 2018	13 th International Chemical and Biological Engineering Conference	Project
14.	Dr. Ramesh Gardas	Portugal	7-12 October 2018	EuCheMSIL 2018	Project
15.	Prof. Selvam P	Newcastle, Australia	30 October-2 December 2018	The 3 rd Conference on Emerging Advanced Nanomaterials	Project
16.	Dr. Venkatakrishnan P	Florence, Italy	15-21 November 2018	22 nd IUPAC International Conference on Organic Synthesis (22-ICOS)	Others
17.	Prof. Sangaranarayanan MV	Paderborn, Germany	22-27 November 2018	Talk: Partition functions for two-dimensional nearest neighbor using models and applications in chemistry	Others
18.	Prof. Mishra A K	Taipei, Taiwan	14-21 December 2018	Oral presentation: Using inner filter effect to advantage	Others

Honours and awards obtained by faculty

Sl. No.	Faculty Member	Award	Awarded by	Date of Award
1	Prof. M. V. Sangaranarayanan	Associate Editor, Bulletin of Materials Science	Indian Academy of Sciences, Bangalore	
1	Dr. Ramesh Gardas	Associate Fellow	Telangana Academy of Sciences	
2	Dr. Md. Mahiuddin Baidya	Institute Research and Development Award (IRDA) (early career level)	IIT Madras	
3	Prof. Pradeep T	World Academy of Sciences (TWAS) prize in Chemistry	TWAS	
4	Prof. Sangaranarayanan MV	Prof. C.N.R. Rao National Prize for Research in Chemical Sciences	23 rd CRSI National Symposium, IISER Bhopal	13-15 July 2018
5	Dr. Ramesh Gardas	Publons Peer Review Award 2018	Publons Global Reviewer Database	
6	Dr. Ramesh Gardas	Best Young Researcher Award 2018	REST Society for Research International Ramachandra Educational and Sports Trust, Kaveripattinam	
7	Prof. Mishra A K	Member, Program Advisory Committee (PAC), Inorganic and Physical Chemistry	Science and Engineering Research Board (SERB)	
8	Prof. Pradeep T	Member, PAC on Inorganic and Physical Chemistry	SERB	
9	Prof. Sankararaman S	Member, PAC on Organic Chemistry	SERB	
10	Prof. Sekar G	Member, NOST Council	National Organic Symposium Trust (NOST), India	
11	Prof. Dillip Kumar Chand	Mid-career level Institute Research and Development Award for 2018-19	Indian Institute of Technology Madras	
12	Dr. Ramesh Gardas	Associate Editor	Heliyon Chemistry (Elsevier journal)	
13	Prof. Pradeep T	Listed in the 2019 Edition of Asian Scientist 100	Asian Scientist magazine	

Fellowships of academies and professional societies

Sl. No.	Faculty Member	Year of Admission
Others		
1	Prof. Sekar G	Royal Society of Chemistry and The Academy of Sciences Chennai
2	Prof. Pradeep T	American Association for the Advancement of Science (AAAS) 2018
3	Prof. Pradeep T	TWAS with effect from January 2019
4	Dr. Ramesh Gardas	Associate Fellow of Telangana Academy of Sciences



Journal Editorial Boards

Sl. No.	Faculty Member	Position (Editor/Member)	Journal Name
1	Dr. Ramesh Gardas	Associate Editor	<i>Heliyon Chemistry</i> (Elsevier Journal)
2	Prof. Pradeep T	Listed in the 2019 Edition of Asian Scientist 100	<i>Asian Scientist Magazine</i>
3	Prof. Sekar G	Editorial Board, <i>Materials Today Sustainability</i>	Elsevier journal
4	Prof. Sangaranarayanan M V	Associate Editor, <i>Bulletin of Materials Science</i> (IASc)	<i>Indian Academy of Sciences Journal</i>
5	Prof. Archita Patnaik	Member, <i>Journal of Chemical Sciences</i>	<i>Indian Academy of Sciences Journal</i>
6	Prof. Archita Patnaik	Member, <i>Journal of Chemical Thermodynamics</i>	Elsevier Journal
7	Prof. Rajakumar B	Editorial Advisory Board	<i>International Journal of Chemical Kinetics</i>
8	Prof. Pradeep T	Editorial Advisory Board of Chemistry of Materials, <i>ACS Nano</i>	The American Chemical Society's journals
9	Dr. Ramesh Gardas	<i>Journal of Emerging Investigators</i>	The American Chemical Society Journal – <i>Journal of Chemical and Engineering Data</i>

Patents filed

Sl. No.	Faculty	Topic of the Patent
Indian Filed		
1	Prof. Selvam P	Synthesis, characterisation and catalytic properties of hierarchical (nanoporous) zeolites with MFI(ZSM-5), FAU (X,Y) and LTA (A) topologies
2	Prof. Selvam P	Selective catalytic process for one-pot synthesis of p-aminophenol
3	Prof. Manoharan P T	Metal/metal oxide nanocomposites/mixture as an antibacterial agent and the method of preparation thereof
4	Prof. Pradeep T	An enhanced CO ₂ sorbent material and a device thereof
5	Prof. Dhamodharan R	Green processes for the preparation of nanofibrillated cellulose (NFC) and nanocrystalline cellulose (NCC)
6	Prof. Selvam P	Mesoporous FePO ₄ as high-performance cathode material for Li-ion batteries
7	Prof. Selvam P	Nitrogen-containing/nitrogen-doped carbon and carbon nitrides as heterogeneous catalysts for borrowing hydrogen and dehydrogenation reaction
8	Prof. Dhamodharan R	Preparation of antimicrobial, non-absorbents for disposable sanitary napkins by ionotropic crosslinking of chitosan
9	Prof. Selvam P	Synthesis of ordered mesoporous ceria-zirconia solid solution
10	Prof. Selvam P	Method for synthesis of ordered mesoporous LiFePO ₄ /N-doped carbon (LIP/MNC-31) composite
11	Prof. Pradeep T	A method of using monolayer protected noble metal clusters as standards for negative ion mass spectrometry
12	Prof. Dhamodharan R	Acid-and solvent free-mild thermolytic method for the preparation of nanocrystals of chitin, cellulose and nanodots of carbon
13	Prof. Dhamodharan R	Green process for preparing nanofibrillated cellulose (NFC) and nanocrystalline cellulose (NCC) from cellulose pulp
14	Prof. Dhamodharan R	Carbon quantum dots: ultra-fast, mechanochemical, solvent-free, synthesis in the solid-state under ambient conditions with high yield
15	Prof. Selvam P	Surfactant-assisted hydrothermal synthesis, characterization and performance evaluation of nano-sized LiFePO ₄ /carbon composite as cathode material for Li-ion batteries
16	Prof. Pradeep T	Internalization of a preformed atomically precise silver cluster by proteins and emergence of luminescent counterparts retaining bioactivity
17	Dr. Kothandaraman Ramanujam	Solvent filled multiwalled carbon nanotubes for enhanced electrochemical sensing applications
18	Prof. Selvam P	CTAB-Templated synthesis of nanocrystalline ordered mesoporous titania (TMC-O16)
19	Prof. Pradeep T	A process for low temperature, low-pressure synthesis of gas hydrates
International Filed		
1	Prof. Muraleedharan K M	A method for the selective and sensitive of hydrogen sulfide (H ₂ S) using malachite green derivatives



Sl. No.	Faculty	Topic of the Patent
2	Prof. Pradeep T	Removal of lead from waste water using nanoscale MoS ₂
3	Prof. Selvam P	Synthesis, characterization and catalytic properties of hierarchical (nanoporous) zeolites with MFI(ZSM-5), FAU (X,Y) and LTA (A) topologies
4	Prof. Pradeep T	Disinfection of water under visible light using chemically drilled MoS ₂ nanosheets
5	Prof. Pradeep T	Method to make nanometer thin sheets of metals in air
6	Prof. Pradeep T	Organic-solvent-free fabrication of durable and multifunctional superhydrophobic paper from waterborne fluorinated cellulose nanofiber building blocks
7	Prof. Pradeep T	A method of identifying isomers of curcumin and preferential stabilisation of one of them
8	Prof. Pradeep T	A modified surface condensation
9	Prof. Pradeep T	Field-induced photoionization of molecules using low-power pointer, laser-assisted paper spray ionization mass spectrometry (LAPSI MS)
10	Prof. Pradeep T	An integrated CDI electrode
11	Prof. Pradeep T	A water-purifying bottle
Indian Grant		
1		Unusual dehalogenation on graphene nanocomposites: degradation of the pesticide, lindane to trichlorobenzenes and removal of the products from water
2		Method of extraction of silver by glucose
3		Facile synthesis of highly anisotropic gold nanoflowers: A new class of infrared absorbing nanomaterials with applications in labeling and printing
4	Prof. Pradeep T	A single component method and a device for pathogens and heavy metals free water
5		Application of nanoscale zinc oxide in peanut crop
6		Removal of pesticides from water using graphenic materials
7		Sunlight mediated synthesis and antibacterial properties of monolayer protected silver quantum clusters
8		Gel-based water purification: Adsorbent composition and water purification device
9	Prof. Muraleedharan	N-Methylpyrrolidinone hydroperoxide as an efficient epoxidation reagent
10	K M	A process for the preparation of the core structure in quinolone and naphthyridone class of antibiotics
International Grant		
1		Multilayer organic-templated-boehmite-nanoarchitecture for fluoride removal
2	Prof. Pradeep T	Visible detection of quantity of water flow using quantum clusters
3		Luminescent graphene patterns

4.5.5. Research and Consultancy

Sponsored research projects (ongoing and new)

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Coordinators
1	VAJRA Visiting Faculty - Dr. Pulickel M Ajayan	29 March 2018 - 28 March 2021	Department of Science and Technology (DST)	16.40	Pradeep T
2	Boron-controlled CO ₂ reduction	1 May 2018 - 30 April 2021	Indo-French Centre for the Promotion of Advanced Research	67.10	Sundargopal Ghosh
3	The thermal rearrangement of phenyl allyl ethers, propargyl ethers and benzyl ethers behind reflected shock waves	1 May 2018 - 30 April 2021	Council of Scientific and Industrial Research (CSIR)	6.00	Rajakumar B
4	Ruthenium catalyzed C-H bond functionalization of aromatics, heteroaromatics and alkenes via chelation-assisted deprotonation metalation pathway	24 May 2018 - 31 March 2019	DST	19.94	Masilamani Jeganmohan



Sl. No.	Title	Period		Funding Agency	Amount (Rs. in lakh)	Coordinators
5	Selective catalytic dehydroxylation of biomass derived glycerol into 1,3-propane diol	1 May 2018	30 April 2019	CSIR	4.52	Selvam P
6	Thermodynamic and spectroscopic evaluation of bimolecular interactions between cholinium-based amino acid ionic liquids and proteins - CSIR RA	11 May 2018	10 May 2019	CSIR	4.52	Ramesh Gardas
7	Synthesis of metallaboranes and borides containing rare earth elements and their applications	1 May 2018	30 April 2021	CSIR	18.00	Sundargopal Ghosh
8	Electron paramagnetic resonance imaging and NMR sensitivity enhancement	1 August 2016	31 July 2019	Indian National Science Academy	13.80	Subramanian S
9	Analysis of critical phenomena in discrete lattice models using graph theoretical approaches and Pade' approximants – Matrics	29 May 2018	28 May 2021	DST	6.60	Sangaranarayanan MV
10	Supramolecular chirogenesis in the novel electron deficient bisporphyrins and their applications in absolute configuration determination of chiral organic compounds	23 August 2018	22 August 2021	CSIR	7.50	Bhyrappa P
11	Development of a (hetero) arylations of secondary carbon atoms through decarboxylative C-H functionalisations and applications in the synthesis of the natural product meridianin	11 July 2018	31 July 2019	DST	11.39	Beeraiah Baire
12	Multi-compartmental coordination cages	18 August 2018	17 August 2021	DST	33.40	Dillipkumar Chand
13	Development of PEM fuel-cell stacks for utilization of hydrogen from renewable sources	27 August 2018	26 August 2021	DST	40.62	Selvam P
14	Earth abundant metal based bioinspired photocatalysts for solar fuel generation	10 September 2018	31 July 2019	DST	10.78	Dillipkumar Chand
15	New catalysts for sustainable polymers and copolymers	9 July 2018	8 July 2021	University Grants Commission	150.00	Debashis Chakraborty
16	Investigation of stable organic and organometallic radical ions and ions as electro-active species in organic redox flow batteries (RFBs) in non-aqueous media	6 September 2018	5 September 2021	DST	75.59	Sankararaman S
17	Oxo-metallic complexes anchored mesoporous silica: potential UV-visible light harvesting materials for photocatalytic reactions as well as for bio-inspired catalytic hydrogenation	22 October 2018	21 October 2021	DST	31.72	Selvam P
18	Metal-free ionic liquid mediated one-pot synthesis of 3-hydroxy-3H-spiro[Benzo[b]thiophene-2,1'-cyclopentan]-2'-one/medicinally important benzo[b]thiophene moiety using inexpensive starting materials	28 November 2018	27 November 2021	DST	31.76	Ramesh Gardas



Sl. No.	Title	Period		Funding Agency	Amount (Rs. in lakh)	Coordinators
19	Development of capacitive deionization technology for the extraction of germanium and selenium: two elements of strategic relevance	1 January 2019	31 December 2019	Ministry of Mines	29.61	Pradeep T
20	Rolling water purifier - Roll Pure	2 January 2019	1 January 2021	Biotechnology Industry Research Assistance Council	15.00	Pradeep T
21	Design and synthesis of CBr ₄ -analogues halogen bonding catalysts for functional group activation: an extension to asymmetric synthesis	12 December 2018	11 December 2021	DST	59.30	Govindasamy Sekar
22	Light-induced process of hierarchical electron cascade system, materials and devices for solar energy conversion	14 November 2018	13 November 2021	SERB	10.05	Kothandaraman Ramanujam
23	Total synthesis of benzo[c]phenanthridinone and benzo[c]phenanthridine alkaloids via a metal-catalyzed cyclization of aromatic ester or amides with azabenzonorbornadienes through C-H bond activation	15 November 2018	14 November 2021	SERB	10.05	Masilamani Jeganmohan
24	Experimental and computational investigations on the photo-oxidation of selective esters and fluorinated ethers initiate by OH radicals and Cl atoms and their impact on the Earth's atmosphere	9 March 2019	8 March 2022	SERB	55.33	Rajakumar B
25	Kinetic investigations of reactions of Criegee intermediates with C1-C3 carbonyl compounds and carboxylic acids in the Earth's atmosphere	9 March 2019	8 March 2022	Ministry of Earth Sciences	100.00	Rajakumar B
26	Understanding surface properties of atomically engineered cluster-assembled solids	15 March 2019	14 March 2021	Scheme for Promotion of Academic and Research	66.33	Pradeep T

Industrial consultancy projects (ongoing and new)

Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
1	Head of the Department	NMR/Mass Spectrum/FTR/CHN/SXRD/PXRD/TGA&DSC/TPDA/TPR/Sorptometer/UV-VIS, etc	Common Code	0.50
2	Selvam P	Development of cyclopentane from Iso-/n-Pentane	M/s. Datta Hydro Chem Private Limited	14.30
3	Pradeep T	Field implementation of arsenic technologies	Watsan Envirotech Private Limited	10.00
4	Pradeep T	DESI MS technique to image molecular distribution in tissues - L'Oreal	L'Oreal India Private Limited	5.66
5	Pradeep T	TEM/MALDI/RAMAN	Common Code	25.00
6	Pradeep T	TEM/MALDI/RAMAN	Common Code	25.00
7	Head of the Department	NMR/Mass Spectrum/FTIR/CHN/SXRD/PXRD/TGA and DSC/TRDA/TPR/Sorptometer, UV-VIS, etc	Common Code	0.45
8	Pradeep T	Heavy metals, arsenic and fluoride mitigation using nanostructured adsorbents	Hydromaterial Private Limited	23.60



Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
9	Pradeep T	Improve rubber to steel bonding in steel radial tyres through scientific understanding	M R F Limited	47.81
10	Head of the Department	NMR/Mass Spectrum/FTIR/CHN/SXRD/PXRD/ TGA and DSC/TRDA/TPR/Sorptometer, UV-VIS, etc	Common Code	14.95
11	Pradeep T	Celluclean—Measurements of water contaminants	Aalto University	8.53
12	Selvam P	HR TEM	Common Code	5.00
13	Ranga Rao G	Technical opinion on the preparation of ferric carboxy maltose	Suven Life Sciences Limited	5.90
14	Selvam P	HR TEM	Common Code	5.00
15	Kothandaraman Ramanujam	Development of oxygen sensor and gas purification system	Elixir Technologies	1.18
16	Archita Patnaik	Interfacial engineering and molecular modelling of polymer-silica nanocomposites	M R F Limited	33.46
17	Baskaran S	Solvents for stain removal in foam sheets	Common Code	0.60
18	Baskaran S	Synthetic route for APIs	Apex Laboratories Private Limited	4.07
19	Pradeep T	Affordable clean water in arsenic affected areas	Federation of Indian Chambers of Commerce and Industry (FICCI)	50.00
20	Mangala Sunder K	Text transcription of technical video lectures and creation of searchable video index, metadata and online quizzes	Common Code	315.00
21.	Mangala Sunder K	DTH Swayam Prabha	Chief Coordinator, Ministry of Human Resource Development	17,500 (for three years, continued from previous year)
	Mangala Sunder K	E-Learning modules and online services for institute of secretarial training and management	Department of Personnel Training, Home Ministry	10.44
22	Mangala Sunder K	Online digital learning from IIT Madras for professional/career development	Ministry of External Affairs, E-ITEC Courses group	30.00
23.	Prof. Mangala Sunder K (principal Co-ordinator)	Ministry of External Affairs E-ITEC programme on Data Analytics programme registration	March 2019	30.00
24	Pradeep T	Steel-rubber adhesion improvement - Phase 2	M R F Limited	57.60
25	Pradeep T	Steel-rubber adhesion improvement - Phase 2	M R F Limited	63.00
26	Chandrakumar N	NMR measurements	Common Code	02.00

RBIC projects (ongoing and new)

Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
1	Prof. Selvam P	Development of cyclopentane from Iso-/n-Pentane	M/s. Datta Hydro Chem Private Limited	14.30
2	Prof. Pradeep T	DESI MS technique to image molecular distribution in tissues - L'Oreal	L'Oreal India Private Limited	5.66
3	Prof. Pradeep T	Heavy metals, arsenic and fluoride mitigation using nanostructured adsorbents	Hydromaterial Private Limited	23.60
4	Prof. Pradeep T	Improve rubber to steel bonding in steel radial tyres through scientific understanding	M R F Limited	47.81



Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
5	Prof. Pradeep T	Celluclean - Measurements of water contaminants	Aalto University	8.53
7	Prof. Baskaran S	Synthetic route for APIs	Apex Laboratories Private Limited	4.07
8	Prof. Pradeep T	Steel-rubber adhesion improvement - Phase 2	M R F Limited	57.60

Retainer consultancy (ongoing and new)

Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
1	Prof. Ranga Rao G	Development of cyclopentane from Iso-/n-Pentane	Suven Life Sciences Limited	5.90
2	Dr. Kothandaraman Ramanujam	DESI MS technique to image molecular distribution in tissues - L'Oreal	Elixir Technologies	1.18
3	Prof. Pradeep T	Heavy metals, arsenic and fluoride mitigation using nanostructured adsorbents	MRF Limited	63.00

Faculty members' participation with other institution under MoU

Sl. No.	Faculty Member	Participation details	University/Institution
1	Prof. K. Mangala Sunder and Prof. Kushal Sen, IIT Delhi	Signatories: Amit Agarwal, CEO, NASSCOM SSC	NASSCOM IT-ITeS Sector Skill Council (14 December 2018)
2	Prof. Selvam P		University of Newcastle, Australia (7 August 2018)
3	Prof. K. Mangala Sunder	Signatory: Adobe Education Forum, Ireland	Adobe India

Distinguished visitors to the department

Sl. No.	Visitor and Designation	Date of Visit	Purpose of Visit
1	Prof. John Carver (as part of delegation from Australia), Director, ANU, Research School of Chemistry Leader - Protein Structure, Function and Interactions	12 April 2018	Guest Lecture
2	Prof. Kieran Kirk (as part of delegation from Australia), Dean, ANU College of Science	12 April 2018	Guest Lecture
3	Prof. Anna Cowan (as part of delegation from Australia), Deputy Dean, ANU College of Science	12 April 2018	Guest Lecture
4	Prof. Michael W. Anderson, Centre for Nanoporous Materials, School of Chemistry The University of Manchester, Manchester, United Kingdom	3 May 2018	Guest Lecture
5	Dr. K. R. Justin Thomas, Department of Chemistry, Indian Institute of Technology Roorkee	31 May 2018	Guest Lecture
6	Dr. Akkattu T. Biju, Department of Organic Chemistry, Indian Institute of Science Bangalore	1 June 2018	Guest Lecture
7	Prof. S. Ramakrishnan, Department of Inorganic and Physical Chemistry, Indian Institute of Science (IISc) Bangalore	6 June 2018	Guest Lecture
8	Prof. Samar K. Das, School of Chemistry, University of Hyderabad, Hyderabad	14 June 2018	Guest Lecture
9	Prof. Thomas Kurian, Department of Polymer Science and Rubber Technology, Cochin University of Science and Technology	27 June 2018	Guest Lecture
10	Dr. Nitin T. Patil, Department of Chemistry IISER Bhopal, Bhaury, Bhopal	6 July 2018	Guest Lecture
11	Prof. Robert Raja, School of Chemistry, University of Southampton	11 July 2018	Guest Lecture
12	Dr. Samanwita Pal, Department of Chemistry, IIT Jodhpur	17 July 2018	Guest Lecture
13	Prof. Tatsuo Kaneko, Energy and Environment Area, Japan Advanced Institute of Science and Technology	19 July 2018	Guest Lecture
14	Prof. Pulickel M. Ajayan, Department of Materials Science and Nano Engineering	23 July 2018	Guest Lecture
15	Dr. K. Nagarajan, Corporate R&D Advisor, M/S Hikal Limited, Mumbai	28 August 2018	Guest Lecture
16	Prof. Jayachandran, Department of Chemistry, The University of British Columbia, Canada	30 August 2018	Guest Lecture



Sl. No.	Visitor and Designation	Date of Visit	Purpose of Visit
17	Dr. Mousumi Poddar-Sarkar, Professor, Department of Botany (Centre of Advanced Study – UGC), University of Calcutta, Kolkata	10 September 2018	Guest Lecture
18	Dr. Debal Deb, Chair and Research Director, Basudha, Biotechnology Laboratory for Conversation, Centre for Interdisciplinary Studies, Kolkata	10 September 2018	Guest Lecture
19	Dr. Rodney A Fernandes, Department of Chemistry, IIT Bombay, Powai, Mumbai	14 September 2018	Guest Lecture
20	Prof. Virinder S Parmar, Bio-organic Laboratory, Department of Chemistry, University of Delhi	8 October 2018	Guest Lecture
21	Prof. Amit Choudhary, Assistant Professor of Medicine, Harvard Medical School, USA	22 October 2018	Guest Lecture
22	Prof. A. R. Ravishankara, FRSC, Departments of Chemistry and Atmospheric Science, Colorado State University, Fort Collins, CO, USA	19 November 2018	Guest Lecture
23	Prof. T. Punniyamurthy, Department of Chemistry, IIT Guwahati	26 November 2018	Guest Lecture
24	Dr. Akkattu T. Biju, Department of Organic Chemistry, Indian Institute of Science Bangalore	3 December 2018	Guest Lecture
25	Prof. John Ladbury, School of Molecular and Cellular Biology University of Leeds, UK	3 December 2018	Guest Lecture
26	Dr. Subrata Chakraborty, Department of Physics and Nanoscience Center, University of Jyväskylä, Finland	10 December 2018	Guest Lecture
27	Dr. Naoto Chatani, Department of Applied Chemistry, Faculty of Engineering, Osaka University, Suita, Osaka, Japan	11 December 2018	Guest Lecture
28	Prof. Graham Cooks, Department of Chemistry, Purdue University, USA	11 December 2018	Guest Lecture
29	Prof. Amit Goyal, Ph.D, MBA Member, National Academy of Engineering (NAE) Member, National Academy of Inventors (NAI)	December 2018	Guest Lecture
30	Prof. P. Thilagar, Department of Inorganic and Physical Chemistry, IISc Bangalore	December 2018	Guest Lecture
31	Prof. Dieter Suter, Technische Universität Dortmund, D-44227 Dortmund, Germany	December 2018	Guest Lecture
32	Prof. P. M. Ajayan, Distinguished Professor of Chemistry, Physics and Metallurgy and Materials Engineering, IIT Madras	December 2018	Guest Lecture
33	Prof. Carlos E. Hernandez Tamargo, Cardiff University, as invitation to International Youth Faculty Programme of IIT Madras	3 December 2018	Guest Lecture
34	Dr. Saravanan P, Senior Research Investigator, Novartis Institute for Biomedical Research, Boston, USA	4 March 2019	Guest Lecture
35	Prof. A K Shukla, Department of Chemistry, Indian Institute of Science, Bangalore	18 March 2019	Guest Lecture
36	Prof. M M Sharma, FRS Former Chairman BOG, IIT Madras, Former Director, ICT/UIICT/UDCT, Mumbai (Prof. B. Viswanathan Endowment Lecture)	19 March 2019	Endowment Lecture
37	Dr. Theresa Kuekmann, Editor-in-chief, Chemistry – An Asian Wiley Journal	21 March 2019	Guest Lecture

4.5.6. Other Activities of the Department/Centre

Faculty visit

Sl. No.	Faculty Member	Date of Visit	Purpose of Visit
1	Dr Stew Burney, VER-HCL-TECH	Eminent Visitor	14 March 2019

Student visit

Sl. No.	Students	Date and Venue
1	Bala Vidya Mandir School teachers and 45 students	9-16 November 2018
2	Five Japanese students	13 March 2019
3	Grand Valley State University, a USA student	13 March 2019
4	UTV College, Trivandrum, 13 PG students	14 March 2019



4.6. Department of Civil Engineering

4.6.1. Introduction

The Department of Civil Engineering has been in existence since the inception of IIT Madras in 1959. Since then, it is contributing to the nation's infrastructure development and human resource development. Its academic programmes in B. Tech, Dual Degree, M. Tech, M.S. and Ph.D are some of the best in the country, and perhaps, in the world. The faculty members have received advanced degrees and/or training from reputed Institutions in India, Germany, the UK, the USA, Japan, Singapore, Canada, Netherlands, the former USSR and other countries.

The prime activities of the department are teaching, research, consultancy and training. These activities are carried out under different disciplines, administratively organised into five divisions, namely Building Technology and Construction Management (BTCM), Environmental and Water Resources Engineering (EWRE), Geotechnical Engineering (GT), Structural Engineering (ST) and Transportation Engineering (TR). There are 14 well-equipped laboratories attached to

these divisions. The EWRE and ST laboratories have received substantial initial funding from the Federal Republic of Germany.

4.6.2. Academic Programmes

The department has postgraduate programmes leading to Dual Degree, M.Tech., M.S., and Ph.D degrees in various disciplines of civil engineering in addition to the undergraduate B.Tech. programme in civil engineering.

New courses introduced

Sl. No.	Course No.	Title
1.	CE3015	Highway Engineering
2.	CE 3025	Traffic Engineering
3.	CE 5012	Structural Fire Engineering
4.	CE 5971	Aerosol Science and Technology
5.	CE 6051	Machine Learning in Civil Engineering

New lab(s) established

- Structural Glass Research & Testing Facility
- National Centre for Safety of Heritage Structures
- Emulsion Lab
- Geosynthetic Lab
- Environmental Lab
- New Hydraulics Lab

Students on roll as of September 2018+M.S. and Ph.D admission in January 2019

Programme	Year I	Year II	Year III	Year IV	Year V and others	Total
B.Tech.	57	56	64	57	14	248
Dual Degree	32	32	34	37	49	184
M.Tech.	103	100	More than 20	-	-	223
M.S.	16	14	3	3	4	40
Ph.D.	40	42	45	67	107	301
Total	248	244	166	164	174	996



Student/Scholar who attended conferences/workshops/seminars/symposia in India

Sl. No.	Name	Roll No	Title of the Paper	Conference	Place and Date
Workshops					
1	S M Karthiga	CE15D300	Remote sensing of solid moisture and its geophysical application		IIT Delhi, 12-16 March 2018
2	N Nithila Devi	CE16D037			
3	Jeba Princy R	CE13D038			
4	N Nithila Devi	CE16D037		Weather Radar and Hydrology Workshop: GIAN	IIT Madras, 3-15 March 2018
Conferences					
1	Jikil Joseph	CE14D013	Moment rotation behaviour of cold formed steel box	International Conference on Advances in Materials and Structures – ACMS 2018	IIT Roorkee, 6-11 March 2018
2	Sevagan Rajkumar	CE14D028	Numerical study on effect warping in cold formed steel beam columns		
3	M Prabha	CE13D046	Effect of compressive strength of concrete on the transmission length of PTC system	ACI Convention and Exposition 2018	24-29 March 2018
4	Sudeeptha G	CE15D049	Metronidazole and acetaminophen removal in batch bioreactors: effect of MLSS, C/N ratio, metronidazole and acetaminophen	International Conference of Waste Management (RECYCLE 2018)	IIT Guwahati, 22-24 February 2018
5	Tripathy B K	CE15D045	Landfill leachate treatment using sonochemical-persulfate/hydrogen peroxide oxidation	RECYCLE 2018	IIT Guwahati, 22-24 February 2018
6	Rajakumaran Revathy	CE15D024	GO-ZnO modified polyamide reverse osmosis membrane with improved desalination performance	6 th Regional Membrane Technology Conference	Gujarat, 10-13 December 2018
			Surface modified nano-filtration membrane with titanium nanotubes for rejection and adsorption of pharmaceutical compounds	6 th Regional Membrane Technology Conference	Gujarat, 10-13 December 2018
			Fabrication of grapheneoxide-zinc oxide nanocomposite reverse osmosis membrane for water desalination	Indo-German Bilateral Workshop on Membranes for Water and Energy (IGWMWE-2019)	CSIR-CSMCRI, Bhavnagar, Gujarat, 18-20 February 2019
7	Sumit Kumar	17PCE009	Fabrication of graphene oxide-zinc oxide nanocomposite reverse osmosis membrane for water desalination	IGWMWE2019	CSIR-CSMCRI, Bhavnagar, Gujarat, 18-20 February 2019
8	Madhusudhan BR	CE14D201	1) Effect of specimen size on the dynamic properties of river sand and rubber tire shreds from cyclic triaxial and cyclic simple shear tests	1) Indian Geotechnical Conference 2018	1) Indian Institute of Science Bangalore, 14 December 2018
			2) Pore pressure responses of rubber tire shred – sand mixtures from dynamic simple shear tests	2) 16 th Symposium on Earthquake Engineering	2) Indian Institute of Technology Roorkee, 21 December 2018
9	JS Dhanya	CE13D027	An innovative geomaterial for seismic isolation of low-rise buildings	16 th Symposium on Earthquake Engineering	Indian Institute of Technology Roorkee, 21 December 2018
10	Vijaya R	CE14D063	Seismic wave amplification studies considering 3D basin effect by spectral element method	16 th Symposium on Earthquake Engineering	Indian Institute of Technology Roorkee, 21 December 2018



Sl. No.	Name	Roll No	Title of the Paper	Conference	Place and Date
11	Pavithraa Saravanane and Anurupa Das	CE16D700 CE18D404	Advances in imaging and modeling of plants	AFITA/WCCA 2018 Conference on Research Frontiers in Precision Agriculture	IIT Bombay

Student/Scholar who attended conferences/workshops/seminars/symposia abroad

Sl. No.	Name	Roll No	Title of the Paper	Conference	Place and Date
1	Anul Rachel	CE14D004	Application of mixed organic waste for effective septage treatment through in-vessel co-composting	33 rd International Conference on Solid Waste Technology and Management	USA, 11-14 March 2018
2	Sevugan Rajkannu	CE14D208	Investigation on design implementation of CFS beam- column member using DSM	Eighth International Conference on Thin Walled Structure	IST University, Portugal, 24-27 July 2018
3	Dhandapany D	CE14D009	Seismic behaviour of timber laced masonry structures in the Himalayan Belt	11 th International Conference on Structural Analysis of Historical Constructions – SAHC 2018	Cuzco, Perú, 11-13 May 2018
5	Shibu Samson J	CE16S018	Structural behaviour of gopurams in South Indian temples	SAHC 2018	Cuzco, Perú, 11-13 May 2018
6	Pratyusha Mohan Naik	CE14D053	Structural behaviour of dry stack stone corbelled vaults under lateral support movement	SAHC 2018	Cuzco, Perú, 11-13 May 2018
7	B Sridharan	CE14D023	A river-bay coupled model for simulating flood inundation	Asia Oceania Geoscience Society (AOGS)	Honolulu, Hawaii, 3-8 June 2018
8	N. Nithila Devi	CE16D037	Impact of desilting of tanks of fluvial flooding characteristics	AOGS 15 th Annual Meeting	Honolulu, Hawaii, 3-8 June 2018
9	Sivaguru	CE14D060	Numerical study on effect of steel fibres on the shear strength of RC squat shear walls with opening		
10	Kondalraj	CE14D200	Assessment of existing shear strength models for reinforced concrete deep beams	12 th FIB International PhD Symposium in Civil Engineering	Prague, Czech Republic, 28-31 August 2018
11	Najeeb Shariff	CE14D057	Creep and shrinkage effects on reinforced concrete walls: experimental study		
12	Krithika D	CE14D044	Experimental study on performance and quality aspects of solar waste water distillation for reuse	Desalination for the Environment: Clean Water and Energy	Divani Caravel, Greece, 3-6 September 2018
13	Rahul A V	C16D013	Mixture design of 3d printable concrete with different binders	International Conference on Concrete and Digital Fabrication	Switzerland, 9-12 September 2018
14	Gedela Ramesh	CE16S007	Numerical modelling of geocell reinforced foundation beds		
15	Jayapal	CE15D027	Analysis of the performance of encased granular columns based on laboratory and field test data	11 th International Conference on Geosynthetics	South Korea, 16-21 September 2018
16	B Reshma	CE13D049	Centrifuge model studies on geogrid-reinforced embankments		
17	Jikil Joseph	CE14D013	Non-linear analysis of cold formed steel frames with screwed moment connections	Australasian Structural Engineering Conference 2018	Australia, 25-28 September 2018



Sl. No.	Name	Roll No	Title of the Paper	Conference	Place and Date
18	Deepak Kumar Kamade	CE15D074	Effect of degree of corrosion on bond performance of cement polymer composite coated steel rebars	International Conference on Concrete Repair Rehabilitation and Retrofitting	South Africa, 11-22 November 2018
19	Kaviyarasan	CE13D043	Modelling approaches for numerical analysis of steel concrete composite bridge	7 th Asia Conference on Earthquake Engineering	Thailand, 22-25 November 2018
20	P. Sriram Karthick Raja	CE14D210	Effect of sulfate contamination on compaction and strength behavior of lime-treated expansive soil	GeoMEast	Egypt, 24-28 November 2018
21	B.K. Tripathy	CE15D045	Melanoidin removal in microwave-persulfate oxidation system	CESE 2018	Thailand, 4-8 November 2018
22	Rajakumaran, Revathy	CE15D024	Surface modification of RO desalination membrane using ZnO nanoparticles of different morphologies to mitigate fouling	2 nd Water Energy Nexus Conference	Italy, 14-17 November 2018
23	Ramon Varghese	CE14D055	Kinematic response characteristics of a piled raft foundation	DFI 2018: 43 rd Annual Conference on Deep Foundations	Anaheim, California, 24-27 October 2018
24	J S Dhanya	CE13D027	Influence of SSI on the seismic response of a framed structure with geo isolation Layer	16 th European Conference on Earthquake Engineering	Thessaloniki, Greece, 18-21 June 2018
25	Madhusudhan BR	CE14D201	Properties of sand-rubber tyre shreds mixtures for seismic isolation applications	5 th Geotechnical Earthquake Engineering and Soil Dynamics Conference	Austin, Texas, 10-13 June 2018
26	Madhusudhan BR	CE14D201	Response of dry sand-rubber tire shred mixture to cyclic simple shear loading	16 th European Conference on Earthquake Engineering	Thessaloniki, Greece, 18-21 June 2018
27	Priya Beena Sudevan	CE15D063	Uplift analysis of an underground structure in a liquefiable soil subjected to dynamic loading	5 th Geotechnical Earthquake Engineering and Soil Dynamics conference	Austin, Texas, 10-13 June 2018
Short-term Course					
1	Ramon Varghese	CE14D055	Practical Seismic Surface Wave Methods: Basics to Cutting Edge	Society of Exploration Geophysicists (SEG) International Exposition and 88 th Annual Meeting	Anaheim, California, 13-14 October 2018

Students/scholars who won outside prizes and awards/Institute/Convocation Prizes

Third and fourth semesters of the B.Tech/Dual degree programme

Institute Day Prizes

Damera Abhishek CE15B021 Computer Age Management Services Private Limited Prize

Fifth and sixth semesters of B.Tech/Dual Degree programme

Yogesh CE14B061 M S K Chaitanya Varma Memorial Prize

Seventh and eighth semesters of Dual Degree Programme

Keshav Bharadwaj Ravi CE13B065 Sri Raghu Ramamoorthy Prize

Sumon Das CE13B051 Sri Venkataraman Ravi Prize

First and second semesters of the M.Tech programme

1. Debidutta Mishra – CTM CE16M121 S. Sambasivan Award Stream

2. Anil Kumar PM CE16M018 Smt. Jayalakshmi Narasimhan Memorial Prize

3. Gunturu Maniprakash Reddy–HWRE CE16M032 Prof. Gerhard Reouve Memorial Prize



Alumni Day Prizes				
1	Shree Ram	CE14B038	Best Student for Best Entrepreneurship to promote entrepreneurial activities	C&S Electric Limited Award
2	Gobinath P	CE14B018		
3	Shanmugavel R	CE16M029	Best Experimental M.Tech Project in the Structural Engineering Division in Civil Engineering	Prof. Juergen Plaehn Prize
4	Arjun Kumar	CE16M017		
5	Srinivas A	CE16M022	Best Academic Record in the Geotechnical Engineering Stream in Civil Engineering	Rajnikant Gandhi Memorial Award
6	Adraja D	CE15S001	Best MS Thesis in Structural Engineering	Sri K Sreeharsha Memorial Prize
7	Rajesh Nagar	CE15S005		
Convocation Day Prizes				
1.	Aravind R	CE14B006	L&T ECC Endowment Prize	
2	Sumon Das	CE13B051	Dr. N. R. Dave Prize	
2	Keshav Bharadwaj Ravi	CE13B065	Kalpathi AGS Prize and Dr. V Mohan Raman Prize	
3.	Vignesh Kunjithapadam N	CE17G005	Smt. Jayalakshmi and Sri R Narasimhan Prize	
4	Anil Kumar PM	CE16M018	Valli Anantharamakrishnan Merit Prize	
5	Debidutta Mishra	CE16M121	L&T Endowment Prize	
6	Jyoti S Menon	CE13D041	Shree Gaayathree Devi Award	
7	Divya Priya G	CE13D029	Bhagyalakshmi and Krishna Iyengar Award	

4.6.3. Faculty and Their Activities

Faculty

Name and Qualifications	Major Areas of Specialisation
Professors	
Dr. P. Alagusundaramoorthy, Ph.D (IIT Madras)	Composite technology
Dr. K.Ananthanarayanan, Ph.D (IIT Madras)	Building technology and construction management
Dr. A.Boominathan, Ph.D (Moscow)	Geotechnical engineering
Dr. Devdas Menon, Ph.D (IIT Madras)	Structural engineering
Dr. S.R.Gandhi, Ph.D (IIT Madras)	Geotechnical engineering
Dr. Koshy Varghese, Ph.D (Texas, Austin)	Building technology and construction management
Dr. Ligy Philip (Ms.) Ph.D (IIT Kanpur)	Environmental engineering
Dr. Manu Santhanam Ph.D (Purdue University)	Building technology and construction management
Dr. A.Meher Prasad, Ph.D (RICE)	Structural engineering
Dr. S.Mohan, Ph.D (IISc., Bangalore)	Water resources engineering
Dr. B.S.Murty, Ph.D (Washington State University)	Water resources engineering
Dr. B. Nageswara Rao, Ph.D (Iowa University)	Structural engineering
Dr. C V R Murty, Ph.D (California Institute of Technology)	Structural engineering
Dr. J. Murali Krishnan, Ph.D (IIT Madras)	Transportation engineering
Dr. K.Rajagopal, Ph.D., University of Florida, USA	Geotechnical engineering
Dr. K.Ramamurthy, Ph.D (IIT Madras)	Building technology and construction management
Dr.Ravindra Gettu, Ph.D (Northwestern)	Building technology and construction management
Dr.R.G.Robinson Ph.D (IISc., Bangalore)	Geotechnical engineering
Dr. S.R. Satish Kumar, D.Engineering (Nagoya University)	Structural engineering
Dr. K.N. Satyanarayana, Ph.D (Clemson)	Building technology and construction management
Dr. R. Sivanandan, Ph.D (Virginia Tech)	Transportation engineering
Dr.K. Srinivasan, Ph.D (IIT Madras)	Water resources engineering
Dr.K.P. Sudheer, Ph.D (IIT Delhi)	Water resources engineering
Dr. A. Veeraragavan, Ph.D (Bangalore University)	Transportation engineering
Dr. Amlan Kumar Sengupta, Ph.D (University of Missouri)	Structural engineering
Dr. G.Appa Rao, Ph.D (IISc. Bangalore)	Structural engineering



Name and Qualifications	Major Areas of Specialisation
Dr. G.R. Dodagoudar Ph.D (IIT Bombay)	Geotechnical engineering
Dr. Karthik K Srinivasan Ph.D (Texas, Austin)	Transportation engineering
Dr. Arul Jayachandran, Ph.D (IIT Madras)	Structural engineering
Dr. Indumathi M. Nambi, Ph.D (Clarkson University)	Environmental engineering
Dr. Benny Raphael, Ph.D (University of Strathclyde, UK)	Building technology and construction management
Dr. Lelitha Devi, Ph.D (Texas A&M University)	Transportation engineering
Dr. S T G Raghukanth, Ph.D (IISc Bangalore)	Structural engineering
Dr. U. Saravanan, Ph.D (Texas A&M University)	Structural engineering
Dr. S.M. Shiva Nagendra, Ph.D (IIT Delhi)	Environmental engineering
Associate Professors	
Dr. Balaji Narasimhan, Ph.D (Texas A&M University)	Water resources engineering
Dr. Ashwin Mahalingam, Ph. D. (Stanford University)	Building technology and construction management
Dr. T. Thyagaraj, Ph.D (IISc Bangalore)	Geotechnical engineering
Dr. Dali Naidu Arnepalli, Ph.D (IIT Bombay)	Geotechnical engineering
Dr. Sachin S Gunthe, Ph.D (IITM Pune)	Atmospheric chemistry and physics
Dr. Subhadeep Banerjee, Ph.D (NUS, Singapore)	Geotechnical engineering
Dr. Vidya Bhushan Maji, Ph.D (IISc Bangalore)	Geotechnical engineering
Dr. Mathava Kumar, Ph.D (IIT Madras)	Environmental engineering
Dr. Gitakrishnan Ramadurai, Ph.D (Rensselaer Polytechnic Institute)	Transportation engineering
Dr. Arun Menon, Ph.D (University of Pavia, Italy)	Structural engineering
Dr. Radhakrishna G. Pillai, Ph.D (Texas A&M University)	Building technology and construction management
Dr. Rupen Goswami, Ph.D (IIT Kanpur)	Structural engineering
Assistant Professors	
Dr. Sivakumar Palaniappan, Ph.D (Arizona State University)	Building technology and construction management
Dr. Venu Chandra, Ph.D (IIT Kanpur)	Hydraulics and water resources engineering
Dr. Soumendra Nath Kuiry, Ph.D (IIT Kharagpur)	Hydraulics and water resources engineering
Dr. Atul Narayanan, Ph.D (Texas A&M University)	Transportation engineering
Dr. Bhargava Rama Chilukuri, Ph.D (Georgia Institute of Technology)	Transportation engineering
Dr. Lakshmi Priya, Ph.D (Georgia Institute of Technology)	Structural engineering
Dr. P. Alagappan	Structural engineering
Dr. Tarun Naskar, Ph.D (IISc Bangalore)	Geotechnical engineering
Dr. Piyush Chaunsali, Ph.D (University of Illinois at Urbana-Champaign)	Building technology and construction management
Dr. Phanaisri Pradeep Pratapa, Ph.D (Georgia Institute of Technology)	Structural engineering
Dr. Venkatraman Srinivasan, Ph.D (University of Illinois at Urbana-Champaign)	Hydraulics and water resources engineering
Professor of Practice	
Prof. N. Raghavan, Ph.D	Building technology and construction management
Prof. Anupam Vibhuti	Building technology and construction management
Adjunct Faculty	
Dr. Naji Al Mutairi	Building technology and construction management
Visiting Faculty	
Dr. Hadas Mamane	Environmental engineering



Short-term courses/workshops/seminars/symposia/conferences/trainings organised by the faculty members

Sl. No.	Coordinator(s)	Title	Institution	Period
Workshops				
1.	Dr. SM Shiva Nagendra	Air Pollution Monitoring Instruments	Central Pollution Control Board, New Delhi	22 March 2018
		Air Quality Modeling	Civil Engineering, IIT Madras	4 February 2018
		Entrepreneurial Lean Start Up	Civil Engineering, IIT Madras	17-19 March 2018
		Receptor Modelling Methods for Source Apportionment	Civil Engineering, IIT Madras	3 December 2018
2.	Dr. Benny Raphael	Workshop on Construction Automation and Robotics	Civil Engineering, IIT Madras	11-16 May 2018
3.	Dr. Sachin S Gunthe	Winter School on Atmospheric Aerosol Physics, Measurements, and Sampling Techniques	National Institute of Oceanography, Goa	5-9 February 2018
Short-term courses				
1.	Dr. J Murali Krishnan	AICTE-STTP on Rheology of Bituminous Binders	Civil Engineering, IIT Madras	26-31 March 2018
2.	Dr. Balaji Narasimhan	GIAN course: Weather Radar and Hydrology	Civil Engineering, IIT Madras	5 March 2018
3.		GIAN course: Spatial Modelling and Analysis of Environmental Systems Using Open Source Tools	Civil Engineering, IIT Madras	11-23 June 2018
4.		Dr. S Mathava Kumar	Membrane Technologies for Water and Waste Water Treatment (MTWWT 2018)	Civil Engineering, IIT Madras
5.		GIAN courses	Civil Engineering, IIT Madras	14-20 November 2018
6.	Dr. SM Shiva Nagendra	Human Comfort and Indoor Air Quality	Civil Engineering, IIT Madras	20-25 November 2018
7.	Dr. Bhargava Rama Chilkuri	Fundamentals and Principles of Adaptive Traffic Control	Civil Engineering, IIT Madras	3-7 December 2018
8.	Dr. Lelitha Devi			

Short-term courses/workshops/seminars/symposia/conferences/trainings attended by the faculty members in academic institutions and public sector undertakings

Sl. No.	Coordinator(s)	Title	Institution	Period
Meetings				
1.	Dr. Sachin S Gunthe	Aerosol field measurement campaign	New Delhi	3 March 2018
2.		Discussion and meeting - collaboration related to Global Climate Modeling	IIT Dehradun with Graphic Era University	16 March 2018
3.		Project proposal meeting	IARI New Delhi	13 February 2018
4.	Dr. Balaji Narasimhan	Project proposal meeting	SICE, Mysore	2 March 2018
5.	Dr. Shiva Nagendra SM	Official meeting	IIT Bombay	20 March 2018
6.		2 nd Stage GCRF CALCC Hub project proposal meeting	IIT Delhi	21 March 2018
7.	Dr. B.S. Murty	Project proposal meeting	Aizawl, Mizoram	8 March 2018
8.	Dr. Venu Chandra	PhD oral examination	VIT Vellore	15 March 2018
9.	Dr. Indumathi	Technical Committee - irrigation project	Chief Minister Conference Hall, Kerala	16 April 2018



Sl. No.	Coordinator(s)	Title	Institution	Period
11.		Faculty Selection Committee	NIT Surathkal	15-17 April 2018
12.	Dr.A Veeraraghavan	Selection Committee meeting for the post of Director	National Transportation Planning Research Centre, Trivandrum	22 May 2018
13.		Meeting for shortlisting professors for HAG Scale	NIT Calicut	14 May 2018
14.	Dr.SM Shiva Nagendra	Project work	IIT Mumbai	23-27 May 2018
15.	Dr.Venu Chandra	Faculty interview	IIT Tirupati	31 May 2018
16.	Dr. Balaji Narasimhan	Development of a National Modeling Framework for Hydrologic Modeling	Bengaluru	4-6 June 2018
17.	Dr. Rupen	3 rd Meeting of B-4 Committee	Indian Roads Congress	29 June 2018
18.	Goswami	Meeting of AERB Task Force TF/SS/CSE	Atomic Energy Regulatory Board (AERB)	2-27 July 2018
19.	Dr. Shiva Nagendra	ISHRAE Project - IEQ Standard Implementation Methodology - Review Committee Meeting	Kolkata	11 August 2018
20.		Project meeting	JNPT, Mumbai	3 September 2018
21.	Dr.G Appa Rao	To conduct Ph.D viva voce	Anna University, Dindigul	7 September 2018
22.	Dr. A Veeraraghavan	Research Council of SIT	Tumkur	29 October 2018
23.	Dr. B S Murthy	Technical Advisory Committee Meeting of Central Water and Power Research Station (CWPRS)	Pune	12 November 2018
24.		PAC meeting of DST	JNTU, Delhi	13 November 2018
25.		Ongoing project of Ministry of Earth Sciences	Pune	6 December 2018
26.	Dr. Sachin S Gunthe	Comprehensive exam	SRM University	12 December 2018
27.		Brainstorming session	NARL, Gadanki	18 December 2018
28.		Organising Committee Meeting of International Workshop on Chemistry Climate Interaction	IITM Pune	23 January 2019
29.	Dr. A Veeraraghavan	Performance evaluation of STAs	National Rural Infrastructure Development Agency, Delhi	12 January 2019
30.	Dr. R G Robinson	Syllabus Committee meeting	Palakkad	9 January 2019
31.		Research project discussion	Fluidyn, Bengaluru and SJCE Mysore	12 January 2019
32.	Dr. Shiva Nagendra SM	NERC-MoES sponsored project, Cleaner Air for Delhi through Intervention Mitigation and Engagement (CADTIME)	New Delhi	27 February-1 March 2019
33.	Dr. Sachin S Gunthe	Review meeting of ongoing MoES-NERC project	New Delhi	13-14 March 2019
34.	Dr. Piyush Chaunsali	Three-day Summer School on Low-Clinker, High-Performance Cement Composites	IIT Bhubaneswar	13-15 June 2018
Conferences				
1.	Dr. Piyush Chaunsali	Indian Concrete Institute (ICI)-Innovative World of Concrete (IWC)	Indian Concrete Institute, Bengaluru	19-22 September 2018
2.	Dr. Amlan K Sengupta		NIE Institute of Technology, Mysore	20-21 September 2018
3.	Dr.Shiva Nagendra SM	International Conference on Innovation in Engineering Technology and Sciences (ICIETS 2018)		
4.	Dr. Venkatraman Srinivasan	1. Advances in Imaging and Modeling of Plants 2. Food Security Under Climate Change: Advances in Process Based Crop Optimization	AFITA/WCCA 2018 Research Frontiers in Precision Agriculture, IIT Bombay	24-26 October 2018



Sl. No.	Coordinator(s)	Title	Institution	Period
5.	Dr. A. Veeraraghavan	7 th Annual Session of the Indian Roads Congress	Nagpur	23-25 November 2019
6.	Dr. Koshy Varghese	1 st International Conference on Smart Village and Rural Development	IIT Guwahati	11-14 December 2018
7.	Dr. Piyush Chaunsali			
8.	Dr. Manu Santhanam	3 rd RN Raikar Memorial International Conference	Mumbai	13-16 December 2018
9.	Dr. Amlan K Sengupta			
10.	Dr. Manu Santhanam	ACI India Chapter	Mumbai	14-15 December 2018
11.	Dr. BS Murty	Annual Conference of Indian Society for Hydraulic	NIT Patna	8 January 2019
12.	Dr. A Veeraraghavan	International Conference Transportation Infrastructure Projects: Conception to Execution	Roorkee	8 October 2019
13.	Dr. Balaji Narasimhan	Radar Meteorology Conference	Pune	10-12 January 2019
14.	Dr. Bhargava Rama Chilikuri	COMSNETS 2019	Chennai	11 January 2019
15.	Dr. Soumendra Nath Kuiry	International Dam Safety Conference	Central Water Commission	13-14 March 2019

Symposiums

1.	Dr. G. Rakrishnan Pillai	NACE International Gateway India Section (NIGIS) and IIT Madras are jointly organising the 5 th International Corrosion Prevention of CORYSM 2018	IC&SR, IIT Madras	23-24 March 2018
2.	Dr. S. M. Shivanagendra	World Environment Day celebration and inaugural function	IIT Madras Mobile Air Research Laboratory at JNPT	5 June 2018
3.	Dr. Ravindra Gettu	International Symposium on Recent Advances in Concrete Construction and Preservation	Rain Tree Hotel, Chennai	18 December 2018
4.	Dr. Piyush Chaunsali			
5.	Dr. Amlan K Sengupta	166 th Symposium on Earthquake Engineering: A Generalised Truss Analogy for the Analysis of Shear Behavior of Short Column	Roorkee	18-12 December 2018

Workshops

1.	Dr. S. M. Shiva Nagendra	Building Healthy and Prosperous Cities – Sharing Global Experience on Improving Air Quality	BBMP and KSPCB	31 July 2018
		Efficiency Enhancement in Operation and Manufacturing Process of Automobiles and Allied Industries	Fraunhofer, Bengaluru	1 August 2018
2.	Dr. Piyush Chaunsali	National Workshop on Eco-Friendly Construction Using Concrete	Mar Baselios Christian College of Engineering and Technology	13-14 September 2018
3.	Dr. Venkatraman Srinivasan	Advances in Simulation Modeling and Climate Change Research towards Knowledge-Based Agriculture	IARI, Delhi	13 November-3 December 2018
4.	Dr. Indumathi N Nambi and Dr. Balaji Narasimhan	Experience-Sharing Workshop: Restoring Water Bodies	IC&SR, IIT Madras	27 March 2019
5.	Dr. R. Sivanandan	Smart Mobility: Indian Needs Meet International Aspirations, organised by IIT Madras and C-DAC(T)	IC&SR Hall II, IIT Madras	20 April 2018



Sl. No.	Coordinator(s)	Title	Institution	Period
Short-term Courses				
1.	Dr. Amlan K Sengupta	Bridge Design and Construction	IIT Madras, Chennai	12 October 2018
2.	Dr. Soumendra Nath Kuiry	Hydrologic Hydraulic Modeling of Flash Flood	Civil Engineering Department, IIT Madras	18-22 March 2019
Trainings				
1.		Valedictory address at the five-day training programme on Road Safety Engineering Measures	Anna University, Chennai	18 May 2018
2.	Dr. A Veerarahavan	Training programme on Road Safety Audit	Road Safety in India – Issues and Challenges: A Proactive Approach of Road Safety Audit, Surat	22 October 2018
3.	Dr. Sivakumar Palaniappan	ISO 9001 Quality Management ISO 45001 Safety Management	Civil Engineering Department, IIT Madras	3 November 2018
4.	Dr. Piyush Chaunsali	Advanced Concrete Technology, Kerala Highway Research Institute	Karyavattom, Trivandrum	7-9 November 2018

Special lectures delivered by the faculty in other institutions

Sl. No.	Faculty	Topic of Lecture	Institution	Date
1.	Dr. Benny Raphael	Energy conservation through day lighting	L&T Technology Conclave	18 April 2018
2.	Dr. Soumendra Nath Kuiry	The flooding scenarios of Chennai due to urban sprawl and extreme rainfall	NIOT, Chennai	30 May 2018
3.	Dr. Amlan K Sengupta	Precast concrete structures	St Joseph College of Engineering	4 June 2018
4.	Dr. Benny Raphael	Energy conservation through day lighting	Sree Ramakrishna Institute of Technology	25 June 2018
5.	Dr. Venu Chandra	Sediment issues and control measures	VIT, Vellore	13 July 2018
6.	Dr. Rupen Goswami	2016 Revision of IS 1893 (Part I)	IIIT Hyderabad	7 July 2018
7.		Air quality management in cities a way forward	AIR-O-Thon Bangalore Edition	31 August 2018
8.	Dr. Shiva Nagendra	Real-time environment management system for industries	3 rd Edition Conference on Aerospace and Defence Manufacturing Technologies	17 August 2018
9.		Urban air quality management challenges and engineering solutions	PALS L2P, IIT Madras	22 September 2018
10.	Dr. Amlan K Sengupta	Seismic retrofit of buildings	SSN College of Engineering	27 September 2018
11.	Dr. BS Murty	Indo-German Centre for Sustainability	IIT Kharagpur	29 November 2018
12.	Dr. Balaji Narasimhan	Disaster risk mitigation and management for the built environment	MEASI Academy of Architecture	9 January 2019
13.	Dr. Venu Chandra	AICTE-sponsored short-term course	Kollam	11 January 2019
14.	Dr. Bhargava Rama Chilkuri	Study of mixed traffic challenges and opportunities	COMSNETS 2019 Conference	11 January 2019
15.	Dr. BN Rao	Fracture of functionally graded materials and techniques for coupling meshless and mesh based numerical methods	2 nd International Conference on Structural Integrity (ICONS2018)	16 December 2018



Sl. No.	Faculty	Topic of Lecture	Institution	Date
16.	Dr. A Boominathan	Seismic SSI analysis of piled raft foundations	Pre Symposium Workshop on Seismic Soil Structure – IIT Roorkee	19 December 2019
17.		An innovative geomaterial for seismic isolation of low-rise buildings	16 th Symposium on Earthquake Engineering, IIT Roorkee	22 December 2018
18.	Dr. G Appa Rao	Precast system and fastening technology	1 st International Conference on Emerging Trends in Civil Engineering, Ananthapuram	20-22 December 2018
19.		Concrete for coastal environment	Ultratech Limited, Goa	28 December 2018
20.	Dr. Manu	The use of limestone as supplementary material in concrete	KPR Institute of Engineering and Technology, Coimbatore	10 January 2019
21.	Santhanam	Making concrete structures durable and sustainable	Ultratech Limited, Chennai	25 January 2019
22.		Design and detailing issues of IS:11893 (1) and 15 13920; 2016	National Workshop on NBB 2016, IIT Guwahati	12 January 2019
23.	Dr. Rupen Goswami	Critical role of reinforcing bars in confinement and flexural yielding of RC members for seismic application	Tata Steel, Jamshedpur	21 January 2019
24.	Dr. S. Mathava S Kumar	Emerging contaminants removal from waste and waste water	Vel Tech Rangarajan Dr Sagunthala R&D Institute of Science & Technology, Chennai	6 March 2019
25.	Dr. S. Mathava Kumar	Emerging contaminants removal from secondary effluents (plenary lecture)	International Conference on Emerging Contaminants in Water and Environment (ECWE2019), PSG Institute of Advanced Studies, Coimbatore	22 January 2019
		Innovation in secondary wastewater treatment	St. Peter's Institute of Higher Education and Research, Chennai	19 March 2019
		Water scarcity management by waste water recycling	CIT, Coimbatore	21 March 2019
26.	Dr. Sachin S. Gunthe	Atmospheric bioaerosols and ecosystem interactions over India	Graphic Era University, Dehradun	16 March 2018
		Role of atmospheric bioaerosols in ecosystem health: An Indian perspective	North-Eastern Space Application Centre, Shillong	9 October 2018
		Overview of aerosol measurements at IIT Madras	National Atmospheric Research Laboratory, Gadanki	19 December 2018
		Trace gases and atmospheric aerosols: Impact in Indian perspective	Indian Institute of Tropical Meteorology, Pune	14 March 2019

Visits abroad by faculty

Sl. No.	Faculty	Country Visited	Date	Purpose of Visit	Funding
1.	Dr. Arun Menon	Bagan, Myanmar	5-9 March 2018	Technical Coordination Forum for Safeguarding Bagan, organised by UNESCO and Ministry of Religious Affair and Culture, Myanmar	Cumulative Professional Development Allowance (CPDA)
2.	Dr. Manu Santhanam	Spain	25-25 May 2018	External Sulphate Attack – Field Aspects and Test Methods	Others
3.	Dr. Lakshmi Priya	NASCC	19-14 April 2018	Baltimore Annual Stability Conference	CPDA
4.	Dr. SP Atul Narayanan	Qatar, Doha	15-19 April 2018	Advances in Materials and Pavement Performance Prediction	CPDA
5.	Dr. A Veeraraghavan	Germany	16-20 April 2018	Technology Day's event and visit to factory on construction equipment	CPDA



Sl. No.	Faculty	Country Visited	Date	Purpose of Visit	Funding
6.	Dr. S Mohan	Netherland	7-12 May 2018	Deterioration and optimal rehabilitation modeling for urban water distribution systems and PhD thesis examination at UNU IHE Delft Institute	others
7.	Dr. K. Rajagopal	Iasi, Romania	9-25 May 2018	Key technology partner (KTP), Visiting Fellow Program to University of Technology Sydney	Others
8.	Dr. Kosy Varghese	South Africa and Singapore	14-27 May 2018	Design management tools and processes disruptive technologies in construction – South Africa University of Singapore Laboratory on Future Cities. Stellenbosh – Global Leaders Forum in Construction Management	Others
9.	Dr. Manu Santhanam	Spain	23-26 May 2018	Workshop on External Sulphate Attack, Madrid	
10.	Dr. Soumendra Nath Kuiry	Honolulu, USA	1-10 June 2018	Improvement of estimation of radius of maximum wind of the cyclones in the Bay of Bengal region, 15 th Annual Meeting Asia Oceania Geosciences Society	CPDA
11.	Dr. K Srinivasan	Boston, USA	6 June-4 July 2018	Personal visit	CPDA
12.	Dr. Indumathi	Germany	13-23 June 2018	Research exploration visit	Project
13.	Dr. SM Shiva Nagendra	Italy	16-22 June 2018	Air Pollution 2018	Others
14.	Dr. A Boominathan	Austin, USA	16-21 June 2018	5 th Geotechnical Earthquake Engineering and Soil Dynamics (GEESD V) conference	Others
		Durham, USA	21 June-3 July 2018	Personal visit	CPDA
		USA	10-13 June 2018	GEESD V conference, Austin, Texas	CPDA
		USA	14-16 June 2018	Visit to the State University of Southern California (SUSC), Rayleigh	PCF
		Singapore	29 November-3 December 2018	10 th Asian Regional Conference on Rock Mechanics	Project
		Russia	6-8 February 2019	International Conference on Geotechnics Fundamentals and Applications in Construction, St. Petersburg	Project
		Russia	4-5 February 2019	Visit to Saint Petersburg State University of Architecture and Civil Engineering, St. Petersburg	Project
15.	Dr. Ashwin Mahalingam	Croatia	23-30 June 2018	Engineering Project Organization Conference	CPDA
16.	Dr. Manu Santhanam	UK	17-20 July 2018	International Conference on Durability of Concrete Structure	CPDA
17.	Dr. J. Murali Krishnan	Czech Republic	23-28 July 2018	Modeling of Geomaterials	others
18.	Dr. Balaji Narasimhan	USA	23-27 July 2018	Summer Weather Research Forecasting Tutorial – Project	CPDA
19.	Dr. Benny Raphael	Sri Lanka	29 June-2 July 2018	World Construction Symposium – Project	Others
20.		Berlin, Germany	20-25 July 2018	ISARC 2018	
21.	Dr. SP Atul Narayanan	Switzerland	1-10 July 2018	Personal visit	



Sl. No.	Faculty	Country Visited	Date	Purpose of Visit	Funding
22.	Dr. Piyush Chaunsali	Switzerland	4-6 June 2018	International Workshop on Calcium Sulfoaluminate Cements	CPDA
23.	Dr. Ravindra Gettu	Switzerland	19-24 August 2018	Review of Work on Limestone calcined clay cement	
24.		Netherland	25-31 August 2018	72 nd RILEM Week and 4 th International Conference on Service Life Design for Infrastructure	
25.	Dr. Gitakrishnan Ramadurai	USA	5-9 September 2018	IIT Madras Technology Summit and Director's updates	
26.	Dr. Radhakrishnan Pillai G	PERU CUSCO	7-14 September 2018	Restoration of reinforced lime concrete sunshades of a century-old heritage building in New Delhi, India	
27.	Dr. STG Raghukanth	PERU CUSCO	8-14 September 2018	Seismic vulnerability assessment of Sri Kedarnath Temple in India	
28.	Dr. Indumathi M Nambi	USA	5-9 September 2018	IIT Madras Technology Summit and Director's updates	
29.		Switzerland	15-19 September 2018	Halting Antimicrobial Resistance Dissemination in Aquatic Environments (HEARD 2018)	CPDA
30.	Dr. K. Rajagopal	South Korea	15-22 September 2018	11 th International Conference on Geosynthetics	CPDA
31.	Dr. S. Mohan	Tokyo, Japan	17-20 September 2018	IWA World Water Congress and Exhibition	CPDA
32.	Dr. Balaji Narasimhan	Tokyo	12-16 October 2018	2 nd Indo-Japan Disaster Reduction Workshop	CPDA
33.	Dr. Vidya Bhushan Maji	Singapore	30 October-4 November 2018	Asian Rock Mechanics Symposium (ARMS 10)	CPDA
34.	Dr. T Thyagaraj	Cairo, Egypt	23-29 November 2018	GeoMEast 2018 – International conference, Sustainable Civil Infrastructure Structural Integrity	CPDA
35.	Dr. STG Raghukanth	Hammamet	12-16 November 2018	1 st Conference of the Arabian Journal of Geoscience	CPDA
36.	Dr. Arun Menon	Bagan	16-21 November 2018	International Experts' Meeting: Towards repair and strengthening of damaged sites within Bagan archaeological site	CPDA
37.	Dr. Sivakumar Palaniappan	Brussels	27 October-1 November 2018	IALCCE 2018: 6 th International Symposium on Life-Cycle Civil Engineering	CPDA
38.	Dr. Soumendra Nath Kuiry	Oxford	22 November-21 December 2019	Research work in the area of dam break, storm surge and urban flooding	CPDA
39.	Dr. SP Atul Narayanan	Lyon	29 November 2018-1 February 2019	Visiting Professor at ISA Lyon	CPDA
40.	Dr. S Arul Jayachandran	Hong Kong, China	4-8 December 2018	Prediction of limit point buckling in reticulated metal shells, 9 th International Conference on Advances in Steel Structures (ICASS 2018)	CPDA
41.	Dr. J Muralikrishnan	USA	7-15 January 2019	Modeling of crumb rubber modified bitumen—ISAP Technical Committee on Constitutive Modeling of Asphaltic Materials	Others
42.	Dr. Benny Raphael	Singapore	14-15 January 2019	Cyber Civil Engineering Group Meeting	Partial from FCL Singapore



Sl. No.	Faculty	Country Visited	Date	Purpose of Visit	Funding
43.	Dr. Atul Narayanan SP	France	1 December 2018-31 January 2019	Visiting Professor at INSA Lyon	INSA Lyon
44.	Dr. A Boominathan	Russia	6 February 2019	Geo-Base isolation with geogrid reinforcement for buildings	Project
45.	Dr. Ravindra Gettu	Japan, Tokyo	20-28 February 2019	Nagaoka University, Tokyo, to discuss collaboration and student exchange for meeting with Japanese Concrete Institute	Others
46.		France, Italy, Croatia	14-24 March 2019	RILEM International Conference on Sustainable Materials, Systems and Structures, Rovinj	CPDA
47.	Dr. Piyush Chaunsali	Croatia	20-22 March 2019	RILEM International Conference on Sustainable Materials, Systems and Structures	CPDA
48.	Dr. Sachin S Gunthe	USA	15 June-15 July 2018	Collaborative research at Harvard University Funding: Harvard University/Project	Project

4.6.3. (a) Honours, awards and new assignment obtained by faculty

Honours

Prof. Ravindra Gettu, Department of Civil Engineering, on being felicitated for his “outstanding contribution and efforts to raise the standards of education in science and technology of concrete, particularly in the fields of failure mechanics, rheology, dimensional stability and sustainability; his mission and commitment to bridge the gap between research and practice, and his exemplary leadership in the concrete research community worldwide” at the Gettu-Kodur International Symposium on Advances in Science and Technology of Concrete, organised by the Indian Chapter of American Concrete Institute (ICACI), in honour of Prof. Ravindra Gettu and Prof. Venkatesh Kodur, as a part of the 3rd RN Raikar Memorial International Conference on 14-15 December 2018 in Mumbai.

Awards

Sl. No.	Faculty	Award	Awarded by	Date
1.	Dr. S Mathava Kumar	Young Faculty Recognition Award 2018	IIT Madras	September 2018
		Young Scientist Award (YSA 2018)	Academy of Sciences, Chennai	15 March 2019
2.	Prof. Manu Santhanam	ICI Outstanding Concrete Technology	Indian Concrete Institute	September 2018
3.	Prof. BN Rao	ISTE National Award for Best M.Tech thesis	Indian Society for Technical Education	March 2019

New Assignment

1. Dr. Shiva Nagendra SM nominated as Expert Member, Committee for Indoor Air Pollution Management, Ministry of Environment, Forest and Climate Change, Government of India.
2. The student and research scholars of the Department of Civil Engineering, IIT Madras have been bestowed the Outstanding University 2017 award for University Student Activities by the American Concrete Institute. IIT Madras is the only Institute from India and one among the 44 universities worldwide to be honoured.
3. Prof. Ravinda Gettu taking over as President of RILEM (The International Union of Laboratories and Experts in Construction Materials Systems and Structures) at its General Council held at Delft. The mandate is for a period of three years.
4. Dr. Arun Menon being invited to be the Editorial Board of the *International Journal of Architectural Heritage: Conservation, Analysis and Restoration*, published by Taylor & Francis.
5. Prof. Devdas Menon and Prof. B.S. Murty have been selected as Institute Chair Professors from 1 April 2019.

Dr. Sivanandan R:

- Invited Member, Confederation of Indian Industries (CII) Southern Region's Smart City Task Force, 2018-19.
- Invited Reviwer of indicators for Professional Engineering Exam (for Transportation Engineering section) for Saudi Arabia, a request by King Saud University, Saudi Arabia.
- Invited Proposal Reviewer for Scheme for Promotion of Academic and Research Collaboration (SPARC), Ministry of Human Resource Development (MHRD), Government of India (GoI), 2019.
- Invitee, Intelligent Transportation Systems (ITS) Working Group on Capacity Building and Awareness (under National ITS Committee), NITI Aayog, GoI, June-August 2018.
- Invited Member, Search-cum-Selection Committee for the appointment of the Head of an R&D unit of a State Council for Science Technology and Environment, 2018.
- Nodal Officer for the study, Preparation of Comprehensive Mobility Plan for Chennai Metropolitan Area, Chennai Metro Rail Limited (CMRL), April 2018-March 2019.
- Invited Advisory Committee Member, 5th Conference on Transportation Systems Engineering and Management (CTSEM2018), 17-19 May 2018, Warangal, organised by the Transportation Division, Department of Civil Engineering, NIT Warangal.

(b) Honours, awards and new assignment obtained by students

Sl. No.	Student/Scholar	Award	Awarded by	Guided by
Honours				
1.	Divya Priya CE13D029	Women Overseas Student Internship Award under the Indo-US Fellowship for Women in STEM for doctoral students (six months)	California Institute of Technology, California, USA	Dr. Indumathi
2.	Jayaprathiga G CE15D052			Dr KP Sudheer
3.	Dhivya Bharathi CE13D210			Dr. Lelitha Devi
4.	Saranya Sriram	7 th Cavin Kare and MMA Chinnikrishnan Innovation Awards 2018- Great Ideas Category	Cavin Kare and MMA Chinnikrishnan	Dr. Indumathi
5.	Sreelatha Vuggumudi	Best Presenter Award for Interaction diagrams for FRP strengthened RC rectangular columns	14 th International Conference on Crete Engineering and Technology (CONCET 2018), Kuala Lumpur, Malaysia	Dr. P. Alagusundaramoorthy
6.	RR Omprakash CE16M127	Built Environment and Project Asset Management (BEPAM) Highly Commended Paper Award for paper, Techno-economic feasibility study of using solar energy for operating sewage treatment plants	7 th World Construction Symposium 2018 (WCS2018), Sri Lanka, 29 June-1 July 2019	Dr. Siva Kumar Palaniappan
7.	G. Tamarasi	ICI Annual Award for Best Paper, Limiting twisting during earthquakes in buildings with unsymmetrical stiffness in plan-elastic study	ICI Journal	Dr. Meher Prasad and Dr. CVR Murty
8.	Revathy Rajkumar CE15D024	Best Poster Award for Fabrication of graphene oxide zinc oxide nanocomposite reverse osmosis membrane for water desalination	Indo-German Bilateral Workshop on Membranes for Water and Energy (IGWMWE 2019), CSIR, CSMCRI, Gujarat	Dr. Mathava Kumar and Dr. Raghuram Chetty
9.	Lekshmi Mohan CE15D056	Breakthrough Research in Indoor Environment Award for her paper, Performance evaluation of TiO ₂ /PAC air filter for indoor air purification	Asian Conference on Indoor Environmental Quality, New Delhi	Dr. SM Shivanagendra
10.	PM Anil Kumar CE18D755	Best Paper Award for Effect of actuation procedure in MFC actuators for morphing of bistable laminates	11 th Structural Engineering Convention 2018	Prof. BN Rao



Fellowships of academies and professional societies

Sl. No.	Faculty	Year of Admission
INAE		
Prof. Ligy Philip, Fellows of the Indian National Academy of Engineering (INAE), 1 November 2017		

Books, monographs authored/co-authored

Sl. No.	Faculty	Title	Publisher	Author/Co-author
1	Dr. Manu Santhanam	Lime Manual for Conservation Works	NCSHS, IIT Madras	Sangeeta Bais/Divya Rani
2.	Dr. Benny Raphael	Teaching Fundamentals of Computing to Civil Engineers – Challenges and Solutions (in Transforming Engineering Education: Innovative Computer Mediated Learning Technologies, Eds. Ivan Mutis, Renate Fruchter, Carol Menassa	ASCE	Benny Raphael

Books, monographs authored/co-authored

Sl. No.	Faculty	Position (Editor/Member)	Journal Name
1.	Prof. A. Veeraragavan	Member, Editorial Board	<i>Infrastructure Asset Management</i> , published by Institution of Civil Engineers, UK

4.6.4. Design and Development Activities

New facilities added or major equipment procured (2018-19)

Sl. No.	Department Purchase	Amount (in Rs.)
1	Drying and heating chamber	1,13,925
2	Eco Separator 24"	1,93,036
3	Desktop and monitor	58,800
4	Pump	1,77,680
5	Lab furniture	1,82,000
6	Psychrometer	2,04,200
7	SS AI C Series module and terminal adaptor	1,98,781
8	Bit Bridge AI module	2,49,260
9	GHz dual-core	2,49,001
10	IEPE AI module	1,66,036
11	CENSICO trinocular	1,88,825
12	C-MAG HP 10	68,022
13	Ultrasonic bed profiler	11,46,612
14	High-frequency ICP pressure sensor	2,20,324

Sl. No.	Project Purchase	Amount (in Rs.)
1	Dust Track II desktop	3,33,680
2	Water purification system	8,50,353
3	TOC Analyser	14,24,098
4	HP Z4 G4 workstation	3,95,325
5	Fabrication and supply of Shelter	5,90,000
6	UV visible spectrometer	4,09,500
7	Digit Analytical Balance	12,49,476
8	Test Control II-HBM	4,31,303
9	Spares for MTS test system	6,98,177
10	Ozone generator	7,33,942
11	Environmental Chamber	3,36,000
12	QCM analyser	74,98,467
13	High-voltage DC power supply and SIC card	7,49,989
14	TOC Analyser	25,36,100

Sl. No.	Project Purchase	Amount (in Rs.)
15	Model 602 CPU Assembly	3,56,843
16	High voltage probe and oscilloscope	3,41,061
17	Multi-stage sludge and sediment sampler kit	4,58,500
18	MIKE Update and MIKE Hydro River Ecolab Module	4,00,327
19	Electrical Chemical workstation with Impedance	9,07,418
20	Microwave heating unit	4,46,250
21	Microwave digestion System	8,10,578
22	VIC-2D, 2D Digital Image	9,09,584
23	Fold table and Scintilla chairs	9,14,057
24	WiFi congestion sensor	1,73,056
25	Atomic absorption spectrometer	18,20,000
26	Auto-Shrink kit	1,93,475
27	Digital dispenser	5,11,968
28	Solid torsion bar	5,22,192
29	HP Z6 G4 workstation	4,38,150
30	Midas FEA Network Dongle	7,00,000
31	WS6-DELL Precision 7820 Tower	3,72,068
32	Ultrasonic flow meter	3,67,458
33	HP Z6 G4 workstation	3,20,355
34	Rack Server - Intel Xeon scalable processors	8,74,346
35	UV visible spectrophotometer	5,98,650
36	Gas chromatography	12,26,010
37	TML miniature pore pressure transducer	9,14,050
38	Add-On Module Plan for Dongle	3,51,050
39	Shimadzu LCMS-8040 Quadrupole Mass Spectrometer	90,90,055
40	Nicolet TGA-IR module with OMNIC Series	10,56,794
41	Extension of Existing Compost Yard Building	9,99,000
42	Fluidyn-PANACHE	2,83,200
43	OPC-N3, SPI to USB Converter	1,78,020
44	TML Miniature pore pressure transducer	7,27,440
45	Multi profile soil moisture	1,96,734
46	Flow Tracker -2	11,01,878
47	Residual Stress Measurement Equipment RS200	9,06,260

Patents filed

Sl. No.	Application No and Date	Title	Applicant	Inventors
1	201811047609 (Provisional, Date: 17 December 2018)	Dissipating replaceable fuse elements for steel beam column connection	CSIR; Joint Applicant: IIT Madras	Dr. Saravanan Muregasan, Dr. Palani Gadyam Somasundaram and Dr.Rupen Goswami
2	201841000620	LCD-Graphene electrode and a method of preparation thereof		Divyapriya, G. and Nambi, I.M.
3	201841011986	A bifunctional rotating drum electrode system for efficient treatment of persistent organic pollutants		Divyapriya, G., Srinivasan, R., and Nambi, I.M.
4	201841032117 on 28 August 2018	Environmentally friendly catalytic depolymerization focusing on managing plastic waste at source		Divyapriya, G., Nambi, I.M., Sivagami K., Ramya Selvaraj, Keshav V., Aravind E.S. and Sriram N.

**Faculty members' participation with other institution under MoU**

Sl. No.	Faculty	Participation details	University/Institution
1	Benny Raphael	Supervision of master's thesis	Czech Technical University, Prague
2	Dr. A Veeraraghavan	Signing of MoU between IIT Madras and Highways Research Station, Chennai	Highways Research Station, Chennai; 27 April 2018

Distinguished visitors to the department

Sl. No.	Visitors and Designation	Title of the Talk	Date
1	Prof. V. Chandrasekar, Colorado State University	Raindrop to thunderstorm: advances challenges and opportunities in rainfall measurement using dual polarized radar	15 March 2018
2	Dr. Andrea Muller, Helmholtz Centre for Environmental Research – UFZ Leipzig Germany	Risk assessment of airborne particulate matter	16 March 2018
3	Kirthivasan. V (A NIT graduate with 25 years of domestic and international experience in developing and selling civil engineering software (AEC, GIS, plant and infrastructure domains), who has worked in the UK and Dubai for organisations like Autodesk, Trimble and Bentley	Transoft Company and its software solutions along with case studies	8 March 2018
6	Prof. Harild Leverenz, University of California Davis	Decentralised waste water treatment and grey water management- Case Studies	31 August 2018
7	Prof. Sidney Newton, University of Technology Sydney, Australia	Construction Futures	26 September 2018
8	Dr. Vincent Mangioni, University of Technology Sydney, Australia	Evaluating the impact of the land acquisition phase on property owners in mega projects	28 September 2018
9	Dr. Darcy Bullock, Purdue University	Application of unmanned aircraft systems (UAS) for crash scene mapping	12 November 2018
10	Dr. Balaji KM, Future Cities:Lab, Singapore	Buildings in future smart cities – research challenges and opportunities	20 November 2018
11	Dr. Andrea Muller, Helmholtz Centre for Environmental Research – UFZ, Leipzig Germany	Risk assessment of airborne particulate matter	12 December 2018
12	Prof. Venkatesh Kodur, Michigan State University	Advanced analysis approaches for enhancing fire performance of concrete structures	17 December 2018
13	Dr. Anuj Sharma, IOWA State University USA	Use of camera as a traffic sensor	20 December 2018
14	Dr. Aleksandar Stevanovic, Florida Atlantic University, USA	Fulbright-Nehru Specialist Program	24 November-22 December 2018
15	Prof. Roine Leiringer, University of Hong Kong	Writing for publication, Dos and Don'ts of the Publishing Game	20 February 2019
15	Prof. Shankar Sankaran, UTS, Sydney	Balanced Leadership in Project: The equilibrium between person-centred and team-centred	21 February 2019

International Collaboration Achievements by the Department

IIT Madras–Purdue University collaboration in Intelligent Transportation Systems by Dr. Lelitha Devi.

Details of Consultancy Projects

Sl. No.	Project Number	Principal Investigator Co-Investigator 1	Agency Name	Title	Sanction Value (Rs. in lakh)
1	CR1819CIE001IALXLIGY	Ligy Philip Sreenivasa Murthy B	Indian Additives Limited	Sustainable waste management and resource recovery for clean and healthy villages: Vichoor Phase II	225
2	IC1819CIE011VNPLBNAE	Nageswara Rao B	Vishal Nirmiti Private Limited	Testing of normal PSC sleepers	8.76



Sl. No.	Project Number	Principal Investigator Co-Investigator 1	Agency Name	Title	Sanction Value (Rs. in lakh)
3	IC1819CIE008RAILDEVD	Devdas Menon	Rail Vikas Nigam Limited	Proof-checking of structural design and drawings of Br No.232 (Yanamadurru Drain)	3.19
4	CR1819CIE002NACYINDU	Indumathi M Nambi Balaji Narasimhan	The Nature Conservancy	Sustainable restoration of Sembakkam Lake	86.14
5	RB1819CIE002MDHRSTGR	Raghu Kanth S T G	Marine Drive Hospitality and Realty Private Limited	Seismic study for Ocean Towers, Mumbai	10
6	IC1819CIE002KOPTGITA	Gitakrishnan Ramadurai	Kolkata Port Trust	Consultation for traffic circulation study inside KoPT docks and its dispersion to/from dock	25.96
7	RB1819CIE001WAPCMANU	Manu Santhanam	Wapcos Limited	Self-compacting concrete for cavity	11.8
8	IC1819CIE003TNSBABOO	Boominathan A	Tamil Nadu Slum Clearance Board	Geotechnical investigation for construction of 756 tenements at Gandhi Nagar, Marina Loop Road, Chennai	20.06
9	IC1819CIE004LTLCGAPP	Appa Rao G	L&T Limited, Construction	Proof-checking of structural design and drawings of infrastructure works for water supply and effluent treatment plants in Bidkin Industrial Area, Aurangabad	16.52
10	IC1819CIE005RITEBNAE	Nageswara Rao B	Rites Limited	Consultancy services for on-site inspection of CONCOR CFS Vallarpadam PEB warehouse, Admin Building and external CC pavement and evaluation of causes of cracks on plinth beam and settlement and suggestion of remedial measures	2.36
11	IC1819CIE006LTLCSARU	Arul Jayachandran S Meher Prasad	L&T Limited, Construction	Proof-checking of proposed India International Convention Centre - Phase 1, Dwaraka	59
12	IC1819CIE001GIMILIGY	Ligy Philip	Greenenvironment Innovation & Marketing India (P) Limited Greenenvironment Innovation & Marketing India (P) Limited	Evaluation of sensors and accuracy of real time monitoring (RTM) of wastewater treatment plant	9.29
13	IC1819CIE007CETELIGY	Ligy Philip	Cetex Petrochemicals Limited	Health, safety and environment audit for M/s. Cetex Petrochemicals Limited, Manali	5.31
14	IC1819CIE009SPCLAMEH	Meher Prasad A	Shapoori Pallonji and Company Limited	Proof-checking of structural design and drawings for APCRDA—proposed construction of government housing at Amaravati capital city, Vijayawada, Andhra Pradesh	28.58



Departments

Sl. No.	Project Number	Principal Investigator Co-Investigator 1	Agency Name	Title	Sanction Value (Rs. in lakh)
15	IC1819CIE010LTLCAMEH	Meher Prasad A	L&T Limited, Construction	Proof-checking of structural design and drawings-Block 4 (Upper Bowl area and Lower Bowl area), Sardar Patel Gujarat Cricket Stadium, Motera, Ahmedabad	8.65
16	IC1819CIE012GILIMITED EVD	Devdas Menon	GIL-TPL(JV)	Testing of pre-stressed concrete sleepers-EDFC CP-302 Dadri Khurja Project	23.95
17	IC1819CIE013KCPPEVD	Devdas Menon		Construction of automated multi-level car parking project at T.Nagar, Chennai (proof-checking of structural drawings of MLCP)	4.01
18	IC1819CIE014TSPLRSA	Satish Kumar S R	Tiger Structure Private Limited	Proof-checking of PEB Designs	4.08
19	IC1819CIE016TSCBABOO	Boominathan A	Tamil Nadu Slum Clearance Board	Geotechnical investigation for construction of 352 tenements at Thiruchinakuppam in Thiruvallur District	4.72
20	IC1819CIE015LTCWABOO	Boominathan A	L&T Construction, Water & Effluent Treatment IC	Foundation system recommendation for STP structures and pumping station at Nellore, Andhra Pradesh	2.95
21	IC1819CIE017SRFDSARU	Arul Jayachandran S	Sabarmati River Front Development Corporation Limited	Checking FoB across Sabarmati river between Ellis Bridge and Sardar Bridge	5.92
22	IC1819CIE018ADPLSARU	Arul Jayachandran S	Aadharshila Designs Private Limited	Structural vetting of ITO office at Lucknow	6.1
23	IC1819CIE019IBPPSARU	Arul Jayachandran S	Interarch Building Products Private Limited	Design work design vetting charges for project: IA-PB-11433 MS Magellan/MS Pricol	2.66
24	RB1819CIE003GLAZSARU	Arul Jayachandran S	Glazing Society of India	Structural Glass Research and Testing Facility - Phase 2	2.48
25	IC1819CIE020SGPLSUBH	Subhadeep Banerjee Thyagaraj T	Sembcorp Gayatri Power Limited	Settlement mitigation at the BOP area of the 2 x 660 MW power plant in Nellore, Andhra Pradesh	2.95
26	IC1819CIE021STICAMEH	Meher Prasad A Amlan K Sengupta	Starworth Infrastructure & Construction Limited	Proof-checking for the residential development project, Provident Park Square, Bengaluru	15.92
27	RB1819CIE004ULTTMANU	Manu Santhanam	Ultra Tech Cement Limited	Development of plaster cement	5.9
28	RB1819CIE005CHIPBNAE	Nageswara Rao B	Citymax Hotels India Private Limited	Vibration measurement and assessment of Ambience Mall, Gurgaon, Ambience Island, NH 8, Gurugram, Haryana-122002	2.95



Sl. No.	Project Number	Principal Investigator Co-Investigator 1	Agency Name	Title	Sanction Value (Rs. in lakh)
29	IC1819CIE022IITDEVD	Devdas Menon	IIT Tirupati	Proof-checking for the phase 1 facility buildings in IIT Tirupati permanent campus site	35.4
30	IC1819CIE023TAMOLIGY	Ligy Philip Sreenivasa Murthy B	Tamil Nadu Pollution Control Board	Identification of ecologically sensitive areas for ban on use and throw of plastics and identifying alternatives for the same	7.08
31	IC1819CIE024TSCBABOO	Boominathan A	Tamil Nadu Slum Clearance Board	Geotechnical Investigation for construction of 10 storeyed tenements at Fishermen Colony, Ward no.39, Chennai	20.06
32	IC1819CIE025DLFDRADH	Radhakrishna G Pillai	DLF Limited	Optimal Estate Management (tests and recommendations)	9.44
33	RB1819CIE006DENVINDU	Indumathi M Nambi	Department of Environment	Monitoring soil and groundwater at oil spill bioremediation site in KPL	50
34	IC1819CIE026L&TNAMEH	Meher Prasad A	L&T Construction, buildings & Factories	Proof-checking of structural design and drawings-construction of Interim Government Complex, Amaravati capital city, Andhra Pradesh	9.14
35	IC1819CIE027SADBDEVD	Devdas Menon	Sadbhav Engineering Limited	Proof-checking of ROB at Ch:305+898.614 Km - 1 no of typical super structure and 2 nos of typical substructure	3.3
36	IC1819CIE028RCCPABOO	Boominathan A	M/s. Ramalingam Construction Company (P) Limited	Geotechnical Investigation for construction of 10 high-rise buildings for TNHB	9.44
37	IC1819CIE029IOCLPALA	Alagusundaramoorthy P	Indian Oil Corporation Limited	Inspection of the repair and rehabilitation of RC columns, beams and slabs in the Basement of IOCL Administrative Building in Chennai	10.62
38	IC1819CIE031PSKEPALA	Alagusundaramoorthy P	PSK Engineering Construction & Co	Review of the analysis and design for retrofitting the NPKRR Maaligai building in TNEB Headquarters Complex, Chennai	2.66
39	IC1819CIE030P&CPPALA	Alagusundaramoorthy P	P&C Projects (P) Limited	Analysis and design of civil foundations and supporting columns for advanced crash area in APSL building at GARC, Chennai	17.7
40	IC1819CIE032NATHSMOH	Mohan S	National Highways Authority of India	Study on the drainage system of the Chennai city during flood situation and assessment of flood inundation	9.44
41	IC1819CIE033AAAAMANU	Manu Santhanam	Common Code	Testing and evaluation of concrete	0



Sl. No.	Project Number	Principal Investigator Co-Investigator 1	Agency Name	Title	Sanction Value (Rs. in lakh)
42	IC1819CIE034LTCWVENU	Venu Chandra	L&T Construction, Water & Effluent Treatment IC	Vetting and approval of hydraulics and general arrangement/IPS drawings pertaining to Bandol Multi-village Rural Water Supply Scheme, Seoni district, Madhya Pradesh	6.49
43	IC1819CIE035MWCDKRAK	Rajagopal K Dali Naidu Arnepalli	Megawide Construction DMCC	Consultancy services for the construction of runway pavement at the new Goa Airport	9.44
44	IC1819CIE036TBPLAMEH	Meher Prasad A	Teemage Builders Private Limited	Proof-checking for design and construction SC/ST hostel beneficiary and associated buildings for NIEPMD	2.75
45	IC1819CIE037TSCBABOO	Boominathan A	Tamil Nadu Slum Clearance Board	Geotechnical investigation for construction of multi-storeyed buildings at Kalyanapuram, Chennai	22.42
46	IC1819CIE038L&TNVENU	Venu Chandra	L&T Construction, Buildings & Factories	Proposed construction of storm water drains, water supply and sewerage network in ULBs Bhimavaram, Palakol and Tadepalligudem municipal areas of West Godavari, Andhra Pradesh-APTIDCO	2.36
47	IC1819CIE039TSCBABOO	Boominathan A	Tamil Nadu Slum Clearance Board	Construction of (S+15 floors) multi-storeyed tenements at M.S. Nagar, Chennai (Corpn. Dn. 53)	14.16
48	IC1819CIE040LTCWINDU	Indumathi M Nambi	L&T Construction, Water & Effluent Treatment IC	Proof-checking of water, sewer and recycled water supply network in Amaravati Package 10	10.03
49	IC1819CIE041LTCWINDU	Indumathi M Nambi	L&T Construction, Water & Effluent Treatment IC	Design verification of sewer networks in Saidpur	5.9
50	IC1819CIE042LTCWINDU	Indumathi M Nambi	L&T Construction, Water & Effluent Treatment IC	Proof-checking of water, sewer and recycled water supply network in Amaravati Package 6	7.08
51	IC1819CIE043LTCWINDU	Indumathi M Nambi	L&T Construction, Water & Effluent Treatment IC	Proof-checking of water, sewer and recycled water supply network in Amaravati Package 7	10.03
52	RB1819CIE007IGCASTGR	Raghu Kanth S T G	Indira Gandhi Centre for Atomic Research	Spatial variation of ground motion for Kalpakkam	12.3
53	IC1819CIE044WBHDDEVD	Devdas Menon	West Bengal Highway Development Corporation Limited	Vetting of structures of Package-III except SIGS	126.73
54	CR1819CIE003VCSPINDU	Indumathi M Nambi	Virtusa Consulting Services Private Limited	Carbon Zero Challenge 2019	250



Sl. No.	Project Number	Principal Investigator Co-Investigator 1	Agency Name	Title	Sanction Value (Rs. in lakh)
55	RB1819CIE008UIICBNAE	Nageswara Rao B	United India Insurance Co. Limited	Examination of design documents of the proposed GF+14 floors with two-level basement and correlate with site conditions	5.9
56	IC1819CIE045HCSLAMEH	Meher Prasad A	Hooghly Cochin Shipyard Limited	Proof-checking and vetting of design and drawings of Hooghly Cochin Shipyard Limited, Kolkata	5.9
57	IC1819CIE046FDDIMANU	Manu Santhanam	Footwear Design and Development Institute	Inspection of FDDI campus buildings in Chennai	2.95
58	IC1819CIE047LTCWINDU	Indumathi M Nambi	L&T Construction, Water & Effluent Treatment IC	Vetting of water treatment plant in Nuapada, Odisha	2.95
59	IC1819CIE048CMRLDEVD	Devdas Menon	Chennai Metro Rail Limited	Proof-checking for the detailed engineering design and client engineering services for metro headquarters' building and other metro rail amenities under contract no. MHQ-01 by the consultants M/s C. R. Narayana Rao	10.81
60	RB1819CIE009RESEBNAE	Nageswara Rao B	Reserve Bank of India Staff College	Structural stability and safety test (NDT)- Administration Building, Old Hostel Building, Residential B Block at the Reserve Bank Staff College (RBSC)	7.08
61	IC1819CIE049TFIXKRAG	Rajagopal K	TechFab India	Recommendation of connection strength between Gabions and TechFab geogrids for construction of steep retaining walls	4.72
62	IC1819CIE050KONKKRAG	Rajagopal K Dali Naidu Arnepalli	Konkan Railway Corporation Limited	Consultancy services for construction of steep railway embankments in Jammu Sector	29.5
63	IC1819CIE051PNCISARU	Arul Jayachandran S	PNC Infratech Limited	Design checking of two RoBs, including substructure for six-laning of Chitradurga to Davangere Bypass	7.08
64	IC1819CIE052L&TNAMEH	Meher Prasad A	L&T Construction, Buildings & Factories	Proof-checking of structural design/drawings and geo-technical report for the construction of All India Institute of Medical Sciences at Gorakhpur, Uttar Pradesh	45.99
65	RB1819CIE010NITTJMUR	Muralikrishnan J	Nitto Denko India Private Limited	Investigations on road patch	10.97



Departments

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66	IC1819CIE053IITKDEVD	Devdas Menon	Indian Institute of Technology Kanpur	Proof-checking charges for the retrofitting of Aerospace Engineering Department Building Blocks into multi-storeyed academic building for IIT Kanpur	10.86
67	IC1819CIE054LTCWVENU	Venu Chandra	L&T Construction, Water & Effluent Treatment IC	Individual piped water supply scheme to Cuttack/Jagatsinghpur districts, Odisha	4.13
68	IC1819CIE055LTCWVENU	Venu Chandra	L&T Construction, Water & Effluent Treatment IC	Execution of five individual rural water supply scheme, pertaining to Nuapada district, Odisha	4.13
69	IC1819CIE056L&TNAMEH	Meher Prasad A	L&T Construction, Buildings & Factories	Proof-checking of structural design documents and drawings for proposed Judicial complex at Nelapadu of Amaravati Government Complex, Andhra Pradesh	8.85
70	IC1819CIE057RENLLIGY	Ligy Philip	Renault Nissan Automotive India Private Limited	Water management adequacy study for RNAIPL plant at Oragadam	7.08
71	IC1819CIE058NCCIAMEH	Meher Prasad A	NCC Limited	Proof-checking of design and drawings for the water supply, including head works (intake well, raw water pumping main, etc.) for Road E3 on EPC basis under package-XV in Amaravati, the new capital city of Andhra Pradesh	17.7
72	IC1819CIE059SHAPSUBH	Subhadeep Banerjee Nageswara Rao B	Shapoorji Pallonji & Co. Limited	DLF Vytila Club House pile foundation analysis and design	2.36
73	CR1819CIE004CPCLLIGY	Ligy Philip Sreenivasa Murthy B	Chennai Petroleum Corporation Limited	Implementing activities of providing safe drinking water, sanitation, Ngapatnam	1375.32
74	IC1819CIE060TSCBABOO	Boominathan A	Tamil Nadu Slum Clearance Board	Geotechnical investigation for construction of multi-storeyed tenements at Moorthinagar Project Scheme, Chennai	22.42
75	RB1819CIE011NAVISTGR	Raghu Kanth S T G	Navi Mumbai International Airport Private Limited	Probabilistic seismic hazard analysis of Navi Mumbai International Airport site	9.44
76	IC1819CIE061TPLTSRSA	Satish Kumar S R	TATA Projects Limited	Proof-checking of structural design of hospital buildings at Keonjhar, Odisha	15
77	IC1819CIE062PENNSRSA	Satish Kumar S R	Pennar Engineering Building Systems Limited	Proof-checking of structural design of PEBs	28.6
78	IC1819CIE063KVTEAMEH	Meher Prasad A	K V TEX Firm	Proof-checking for approval of structural design for B+G+5 storeys Commercial building at Pondicherry	4.67



Sl. No.	Project Number	Principal Investigator Co-Investigator 1	Agency Name	Title	Sanction Value (Rs. in lakh)
79	IC1819CIE064ZAMISRSA	Satish Kumar S R	Zamil Steel Buildings (I) P. Limited	Proof-checking of structural design of PEBs	8.2
80	IC1819CIE065GEORGAPP	Appa Rao G	Geostructurals (P) Limited	Proof-checking of design calculations and drawings of Confident Cygnus	11.8
81	IC1819CIE066TSCBABOO	Boominathan A	Tamil Nadu Slum Clearance Board	Geotechnical investigation for construction of (S+9) floors multi-storeyed tenements at Radhakrishnapuram, Chennai	11.8
82	IC1819CIE067TSCBABOO	Boominathan A	Tamil Nadu Slum Clearance Board	Geotechnical Investigation for construction of 416 nos slum tenements in two blocks at JogiThottam, Chennai	11.8
83	IC1819CIE068LTCWVENU	Venu Chandra	L&T Construction, Water & Effluent Treatment IC	Vetting and approval of hydraulics and general arrangement/IPS drawings pertaining to Buxwaha multi-village rural water supply scheme, Chhatarpur, Madhya Pradesh	5.02
84	IC1819CIE070ZAMISRSA	Satish Kumar S R	Zamil Steel Buildings (I) P. Limited	Proof-checking design of PEBs	8
85	IC1819CIE069STAKBNAE	Nageswara Rao B	M/s. Star Track Fasteners Private Limited	Testing of 336 Fastening System (4-hole)	9.15
86	IC1819CIE071NVCLRAVG	Ravindra Gettu	Nuvoco Vistas Corporation Limited	Consultancy on the science/technology/ processes for cement, concrete and other construction materials	14.16
87	IC1819CIE072CPWDAMEH	Meher Prasad A	Central Public Works Department	Proof-checking for ongoing building work of Transit Campus facilities for IIT, Tirupati at the permanent campus site at Merlapaka Village, YerpeduMandal near Tirupati, AP	14.9
88	IC1819CIE073TSCBABOO	Boominathan A	Tamil Nadu Slum Clearance Board	Geotechnical Investigation for Reconstruction of slum tenements of 8 Blocks at Sathiyavanimuthu Nagar Project Scheme-Phase II	20.06
89	IC1819CIE074CMWSLIGY	Ligy Philip	Chennai Metropolitan Water Supply & Sewerage Board	Pilot study of RetteriLake, Kolathur	4.13
90	IC1819CIE075STAKBNAE	Nageswara Rao B	M/s. Star Track Fasteners Private Limited	Testing of 336 Fastening System (2-Hole)	9.15
91	IC1819CIE076LTCWINDU	Indumathi M Nambi	L&T Construction, Water & Effluent Treatment IC	Vetting of five water treatment plants in Kendrapada, Odisha	5.9
92	IC1819CIE077LTCWINDU	Indumathi M Nambi	L&T Construction, Water & Effluent Treatment IC	Vetting of water treatment plants in Cuttack, Odisha	4.13



Departments

Sl. No.	Project Number	Principal Investigator Co-Investigator 1	Agency Name	Title	Sanction Value (Rs. in lakh)
93	RB1819CIE012OPGCDALI	Dali Naidu Arnepalli	Orissa Power Generation Corporation Limited	Studies on stability analysis of ash pond dykes	12.86
94	IC1819CIE078NCCIAMETH	Meher Prasad A	NCC Limited	Proof-checking and vetting of designs and drawings for the intakes, water treatment plants and intermediate booster stations for the work of rural piped water supply schemes pertaining to Keonjhar (Keonjhar and Anandapur division)/Jajpur/Sundergarh district	29.5
95	RB1819CIE013MESTRADH	Radhakrishna G Pillai	Metrolla Steels Limited	Corrosion and mechanical performance of TMT steel rebars of different grades	2.36
96	IC1819CIE079L&TNAMEH	Meher Prasad A	L&T Construction, buildings & Factories	Proof-checking of structural design and drawings for APTIDCO-construction of roads, storm water drain, water supply and sewerage network-other basic infrastructure in ULBS Palakol, Bhimavaram and Tadepalligudem-APTIDCO, West Godavari, Andhra Pradesh	10.62
97	IC1819CIE080BLKASRSA	Satish Kumar S R	B.L. Kashyap & Sons Limited	Proof-checking of 12D Buld for Mindspace, Hyderabad	29.5
98	IC1819CIE081DEIPAMEH	Meher Prasad A	Design Excellence India Private Limited	Proof-checking for 2x5 MIG prestressed product water tanks	11.8
99	IC1819CIE082RAILDEVD	Devdas Menon	Rail Vikas Nigam Limited	Proof-checking of proposed doubling between Vanchi Maniyachchi Jn and Nagercoil Jn - RC Box- 4 nos	3.78
100	IC1819CIE083ZAMISRSA	Satish Kumar S R	Zamil Steel Buildings (I) P. Limited	Proof-checking structural design of PEB for Thermax	6.56
101	IC1819CIE084RAILDEVD	Devdas Menon	Rail Vikas Nigam Limited	Proof-checking of railway line between Gudur-Krishna Canal stations in Vijayawada Division of South Central Railway piers	7.43
102	IC1819CIE085SCRXBNAE	Nageswara Rao B	South Central Railway	Checking and vetting of design and drawings of piers, abutments, and foundation of proposed 20x76.20 m span-Vynatheya River Bridge	4.72
103	IC1819CIE086NCCILIGY	Ligy Philip Sreenivasa Murthy B	NCC Limited	Water treatment plants for the work of rural piped water supply schemes pertaining to Keonjhar (Keonjhar and Anandapur division)/Jaipur/Sundergarh (Rourkela) district	21.24



Sl. No.	Project Number	Principal Investigator Co-Investigator 1	Agency Name	Title	Sanction Value (Rs. in lakh)
104	IC1819CIE087NCCILIGY	Ligy Philip Sreenivasa Murthy B	NCC Limited	WTP process and hydraulic design for 1900MLD water treatment plant under Package XV in Amaravati, the new capital city of Andhra Pradesh	10.62
105	IC1819CIE088TSCBSARU	Arul Jayachandran S	Tamil Nadu Slum Clearance Board	Design of 416 EWS tenements at JogiThottam	14.76
106	RC1819CIE769RCRTAVEE	Veeraraghavan A	Rasta Centre for Road Technology	Technical advisor, RASTA centre for Road Technology	7.08
107	IC1819CIE089CIAXAVEE	Veeraraghavan A	Cochin International Airport	Design consultancy services for recarpeting of runway, taxiway and link taxis at Cochin International Airport	5.9
108	IC1819CIE090BLKASUBH	Subhadeep Banerjee Robinson R G	B.L. Kashyap & Sons Limited	Consultancy services for retention system using D wall at Shenoy Nagar, Chennai	3.54
109	IC1819CIE091VRKCSRSA	Satish Kumar S R	VRK & Company	Proof-checking of PEB design	3.54
110	IC1819CIE092KMVSBNAE	Nageswara Rao B	KMV Spaces LLP	Vetting of structural design of KMV VIVAAN mix-use tower building	17.7
111	IC1819CIE093NIRTPALA	Alagusundaramoorthy P	National Institute for Research in Tuberculosis	Assessment of structural stability of Accounts building of NIRT at Chennai	15.31
112	IC1819CIE094LTCWGAPP	Appa Rao G	L&T Construction, Water & Effluent Treatment IC	Vetting and approval of civil engineering design and drawings for Bandol Multi-Villages Rural Water Supply Scheme of Seoni and Chappara Blocks	17.46
113	RB1819CIE014ROASPALA	Alagusundaramoorthy P	Roads and Bridges Development Corporation of Kerala Limited	Condition assessment and repair and rehabilitation of the flyover at Palarivattom in NH66 for Roads and Bridges Development Corporation of Kerala Limited	56.51
114	IC1819CIE095TSCBABOO	Boominathan A	Tamil Nadu Slum Clearance Board	Reconstruction of slum tenements of in Jamalia Lane, Chennai - Geotechnical Studies	12.98
115	IC1819CIE096TSCBABOO	Boominathan A	Tamil Nadu Slum Clearance Board	Geotechnical studies for Reconstruction of slum tenements in Chandra Yogi Samadhi Road project scheme (Perambur), Chennai	24.78
116	IC1819CIE097LENDERSA	Satish Kumar S R	Lendi Associates	Proof-checking of PEB for POH shed for Southern Railway	2
117	IC1819CIE098LTCNRAVG	Ravindra Gettu Piyush Chaunsali	L&T Construction	Mix design of concrete for Chennai Airport project	8.26
118	IC1819CIE099SIPLGAPP	Appa Rao G	Sudhakara Infratech Private Limited	Proof-checking and approval of designs and drawings of Storm Water Drainage Scheme for Nellore Municipality	5.02



Sl. No.	Project Number	Principal Investigator Co-Investigator 1	Agency Name	Title	Sanction Value (Rs. in lakh)
119	IC1819CIE100LTCNINDU	Indumathi M Nambi	L&T Construction	Proof-checking of STP (11 MLD) and CETP (13 MLD) based on MBR process in Bidkin Industrial Area, Aurangabad	5.9
120	RB1819CIE015GACOBALJ	BalajiNarasimhan	Gauff Consultants	Hydrologic modelling study and field measurements in Kovalam Basin	18.53
121	IC1819CIE101VATEVENU	Venu Chandra	Va Tech Wabag Limited	Vetting of drawings and designs for BUIDCO Karmalichak Project	4.13
122	IC1819CIE102TSCBABOO	Boominathan A	Tamil Nadu Slum Clearance Board	Construction of four blocks (Stilt +17) with 816 tenements at Thiruchinakuppam Phase II - Geotechnical Investigation	14.16
123	RB1819CIE016TATSMANU	Manu Santhanam Piyush Chaunsali	Tata Steel	Evaluation of suitability of ACBF as replacement of natural sand in concrete	12.98
124	IC1819CIE103GOVRGAPP	Appa Rao G	Government of Andhra Pradesh	Proof-checking of design and drawings of minor RC bridges (four), SPSR Nellore	5.31
125	IC1819CIE104GRTJPALA	Alagusundaramoorthy P	GRT Jewellers (India) Private Limited	Condition assessment of GRT jewellery showroom at Anna Nagar in Chennai	8.5
126	IC1819CIE105OIGCKPSU	Sudheer K P Balaji Narasimhan	Oiltech Group of Companies	Preparing feasibility and DPR for flood mitigation in Tawi Basin	41.3
127	IC1819CIE106EKKIDEVD	Devdas Menon	EKK Infrastructure Limited	Proof-checking of four laning of Thalassery-Mahe Bypass section of NH-17(New NH-66) from km 170.600(design ch km 170.600) to km 188.000 (design ch km 189.200) under NHDP Phase-on EPC mode III, Kerala	26.79
128	IC1819CIE107TBPLAMEH	Meher Prasad A	Teemage Builders Private Limited	Proof-checking of design and construction of commercial building (2B+G+8) at T. Nagar, Chennai	8.87
129	RB1819CIE017RGNIBNAE	Nageswara Rao B	Rajiv Gandhi National Institute of Youth Development	Third-party quality assurances in the construction of various building in development works in RGNIYD done by NPCC	26.73
130	IC1819CIE108AMCCPALA	Alagusundaramoorthy P	Annai Maternal & Child Care Centre	Analysis and design of the multi-storeyed Annai Hospital Building at Tiruchengode in Tamil Nadu	6.49
131	IC1819CIE109LTCNPALA	Alagusundaramoorthy P	L&T Construction	Proof-checking, vetting and approval of control and instrumentation design documents and drawings for U.P. Jal Nigam Water Carrier System in Kanpur, Uttar Pradesh	3.54



Sl. No.	Project Number	Principal Investigator Co-Investigator 1	Agency Name	Title	Sanction Value (Rs. in lakh)
132	IC1819CIE110GOVRBNAE	Nageswara Rao B	Government of Andhra Pradesh	Proof-checking and vetting of design and drawings of proposed construction of high-level bridge across Chavitivagu at km 3/4 to 3/6 of the road from NH5 to Dronadula (via) Chimmiribanda in Martur Mandal in Prakasam	2.66
133	IC1819CIE111GARRBNAE	Nageswara Rao B	Garrison Engineer	Assessment of structural soundness of Type-II quarters Building No. P-278 to P-279 (40 Quarters) at NAD, Visakhapatnam	2.95
134	IC1819CIE112L&TGABOO	Boominathan A	L&T Geo Structure	Uppur thermal power plant intake structures: Proof-checking of geotechnical investigation report	4
135	IC1819CIE113RAMKSMOH	Mohan S	Ramky Enviro Engineers Limited	Study on groundwater and soil for existing and abandoned landfill in Vizag	5.9
136	IC1819CIE114MWMLSMOH	Mohan S	Mumbai Waste Management Limited	Design checking and monitoring the secured landfill at common hazardous waste treatment and disposal facility at Nellore	2.36
137	IC1819CIE115ILFISMSH	Shiva Nagendra S M	IL&FS Infrastructure Development Corporation	Assessment of air pollution at coal handling system	8.22
138	IC1819CIE116L&TNSMAT	Mathava Kumar S Venu Chandra	L&T Construction, Buildings & Factories	Vetting the design of the effluent treatment plant (ETP) and P&ID drawing of M/S. ITC Food Factory Limited, Kapurthala, Punjab	2.5
139	IC1819CIE117LTCWVENU	Venu Chandra	L&T Construction, Water & Effluent Treatment IC	Vetting and approval of hydraulics and general arrangement/IPS drawings pertaining to Execution of four Individual Rural Water Supply Projects pertaining to Kendrapada/Jharsuguda/Angul, Odisha	3.84
140	IC1819CIE118RKPLDEVD	Devdas Menon	RKEC Projects Limited	Proof-checking of construction of New four-lane bridge (2x12.5m wide twin two-lane structure) over River Ganga downstream of Farakka Barrage and one minor bridge and two VUPS in the state of West Bengal	12.51
141	IC1819CIE119VATEGAPP	Appa Rao G	Va Tech Wabag Limited	Vetting of structural design and drawing documents for 10P135Karmalichak Project	4.43
142	IC1819CIE120LTCNGAPP	Appa Rao G	L&T Construction	Professional consultancy services for proof-checking of design of concrete lining for large UG structure	4.72



Departments

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143	IC1819CIE121KARAINDU	Indumathi M Nambi	Karaipudur Common Effluent Treatment Plant (P) Limited	Assessment of KaraipudurCETP plant infrastructure through visit and design verification	3.54
144	IC1819CIE123L&TLBENN	Benny Raphael Koshy Varghese	L&T Limited	Proof-checking of design and drawings of bridge builderfor construction of extradosed bridge (main bridge) at Barapullah Bridge project	7.67
145	IC1819CIE124AYYALIGY	Ligy Philip	Ayyampet Muthialpet Bleaching and Dyeing Effluent Treatment Co Limited	Technical appraisal of the DPR for the M/S AyyampetCommon Effluent Treatment Plant Private Limited Zero Discharge Projects	2.95
146	IC1819CIE122L&TLKrag	Rajagopal K	L&T Limited	Final inspection of the constructed runway embankment at Kannur International Airport Limited	2.95
147	RB1819CIE018KRCPRADH	Radhakrishna G Pillai	Krishna Conchem Product Private Limited	Performance evaluation of concrete penetrating type corrosion inhibitors	7.08
148	IC1819CIE125LTIHBAE	Nageswara Rao B	L&T - IHI Consortium	Fatigue test (2 million cycles) for 9 strands tendon-anchorage assembly (according to BS EN 13391:2004) with (i) 1) Epoxy flow fill strands; and (ii) PE coated Galvanised strands	9.44
149	IC1819CIE126LTIHSTGR	Raghu Kanth S T G	L&T - IHI Consortium	Site specific spectra for Mumbai trans Harbor Link site	5.9
150	IC1819CIE127LTCWVENU	Venu Chandra	L&T Construction, Water & Effluent Treatment IC	Vetting and approval of mechanical/piping designs and drawings pertaining to Satna WSP, Madhya Pradesh	9.44
151	IC1819CIE128MWCDRSRA	Satish Kumar S R	Megawide Construction DMCC	Structural design certification for Mopa greenfield airport at Goa	18.88
152	IC1819CIE129AAAAARAVG	Ravindra Gettu	Common Code	Common code project	0
153	IC1819CIE130SACLAMEH	Meher Prasad A	Sri Avantika Contractors (I) Limited	Proof-checking of construction of linear expansion of existing integrated terminal,Civil Enclave, Visakhapatnam	4.61
154	IC1819CIE131LTCTAVEE	Veeraraghavan A	L&T Construction Transportation Infrastructure IC	APCRDA- proof-checking of pavement design report for zone 6, 7 and 10	2.95
155	IC1819CIE132GIVCAMEH	Meher Prasad A	Guptha Infra Venture and Construction Private Limited	Proof-checking of cardiac care hospital at Jharsuguda on behalf of Government of Odisha	4.32
156	RB1819CIE019UNDPSMOH	Mohan S	United Nations Development Programme	National Inventory Development of Mercury in India	56.32



Sl. No.	Project Number	Principal Investigator Co-Investigator 1	Agency Name	Title	Sanction Value (Rs. in lakh)
157	IC1819CIE133TRINSARU	Arul Jayachandran S	TRIL Infopark Limited	Design certification of second phase of development consisting of 2 blocks at TRIL Park Taramani	9.8
158	IC1819CIE134NATHVBMA	Maji V B	National Highways Authority of India	Thrissur-Vadakkanchery (Kuthiran) Tunnel Project	7.5
159	IC1819CIE135ASEEGAPP	Appa Rao G	Associated Engineering Enterprises	Proof-checking of design drawings of a bridge across river Sileru on Cintur-Motu Road, East Godavari, Andhra Pradesh	5
160	IC1819CIE136FLSLRSA	Satish Kumar S R	FLSmith Private Limited	Checking structural design for NALCO Refinery	2.1
161	IC1819CIE137EKKIDEVD	Devdas Menon	EKK Infrastructure Limited	Proof-checking for four laning of Thalassery-Mahe Bypass section of NH-17 (New NH-66) from km 170.600 (design ch km 170.600) to km 188.000 (design ch km 189.200) under NHDP Phase on EPC mode III in the State of Kerala, Superstructure-1	4.25
162	IC1819CIE138RAILDEVD	Devdas Menon	Rail Vikas Nigam Limited	Proof-checking of proposed doubling between Vanchi Maniyachchi Jn and Nagercoil Jn- Bridge No. 482 - Substructure-2 nos, Superstructure-1 no	3.3
163	IC1819CIE139PRHBNAE	Nageswara Rao B	Prasar Bharati	Proof-checking of structural adequacy of 150m TV tower at HPT Mysore	8.85
164	IC1819CIE141NKIJUSAR	Saravanan U	N K Infra JV	Structural proof-checking of MWSL RIB LOC liners for sewer rehabilitation in Mumbai	3.54
165	IC1819CIE142SEEMAMEH	Meher Prasad A	Seemati Silks	Proof-checking for structural design check and approval for B+G+4 storey commercial building at Tiruvarur, Tamil Nadu	2.66
166	IC1819CIE147SRECDEVD	Devdas Menon	Sree Ramadutha Engineering Consultants Private Limited	Proof-checking of major and minor bridges of NH 544E	5.43
167	IC1819CIE148TWMLSMOH	Mohan S	Tamil Nadu Waste Management Limited	Impact study on soil, agriculture, water, air, human health and animal health	7.67
168	IC1819CIE149TWMLSMOH	Mohan S	Tamil Nadu Waste Management Limited	Environmental audit for hazardous waste landfill at Virudhunagar	5.9
169	IC1819CIE143KIRBSARU	Arul Jayachandran S	Kirby Building Systems	Design vetting of PEB structures by M/s Kirby for M/s MRF Limited	11.8
170	IC1819CIE144KIRBSARU	Arul Jayachandran S	Kirby Building Systems	Proof-checking the design of steel building for M/s Royal Enfield designed by M/s Kirby	5.67



Sl. No.	Project Number	Principal Investigator Co-Investigator 1	Agency Name	Title	Sanction Value (Rs. in lakh)
171	IC1819CIE145CTMTKRAG	Rajagopal K	CTM Technical Textiles Limited	Recommendation of connection strength between CTM geogrids and modular facing blocks	4.72
172	RC1819CIE784VALMSARU	Arul Jayachandran S	Valmont Structures Private Limited	Design improvement for steel monopole towers and steel transmission line poles	10
173	IC1819CIE146RAMKGAPP	Appa Rao G	Ramky Enviro Engineers Limited	Proof-checking of structural designs and drawings of 1 MLD common effluent treatment plant at Naidupeta, Andhra Pradesh	4.72
174	IC1819CIE150RAILDEVD	Devdas Menon	Rail Vikas Nigam Limited	Proof-checking of proposed doubling between Gudur and Bitragunta (Bridge No.357) - Substructure-1 No, Superstructure -2 Nos	3.42
175	IC1819CIE151LTCWVENU	Venu Chandra	L&T Construction, Water & Effluent Treatment IC	Mohanpura Multi-Village Rural Water Supply Scheme	6.49
176	IC1819CIE152LTCWVENU	Venu Chandra	L&T Construction, Water & Effluent Treatment IC	Kundaliya Multi-Village Rural Water Supply Scheme	8.85
177	IC1819CIE153ASBLBNAE	Nageswara Rao B	Ashoka Buildcon Limited	Proof-checking of 3 ROB's for project near Tumkur, Karnataka	7.43
178	IC1819CIE154BSNLBNAE	Nageswara Rao B	Bharat Sanchar Nigam Limited	Proof-checking and vetting of structural design of eight buildings of BSNL for CLS project	2.44
179	IC1819CIE155TNGDBNAE	Nageswara Rao B	Tamil Nadu Generation And Distribution Corporation Limited	Proof-checking of detailed designs/drawings of railway bridges in Ramanathapuram district of Tamil Nadu for M/s TANGEDCO	27.67
180	IC1819CIE156RTETLIGY	Ligy Philip	Ranipet Tannery Effluent Treatment Company Private Limited	Auditing the performance of ozone units in the RANITEC CETP	1.68
181	IC1819CIE157ARIPAMEH	Meher Prasad A	Aurobindo Realty & Infrastructure Private Limited	Proof-checking of peer review consultancy services for Auro Retail and Auro Hotel projects located in Hyderabad, Telangana	35.4
182	IC1819CIE158GOVNLIGY	Ligy Philip	Government of Puducherry	Carrying out environment audit for M/S Srides Shasun Limited, Kalapet, Pondicherry	14.16
183	IC1819CIE159WTESBNAE	Nageswara Rao B	Wadia Techno Engineering Services Limited	Proof-checking and vetting of design and drawings of proposed construction of proposed RITES office complex at Rajarhat Newtown, Kolkata	8.85



Sl. No.	Project Number	Principal Investigator Co-Investigator 1	Agency Name	Title	Sanction Value (Rs. in lakh)
184	IC1819CIE160THCODEVD	Devdas Menon	Thavam Constructions	Proof-checking of designs and drawings of viaduct spans LC 30E @ Km. 64/800and LC No. 124E/SPL3 @Km 1/800 on NH 205	17.11
185	IC1819CIE161RAILDEVD	Devdas Menon	Rail Vikas Nigam Limited	Proof-checking of tripling with electrification of Railway line between Gudur-Krishna Canal stations in Vijayawada Division of South Central Railway	7.43
186	IC1819CIE162GPEMBNAE	Nageswara Rao B	Green Pearl Education Management Corporation Private Limited	Third-party checking and validation on structural design for SRM University AP, Amaravati	16.85
187	IC1819CIE163CPPBNAE	Nageswara Rao B	Chemical Process Piping Private Limited	Proof-checking of design of GA drawing for GRP flue liner and duct and FRP chimney liner design report	2.95
188	IC1819CIE164CPWDBNAE	Nageswara Rao B	Central Public Works Department	Third-party quality assurance for the work of construction of additional office building in the existing GPOA and GPRA campus at Shastri Bhavan, Chennai	18.18
189	IC1819CIE165DAEWSARU	Arul Jayachandran S	Daewoo - L&T -JV	Proof-checking the designs of (i) six-lane RoB between Patna Saheb and Banka Ghat (ii) six-lane RoB between Chaksikander and Desari (superstructure, substructure and foundation)	6.37
190	IC1819CIE166BGREABOO	Boominathan A	BGR Energy Systems Limited	Site-specific geotechnical seismic design	9.44
191	IC1819CIE167TSCBABOO	Boominathan A	Tamil Nadu Slum Clearance Board	Geotechnical Investigation for construction of slum board tenements at Noombal, Thiruverkadu (Chennai)	25.37
192	IC1819CIE168OFFOBNAE	Nageswara Rao B	Office of the Executive Engineer	Proof-checking of structural design and drawings of PEB and RCC building which are part of construction of AMK 339 projects for Heavy Alloy Penetrator Project (HAPP) at Trichy	8.85
193	IC1819CIE169MEGHBNAE	Nageswara Rao B	Megha Engineering and Infrastructure Limited	Proof-checking of six bridges (at chainage 6297.000, 109.000, 318.000, 540.000, -37.000 and 940.000) on AV-A2, NE-A8, UN(AV)-A1, UN-A1, SM-A3 and SM-A8 of CRDA zone-1 area in Amaravati capital city, Andhra Pradesh	3.54



Departments

Sl. No.	Project Number	Principal Investigator Co-Investigator 1	Agency Name	Title	Sanction Value (Rs. in lakh)
194	IC1819CIE170DBPLBNAE	Nageswara Rao B	DB Power Limited	Proof-checking of design of bridges of DBPL railway project	2.25
195	IC1819CIE171PRDRPALA	Alagusundaramoorthy P	Precision Drawell Private Limited	Energy absorbtion test on concrete panels	3.84
196	IC1819CIE172VECEPALA	Alagusundaramoorthy P	Velciti Consulting Engineers(P) Limited	Structural proof checking/ vetting/approval of designs and drawings of LUVPs and VUPs at Ulundurpet to Padalur Stretch	4.72
197	IC1819CIE173LPWDPALA	Alagusundaramoorthy P	Lakshmi PWD Contractor	Review of the analysis and design and vetting the drawings for the construction of 1188 EWS tenements for Tamil Nadu Slum Clearance Board	5.61
198	RB1819CIE020PCPRPALA	Alagusundaramoorthy P	P&C Projects	Connection design of steel structural members in main crash area and angular crash area in APSL Building at GARC Chennai	23.6
199	IC1819CIE174DPWRPALA	Alagusundaramoorthy P	DPWorld	Condition assessment of the ship damaged portion in CCTPL Wharf	14.3
200	IC1819CIE175PRBHBNAE	Nageswara Rao B	Prasar Bharati	Assessing condition and structural adequacy of TV tower at Doordarshan HPT Mysore	7.97
201	IC1819CIE176HORIAMEH	Meher Prasad A	Horizons Industrial Development Company Co.LLC	Structural design of Ras Al Hamra Project	8.45
202	IC1819CIE177KELLSUBH	Subhadeep Banerjee Robinson R G	Keller Ground Engineering India Private Limited	Review of the geotechnical design of BCIS Piles for Tankages (Part B) at HPCL Refinery, Visakhapatnam	3.54
203	IC1819CIE178DAILINDU	Indumathi M Nambi	Daimler India Commercial Vehicles Private Limited	Design evaluation, comparison and validation of the biogas plant at DICV premises	4.13
204	IC1819CIE179TWMLSMOH	Mohan S	Tamil Nadu Waste Management Limited	Post closure estimation for solid and hazardous waste landfills	4.13
205	IC1819CIE180IONEBAE	Nageswara Rao B	Ion Exchange India (Limited)	Proof-checking the structural design of water treatment works of 2x660 Super Thermal Power Project, Rampal, Bangladesh	5.75
206	IC1819CIE181ASBLBNAE	Nageswara Rao B	Ashoka Buildcon Limited	Proof-checking and vetting of design and drawings of major bridge at Ch. 41+812, major bridge at Ch. 47+886 and major bridge at Ch. 57+088	8.85



Sl. No.	Project Number	Principal Investigator Co-Investigator 1	Agency Name	Title	Sanction Value (Rs. in lakh)
207	IC1819CIE182GOVRDEVD	Devdas Menon	Government of Andhra Pradesh	Crossing six-lane bridge and additional two-lane service road bridge on either side @KM:64.375 of Polavaram Left Main Canal near Prathipadu, East Godavari, Andhra Pradesh	6.49
208	IC1819CIE184PIPLDEVD	Devdas Menon	PIPLMC Circle	Proof-checking of bridge (5+5 lanes) crossing of Polavaram Left Main Canal @ Km 77.175 (NH16 @Km 843.62, Chendurthi)	6.49
209	IC1819CIE185MACODALI	Dali Naidu Arnepalli	Mayurika Construction	Design and proof-checking of RE walls for formation of bye-passes at Kelambakkam and Thiruporur Villages on Rajiv Gandhi Salai (OMR)	2.75
210	IC1819CIE186MACODALI	Dali Naidu Arnepalli	Mayurika Construction	Design and proof-checking of RE wall for ROB at Bypass Road to Thiruttani	2.75
211	IC1819CIE188PSGPSTGR	Raghu Kanth ST G	PS Group Realty Private Limited	Seismic hazard assessment for our proposed residential project, 11, Sarat Bose Road, Kolkata - 700 020	8.26
212	IC1819CIE187LTCHSTGR	Raghu Kanth ST G	L&T Construction Heavy Civil Infrastructure	Site-specific spectra for PSC bridge over Bramhaputra river	9.44
213	IC1819CIE189SMCCSARU	Arul Jayachandran S	SMCC Construction India Limited	Validation for steel PEB structure	9.8
214	IC1819CIE190CRALSARU	Arul Jayachandran S	Craftsman Automation Limited	RKS-MI-UP—Upright profile and cross beam for IIT testing	3.01
215	IC1819CIE191KELLRGRO	Robinson R G Subhadeep Banerjee	Keller Ground Engineering India Private Limited	Proof-checking of ground improvement works for LPG mounts at Kharagpur	2.36
216	IC1819CIE192TBSSRSA	Satish Kumar S R	Tata Blue Scope Steel	Proof-checking of PEBs	4.7
217	IC1819CIE193MBELSRSA	Satish Kumar S R	M & B Engineering Limited	Proof-checking of PEB for Jindal Polyfilm 1104 Buld.	2.8
218	IC1819CIE194PVRCGAPP	Appa Rao G	P V Raj and Co	Proof-checking of design and drawings of HLB across river Vynatheya at 49/2 of TO2 to Udimidilanka, EG, AP	6.49
219	IC1819CIE195LTCNAMEH	Meher Prasad A	L&T Construction	Proof-checking of structural design/drawings for the expansion of Rajiv Gandhi International Airport, Hyderabad	59
220	IC1819CIE196EKKIAVEE	Veeraraghavan A	EKK Infrastructure Limited	Four laning of Thalassery-Mahe Bypass – proof-check on design	3.54



Departments

Sl. No.	Project Number	Principal Investigator Co-Investigator 1	Agency Name	Title	Sanction Value (Rs. in lakh)
221	IC1819CIE197CPWDDEVD	Devdas Menon	Central Public Works Department	Proof-checking of structural drawings for c/o of 726 residential quarters for Customs/Central Excise Department at Central Revenue Colony at Ranganathan Garden, Anna Nagar West, Chennai	14.16
222	IC1819CIE198NTECDALI	Dali Naidu Arnepalli	NTPC Tamil Nadu Energy Company Limited	Evaluation of geotechnical properties of soils and aggregates	4.25
223	IC1819CIE199GECPRAVG	Ravindra Gettu	Gammon Engineers and Contractors Private Limited	Testing of fibre reinforced concrete for the Udampur-Srinagar-Baramulla Railway Project of Gammon	3.19
224	IC1819CIE200RELN SUBH	Subhadeep Banerjee	Reliance Infrastructure Limited	Review and recommendation of the soil report and proposed foundation system for Uppur TPP	2.95
225	IC1819CIE201TSCBABOO	Boominathan A	Tamil Nadu Slum Clearance Board	Geotechnical Investigation at P.K. Nagar Colony Chennai (Corp. Div: 77)	21.54
226	IC1819CIE202AAAAABOO	Boominathan A	Common Code	Recommendation for tank foundations of EACOP tank facilities package, Tanzania	0
227	IC1819CIE203EKKIDEVD	Devdas Menon	EKK Infrastructure Limited	Proof-checking of design and drawings of viaduct from Ch:1+786 to Ch:2+013	8.85
228	RC1819CIE793JHAMSARU	Arul Jayachandran S	Jhamuna Tower Tech	Efficient design of steel tower structures	5.9
229	RB1819CIE021SEILDALI	Dali Naidu Arnepalli	Sembcorp Energy India Limited	Stability analysis of dyke embankment and design of filter materials for construction of ash dyke raising at SEMBCORP Energy India Limited	7.08
230	IC1819CIE204BHELS RSA	Satish Kumar S R	Bharat Heavy Electricals Limited	Proof-checking of structural design and drawings for BIFPCL Maitree Project	12.56
231	IC1819CIE208AAAAGAPP	Appa Rao G	Common Code	Testing and characterisation of structural materials and systems	0
232	IC1819CIE209TSCBABOO	Boominathan A	Tamil Nadu Slum Clearance Board	Geotechnical investigation at Grey Nagar Pallam, Chennai, Corporate Division 73	25.96
233	IC1819CIE205GOVRDEVD	Devdas Menon	Government of Andhra Pradesh	Proof-checking of designs and drawings for the above NH 16 crossing at @KM 103.658 of Polavaram Irrigation Project Left Main Canal near Goverayyakoneru (v) of Tuni(M) in East Godavari, AP (NH-16@km 816.750)	6.49



Sl. No.	Project Number	Principal Investigator Co-Investigator 1	Agency Name	Title	Sanction Value (Rs. in lakh)
234	IC1819CIE206GOVRDEVD	Devdas Menon	Government of Andhra Pradesh	Proof-checking of construction of National Highway Crossing of six-lane bridge and additional two-lane service road bridge on either side @ Km:93.700+1019m of Polavaram Irrigation Project Left Main Canal near Arempudi(v) of Sankavaram (M) in East Godavari	6.49
235	IC1819CIE207LTCWAMEH	Meher Prasad A	L&T Construction, Water & Effluent Treatment IC	Proof-checking and approval of major bridges, drains and structural units of sewage treatment plant with intermediate pumping stations for Amaravati capital city-Zone 10	10.75
236	IC1819CIE210GOVRDEVD	Devdas Menon	Government of Andhra Pradesh	Proof-checking of designs and drawings of NH Bridge crossing @Km.88.035 of LMC near Bendapudi Village	6.49
237	IC1819CIE211SHRPLIGY	Ligy Philip Sreenivasa Murthy B	Shriram Pistons & Rings Limited	Study of contaminated UPSIDC Plot No: A-19, Meerut Road, Ghaziabad and study the adequacy of existing ETP and submit and adequacy report	13.57
238	IC1819CIE212PEBSSRSA	Satish Kumar S R	PEBS Pennar	Proof-checking of PEBs for GMR, MRF and RVNL	14.55
239	IC1819CIE213SANFBNAE	Nageswara Rao B	Sanfield India Limited	Evaluation of Mechanical Splices/Couplers (16,20,25, 28 32 and 40 mm size couplers)	24.78
240	RB1819CIE022SGIPAMEH	Meher Prasad A	Saint-Gobain India Private Limited	Testing of gypsum partition wall system under wind pressure and gypsum partition wall system under in plane cyclic shear loading	11.21
241	IC1819CIE214LTCNAMEH	Meher Prasad A	L&T Construction	Construction of a six-lane iconic bridge across River Krishna at Amaravathi, Andhra Pradesh (except iconic cable-stayed bridge portion)	16.52
242	IC1819CIE215SPPLGAPP	Appa Rao G	SBEC Projects Private Limited	Proof-checking of structural design of super-specialty hospitals at Bilaspur and Jagdalpur	7.08
243	IC1819CIE216INLISTGR	Raghu Kanth S T G	Infosys limited	Seismic hazard study analysis for Infosys Noida Campus	8
244	IC1819CIE219KSNVSARU	Arul Jayachandran S	KSN Ventures	Design checking of steel space frame shed for limestone stockpile at Ghorahi Cement Plant, Nepal	3.19



Departments

Sl. No.	Project Number	Principal Investigator Co-Investigator 1	Agency Name	Title	Sanction Value (Rs. in lakh)
245	IC1819CIE220SPLISARU	Arul Jayachandran S	SPL Infrastructure Private Limited	Field tests at Marthandam (two static proof load test and one dynamic evaluation tests) and Parvatipuram (one static proof load tests)	8.38
246	IC1819CIE217BSCPDEVD	Devdas Menon	BSCPL Infrastructure Limited	Rehabilitation and up-gradation of Repalle to Eppurpalem section from Km 129/927 to Km 195/000 of NH-214A (New NH-216) to two lanes with paved shoulder in the state of Andhra Pradesh under NHDP-IV	13.22
247	IC1819CIE218LNTLGAPP	Appa Rao G	L&T Limited	Proof-checking of design of concrete lining for large UG structures APH1 and APH2	4.72
248	RB1819CIE023CACXRADH	Radhakrishna G Pillai	Concrete Additives and Chemicals Private Limited	ASTM standards for CAC - Corrobit OCI - Testing	7.08
249	IC1819CIE221TSCBABOO	Boominathan A	Tamil Nadu Slum Clearance Board	Geotechnical investigation at Subedar Garden Scheme, ChennaiCorp. Div. 112	18.88
250	RB1819CIE024JKLCMANU	Manu Santhanam	J K Lakshmi Cement Limited	Proposal for collaborative development	13.23
251	RB1819CIE025GCIOSMOH	Mohan S	German Corporation for International Cooperation	Assessment of viable technical, financial and operational aspects of the proposed CETP	10.5
252	IC1819CIE222CMWSLIGY	Ligy Philip	Chennai Metropolitan Water Supply and Sewerage Board	Help in DPR preparation with plant parameters and design outline for contingency measures to augment the water supply by CMWSSB	5
253	IC1819CIE223TWMLSMOH	Mohan S Robinson R G	Tamil Nadu Waste Management Limited	Design and monitoring of Cell VII and VIII	8.85
254	IC1819CIE224TWMLSMOH	Mohan S Robinson R G	Tamil Nadu Waste Management Limited	Design and monitoring of Cell I construction in Virudhunagar	7.08
255	IC1819CIE225TSCBABOO	Boominathan A	Tamil Nadu Slum Clearance Board	Geotechnical investigation at TNSCB Project sites at Corp. Div.117 and 122, Chennai	34.22
256	IC1819CIE226FLUHBSMU	Sreenivasa Murthy B	Fluid Hammer Consultancy Services (P) Limited	Vetting of surge analysis reports and distribution systems	10.03
257	IC1819CIE230LTCWVENU	Venu Chandra	L&T Construction, Water & Effluent Treatment IC	Vetting and approval of hydraulics and general arrangement drawings pertaining to Byarma MVRWSS, Damoh, Madhya Pradesh	6.49



Sl. No.	Project Number	Principal Investigator Co-Investigator 1	Agency Name	Title	Sanction Value (Rs. in lakh)
258	IC1819CIE227VMSCRUPE	Rupen Goswami	VMS Consultants Private Limited	Upgrading design guidelines and building codes cum specifications with respect to multiple disasters for the state of J&K with specific reference to seismic zones IV and V	7.08
259	IC1819CIE228DDFCRUPE	Rupen Goswami Amlan K Sengupta	DDF Consultants Private Limited	Design checking of three buildings of permanent campus of IIT Palakkad	9.58
260	IC1819CIE229LTLCSSTGR	Raghu Kanth S T G	L&T Limited, Construction	Site specific spectra for Amravati Iconic Bridge Project	9.44
261	IC1819CIE232FBACAMEH	Meher Prasad A	FBA Consulting India Private Limited	Proof-checking for the proposed City Operations Center (COC) Building	6.84
262	IC1819CIE233LTCWVENU	Venu Chandra	L&T Construction, Water and Effluent Treatment IC	Vetting and approval of hydraulics and general arrangement drawings pertaining to Payli MVRWSS, Madhya Pradesh	9.44
263	IC1819CIE234ICILSRSA	Satish Kumar S R	Indian Commerce and Industries Company Private Limited	Proof-checking of PEBs for LGB, ASV and Brakes India	8.5
264	IC1819CIE235BLKASRSA	Satish Kumar S R	B.L. Kashyap & Sons Limited	Checking of CMRL UAA10 Project at Shenoy Nagar	8
265	IC1819CIE236MSIPSRSA	Satish Kumar S R	Metal Scope Private Limited	Proof-checking design of PEB for Terex India	2.2
266	RB1819CIE026LTCHPIYS	Piyush Chaunsali Manu Santhanam	L&T Construction Heavy Civil Infrastructure	Thermal analysis of mass concrete	4.72

Details of sponsored projects

S.No	Project Number	Principal Investigator	Co-Investigator 1	Agency Name	Title	Sanction Value (Rs. In Lakhs)
1	CIE1819262IGSTBSMU	Sreenivasa Murthy B		Indo-German Science & Technology Centre	Smart and reliable water and wastewater infrastructure systems for our future cities in India and Germany (SMART and WISRE)	87.8
2	CIE1819263DSTXBALJ	Balaji Narasimhan		Department of Science & Technology	VAJRA Visiting Faculty, Dr.Raghavan Srinivasan	26.25
3	CIE1819264DSTXMANU	Manu Santhanam		Department of Science & Technology	VAJRA Visiting Faculty, Dr.Narayanan Neithalath	16.4
4	CIE1819270ICARBALJ	Balaji Narasimhan		Indian Council of Agricultural Research	Assessment of hydrological impacts due to climate change and development of best irrigation and crop management strategies that increase the resilience	11.5
5	CIE1819271DSTXJMUR	Muralikrishnan J		Department of Science & Technology	Influence of polymer dosage and nature of bitumen on the microstructural and rheological characteristics of polymer modified binders	7.81



S.No	Project Number	Principal Investigator	Co-Investigator 1	Agency Name	Title	Sanction Value (Rs. In Lakhs)
6	CIE1819272DSTXARUM	Arun Menon		Department of Science & Technology	Development seismic strengthening strategies for ancient South Indian mandapas (women scientist)	27.65
7	CIE1819273ICMRINDU	Indumathi M Nambi	Mathava Kumar S	Indian Council for Medical Research	Environmental antimicrobial resistance—creation of a region-specific metagenomic database and strategies for halting the propagation of AMR	123.54
8	CIE1819274DSTXSACI	Sachin S Gunthe		Department of Science & Technology	Properties of atmospheric aerosols from contrasting environment in continental and marine boundary layer over tropical Indian region	16.08
9	CIE1819275DSTXSMSH	Shiva Nagendra S M	Prakash Maiya M	Department of Science & Technology	Toxicity and personal exposure assessment of fine particulate matter and VOCs at air pollution hotspots under changing climatic conditions	13.03
10	CIE1819276DSTXJMUR	Muralikrishnan J		Department of Science & Technology	A multi-scale approach for characterization of fatigue of bituminous materials	13.81
11	CIE1819277DSTXAMLA	Amlan K Sengupta	Radhakrishna G Pillai	Department of Science & Technology	Structural behaviour of corroding prestressed concrete systems and extension of service life using cathodic protection	39.6
12	CIE1819278DSTXSOU	Soumendra Nath Kuiry	Sreenivasa Murthy B	Department of Science & Technology	Experimental and numerical model study of urban flood	47.05
13	CIE1819279DSTXLIGY	Ligy Philip	Pradeep T	Department of Science & Technology	Centre for Sustainable Treatment, Reuse and Management for Efficient, Affordable and Synergistic Solutions for Water (WATER-IC for SUTRAM of EASY WATER)	446.56
14	CIE1819280CSIRSACI	Sachin S Gunthe		Council of Scientific and Industrial Research	Type and diversity of ice nucleating microbes under varying environments: implications of natural and anthropogenic bioaerosols	10.43
15	CIE1819281MOMIKRAM	Ramamurthy K	Robinson R G	Ministry of Mines	Use of overburden clay as alternate for coarse aggregate	70
16	CIE1819285MUAYMANU	Manu Santhanam		Uchhatar Avishkar Yojana - IIT Madras	Development of acoustic pulse based testing system for concrete	67.6
17	CIE1819286MIMPBENN	Benny Raphael	Ravindra Gettu	Impacting Research Innovation and Technology - IMPRINT	3D Printing and construction automation for affordable housing	108.99
18	CIE1819287UKINRAVG	Ravindra Gettu	Satyanarayana K N	UK-India Social Innovation Challenge	Recycling of demolished waste concrete using solar energy	1.3
19	CIE1819288SERBRADH	Radhakrishna G Pillai		Science and Engineering Research Board	Corrosion protection and service life extension of reinforced concrete roofing systems in existing buildings	10.05



S.No	Project Number	Principal Investigator	Co-Investigator 1	Agency Name	Title	Sanction Value (Rs. In Lakhs)
20	CIE1819289SPARLELI	Lelitha Devi V	Bhargava Rama Chilukuri	Scheme for Promotion of Academic and Research	Advanced techniques for mobility and congestion analysis for Indian cities	36.48
21	CIE1819290SPARBNAE	Nageswara Rao B	Srinivasa Reddy K	Scheme for Promotion of Academic and Research	Development of inspection and structural health monitoring techniques for solar power plant systems	53.84
22	CIE1819291SPARPIYS	Piyush Chaunsali	Ravindra Gettu	Scheme for Promotion of Academic and Research	Sustainability of novel cementitious binders derived from industrial by-products	35.49
23	CIE1819292SERBVENT	Venkatraman Srinivasan		Science and Engineering Research Board	Investigating the influence of crop canopy architecture on the dynamics of spatio-temporal light distribution and its effect on photosynthesis, transpiration and crop yield	40.78





4.7. Department of Computer Science and Engineering

4.7.1. Introduction

Started as the Computer Centre in 1973, the Department of Computer Science and Engineering (CSE) was established as a full-fledged department in 1983. The department has 700 students and more than 30 faculty members. About 60 per cent of the students are postgraduates, mostly supported by Government of India scholarships and research projects. The department also offers several attractive industry-sponsored fellowships to outstanding Ph.D. scholars. The vision of the department is “global excellence and local relevance” in research, teaching and technology development in the field of computer science and engineering.

4.7.2. Academic Programmes

B.Tech, Dual Degree (B.Tech. and M.Tech.), M.Tech, M.S., Ph.D., Dual M.S./Ph.D., Dual M.Tech./Ph.D; Inter-disciplinary Dual Degree in Data Science (B.Tech/M.Tech)

New discipline/branch introduced

A dual-degree B.Tech/M.Tech programme in Data Science– open to all B.Tech students of IIT Madras–has been started from January 2018.

A web based M.Tech. programme on Information Security for the employees of Bank of New York Mellon and Qualcomm Private Limited has been started from August 2018.

New courses introduced

Sl. No.	Course No.	Title
1	CS6025	Sublinear Algorithms
2	CS6886	Systems Engineering for Deep Learning
3	CS4830	Big Data Laboratory
4	CS5666	Foundations of Block Chain Technology
5	CS6910	Fundamentals of Deep Learning
6	CS6666	Block Chain and Distributed Ledger Technologies
7	CS7020	Advances in Theory of Deep Learning
8	CS7370	Causal Inference
9	CS8852	Topics in Semantic Web

New lab(s) established

1. RISE Lab Extension

Students on roll as of September 2018+M.S. and Ph.D admission in January 2019

Programme	Year I	Year II	Year III	Year IV	Year V and others	Total
B. Tech. and Dual Degree	73	63	61	58	54	309
M. Tech.	47	57	3	7	0	114
M.S.	5	17	22	24	11	79
Ph.D.	8	10	9	11	56	94
Total	133	147	95	100	121	596



Student/Scholar who attended conference/seminar/symposium/workshop abroad/India

Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue
1	Krishnapriya A M, Amit Rawat	CS15M062 CS14S025	17 th International Symposium on Experimental Algorithms (SEA 2018)	27-29 June 2018, L'Aquila, Italy
2	Ananya Sai, Preksha Nema	CS16M037 CS15D201	27 th International Joint Conference on Artificial Intelligence (IJCAI 2018)	13-19 July, 2018, Stockholm, Sweden
3	C Ramya, Raghavendra Rao B.V.	CS13D025	COCOON 2018, The 24 th International Computing and Combinatorics Conference	2-4 July 2018, Qingdao, China
4	Shreyas Shetty M	CS15S003	The 16 th Annual Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies	1-6 June 2018, New Orleans, Louisiana, USA
5	Jyothi Vedurada	CS13D201	IPDPS 2018	21-25 May 2018, Vancouver, Canada
6	Sumathi Sivasubramaniam	CS12D018	IPDPS 2018	21-25 May 2018, Vancouver, Canada
7	Ahana Chatterjee		IEEE International Conference on Robotics and Automation	21-25 May 2018, Brisbane, Australia
8.	Neha Dubey	CS15S020	Thirty-First International Florida Artificial Intelligence Research Society Conference, FLAIRS-2018	21-23 May 2018, Melbourne, USA
9	Suman Banerjee	CS16S019	27 th International Conference on Computational Linguistics (COLING 2018)	20-26 August 2018, Santa Fe, New Mexico, USA
10	Devi Ganesan	CS16D005	27 th International Joint Conference on Artificial Intelligence (IJCAI 2018)	13-19 July 2018, Stockholm, Sweden
11	Devi Ganesan	CS16D005	26 th International Conference on Case-Based Reasoning (ICCBR 2018)	9-12 July 2018, Stockholm, Sweden
11.	Jyothi Krishna	CS13D022	International Conference on Embedded Software (EMSOFT)	30 September-5 October 2018, Italy
12.	Mullai Thiagu	ED14D006	International Conference on Digital Image Correlation (iDIC)	15-18 October 2018, China
13.	Preksha Nema	CS15D201	Empirical Methods in Natural Language Processing (EMNLP 2018)	31 October-4 November 2018, Brussels, Belgium
14.	Nikita Moghe, Siddhartha Arora, Suman Banerjee	CS16S016 CS15S002 CS16S019	EMNLP 2018	31 October-4 November 2018, Brussels, Belgium
15.	Sayanti Bardhan	CS16S036	3 rd International Conference on Computer Vision and Image Processing (CVIP)	29 September-1 October 2018, IIITDM Jabalpur
16.	Geethu Miriam Jacob	CS13D019	International Conference on Advanced Concepts for Intelligent Vision systems (ACIVS), LNCS (Springer)	24-27 September 2018, Poitiers, France
17.	Avishek Bhattacharjee	CS16S025	IEEE Conference on Biometric Special Interest Group (BIOSIG)	27-28 September 2018, Darmstadt, Germany
18.	Geethu Miriam Jacob	CS13D019	In Women in Computer Vision (WiCV), 15 th European Conference on Computer Vision Workshops (ECCVW)	8-14 September 2018, Munich, Germany
19.	Prateep Bhattacharjee	CS15S027	Anticipating Human Behavior (AHB), ECCVW	8-14 September 2018, Munich, Germany
20.	Avishek Bhattacharjee,	CS16S025	Geometry Meets Deep Learning (GMDL), ECCVW	8-14 September 2018, Munich, Germany
21	Ujjal Kumar Dutta	CS14D407	International Conference on Artificial Neural Networks	4-7 October 2018, Rhodes, Greece



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue
22	Ujjal Kumar Dutta	CS14D407	International Conference on Image Processing	7-10 October 2018, Athens, Greece
23	Sasikiran Yelamarthi, Shiva Krishna Reddy M, Ashish Mishra	CS15D003	European Conference on Computer Vision (ECCV)	September 2018
24	Preksha Nema	CS15D201	Empirical Methods in Natural Language Processing (EMNLP 2018)	31 October-4 November 2018, Brussels, Belgium
25.	Nikita Moghe	CS16S016	EMNLP 2018	31 October-4 November 2018, Brussels, Belgium
26.	Geethu Miriam Jacob	CS13D019	Women in Computer Vision (WiCV), ECCVW	8-14 September 2018, Munich, Germany
27.	Geethu Miriam Jacob	CS13D019	ACIVS	24-27 September 2018, Poitiers, France
28.	Ujjal Kumar Dutta	CS14D407	International Conference on Artificial Neural Networks	4-7 October 2018, Rhodes, Greece
29	Ujjal Kumar Dutta	CS14D407	International Conference on Image Processing	7-10 October 2018, Athens, Greece
30.	Ashish Mishra	CS15D003	ECCV	September 2018, Munich
31.	Phanindra Palagummi	CS15S042	International Conference on Network and Service Management (CNSM)	November 2018, Rome, Italy;
32	Arun T	CS16S013	PACT 2018	November 2018, Cyprus
33	Jyothi Vedurada	CS13D201	OOPSLA 2018	November 2018, Boston
34	Geethu M Jacob, Prateep Bhattacharya	CS13D019, CS15S027	14 th Asian Conference on Computer Vision (ACCV)	2-6 December 2018, Perth, WA, Australia
35.	Ditty Mathew	CS12D008	Thirty-First Australian Joint Conference on Artificial Intelligence	11-14 December 2018, Wellington, New Zealand
36.	Manas Thakur	CS13D023	International Conference on Compiler Construction (CC) 2019	16-20 February 2019, Washington DC, USA
37.	Ananya B Sai	CS16M037	The Thirty-Third AAAI Conference on Artificial Intelligence (AAAI-19)	27 January-1 February 2019, Honolulu, Hawaii
38.	Somesh Singh	CS14D406	Principles and Practice of Parallel Programming (PPoPP)	16-20 February 2019, Washington DC, US
39.	Raghesh Aloor	CS12D015	International Conference on Compiler Construction (CC) 2019	22-26 February 2020, San Diego, CA, USA
40.	V Patel, N Mujumdar, P Balasubramanian, S Marvaniya	CS14S032	Winter Conference on Applications of Computer Vision (WACV 2019)	7-10 January, 2019, Hawaii
41.	Saptakatha Adak	CS16S015	3 rd International Conference on Computer Vision and Image Processing (CVIP)	29 September-1 October 2018, IIITDM Jabalpur
42.	Avishek Bhattacharjee	CS16S025	CVIP	29 September-1 October 2018, IIITDM Jabalpur
43.	Nauman Dawalatabad, Jom Kuriakose	CS14D210, CS13D208	Interspeech 2018	2-6 September 2018, Hyderabad, India
44	Arun Baby, Karthik Pandia D S	CS15S016, CS14D001	6 th International Workshop on Spoken Language Technologies for Under-resourced Languages (SLTU'18)	29-31 August 2018, New Delhi, India



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue
45.	Mari Ganesh Kumar, Saranya M S	CS15D405 CS15D006	Speech Music and Mind-a satellite workshop of Interspeech 2018	31 August 2018 Hyderabad, India
46	Srihari Maruthachalam, Sidharth Agarwal	CS16S024 CS17S012	Interspeech, pp. 1059-1060	2-6 September 2018, Hyderabad, India
47	Jeena J Prakash	CS13D003	Interspeech 2018	2-6 September 2018, Hyderabad, India
48	Anju Leela Thomas, Anusha Prakash, Arun Baby	CS17S032 CS15S016	Interspeech 2018	2-6 September 2018, Hyderabad, India
49	Jeena J Prakash, Golda Brunet Rajan	CS13D003 CS09D012	Interspeech 2018	2-6 September 2018, Hyderabad, India
50	Saranya M S.	CS15D006	Interspeech 2018	2-6 September 2018, Hyderabad, India
51	Jilt Sebastian	CS13D020	Interspeech 2018	2-6 September 2018, Hyderabad, India
52	Karthik Pandia	CS14D001	Doctoral Consortium, a satellite event of Interspeech 2018	2-6 September 2018, Hyderabad, India
53	Nauman Dawalatabad, Rupam Ojha, Jyostna B. Devi	CS14D210 CS15S025 CS13D021	Interspeech 2018	2-6 September 2018, Hyderabad, India
54	Karthik Pandia	CS14D001	Interspeech 2018, SLTU 2018, Doctoral Consortium	2-6 September 2018, Hyderabad, India
55	M S Saranya	CS15D006	Interspeech 2018	2-6 September 2018, Hyderabad, India
56	Jeena J Prakash	CS13D003	Interspeech 2018	2-6 September 2018, Hyderabad, India
57	Jilt Sebastian	CS13D020	Interspeech 2018	2-6 September 2018, Hyderabad, India
58	Jom Kuriacose	CS13D208	Interspeech 2018	31 August-6 September 2018, Hyderabad, India
59	Mari Ganesh Kumar	CS15D405	Interspeech 2018, SMM 2018	31 August-6 September 2018, Hyderabad, India
60	Anju Thomas	CS17S032	Interspeech 2018, WIS 2018	31 August-6 September 2018, Hyderabad, India
61	M Srihari	CS16S024	Interspeech 2018	2-6 September 2018, Hyderabad, India
62	Sidharth Agarwal	CS17S012	Interspeech 2018	2-6 September 2018, Hyderabad, India
63	V. Prasanna Karthik, Sareena KP, Himanshi Jain	CS14D010, CS15D400, CS16S014	International Conference on Security, Privacy, and Applied Cryptography (SPACE 2018)	15-19 December 2018, Kanpur, India
64	V. Prasanna Karthik, Keerthi K, Sourav Das, Muhammad Arsath K. F., Suganda Tiwari	CS14D010, CS17D013, CS17S023, CS16S035, CS17S001	Cyber Security Awareness Workshop (CSAW 2018)	8-11 November 2018, Kanpur, India
65	Sonam Gupta, Geethu M Jacob, Kitty Varghese, Prateep Bhattacharya, Avisekh Bhattacharya, Saptakatha Adak, Sandeep N Narayanan, Sadbhavana Babar, R. Janani, Sayanti Bardhan	CS18D005, CS13D019, CS18D300, CS15S027, CS16S015, CS16S037, CS18S029, CS17S009, CS16S036	11 th Indian Conference on Computer Vision, Graphics and Image Processing (ICVGIP)	18-22 December 2018, Hyderabad, India



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue
66	Ditty Mathew	CS12D008	Fifteenth International Conference on Natural Language Processing, ICON	15-18 December 2018, Patiala, India
67	Monosij Maitra	CS15D010	Theory of Cryptography Conference (TCC) 2018	14-18 November 2018, Goa, India
68	Anshu Yadav	CS18D008	TCC 2018	14-18 November 2018, Goa, India
69	Rajarshi Biswas	CS17S007	TCC 2018	14-18 November 2018, Goa, India
70	Mari Ganesh Kumar	CS15D405	Winter School on Speech and Audio Processing	27-29 January 2019, Trivandrum, India
71	Ashika Naidu	CS12D022	Computational Brain Research Workshop 2019	2-9 January 2019, IIT Madras

Students/scholars who won outside prizes and awards

Sl. No.	Student/Scholar	Roll No.	Prize	Prize awarded by
1	Devi Ganesan	CS16D005	Best Student Video award, ICCBR 2018 Video Competition (for video, Knowledge tradeoffs in case-based reasoning)	
2	Devi Ganesan	CS16D005	Microsoft Travel Grant-2018	
3.	Geethu Miriam Jacob	CS13D019	Best student paper award in 16 th ACIVS, 24-27 September 2018, for the paper: Large parallax image stitching using an edge-preserving diffeomorphic warping process	Poitiers, France
4.	Saptakatha Adak	CS16S015	Best student paper award for Things at your desk: a portable object dataset, Saptakatha Adak, 3 rd International Conference on Computer Vision and Image Processing (CVIP'18), 29 September-1 October 2018	IITDM, Jabalpur, India
5.	Arun T and V Krishna Nandivada	CS16S013	Best paper at PACT 2019, for paper, Optimizing remote data transfers in X10	
6.	Himanshi Jain (MS scholar)	CS16S014	Second prize in Young Researcher Forum in the 8 th Security, Privacy, and Applied Cryptography 2018, Kanpur	
7.	V. Prasanna Karthik (PhD scholar)	CS14D010	First prize, Applied Research Contest, CSAW 2018, Kanpur	
8.	Revathy Narayanan (PhD scholar)	CS14D405	Best Poster Runner-up Award at ACM MobiCom 2018, Delhi, November 2018; poster: Maintaining UAV stability using low-power WANs; authors: Akshay Gadre, Revathy Narayanan, Swarun Kumar	
9.	Revathy Narayanan (PhD scholar)	CS14D405	Student Research Competition Award Bronze medal for the Best Student Presenter at ACM MobiCom 2018, Delhi, November 2018	
10.	Ditty Mathew	CS12D008	SERB-2018 Travel Grant	
11.	Ditty Mathew	CS12D008	ACM-W scholarship - 2018	
12.	Teja Vardhan Reddy		Qualified for the ICPC World Finals (competitive programming competition)	
13.	Pranav Gavvaji		Qualified for the ICPC World Finals	
14.	Milind Srivastava		S N Bose Scholarship	
15.	Manas Thakur	CS13D023	1) ACM IARCS Travel award (2) SIGMICRO Travel Grant	
16..	Keerthi K.	CS17D013	First Prize, ISEA - ISAP, Jaipur, 2019	
17.	Patanjali SLPSK, V. Prasanna Karthik	CS12D024 CS14D010	Shaastra 2019, one of top six posters	
18.	Ayush Maniar (EE), Rajat Singhal (CSE) and Pranav Pawar (MME)		First Prize, Microsoft Codefundo++ National Challenge	



4.7.3. Faculty and their Activities

Faculty

Professors

Name and Qualifications	Major Areas of Specialisation
Chandra Sekhar C., Ph.D. (IIT Madras) (Head of the Department)	Speech recognition, machine learning, kernel methods
Deepak Khemani, Ph.D. (IIT Bombay)	Artificial intelligence, knowledge-based systems, natural language processing and neural networks
Gonsalves T.A., Ph.D. (Stanford)	Computer networks, distributed systems, NMS, operating systems, performance evaluation, telecom software
Hema A. Murthy, Ph.D. (IIT Madras)	Speech technology, music analysis, pattern recognition, signal processing and machine learning, computational brain research
Janakiram D., Ph.D. (IIT Delhi)	Object-oriented systems, software engineering, parallel and distributed systems, database systems, mobile computing, computing education, computing for developing regions, mobile telemedicine
Kamakoti V., Ph.D. (IIT Madras)	Software for VLSI design, computational geometry, high performance computing
Krishna Moorthy Sivalingam, Ph.D. (SUNY Buffalo)	Wireless networks, optical networks, computer networks
Pandu Rangan C., Ph.D. (IISc, Bengaluru)	Algorithms, parallel and VLSI algorithms, graph theory, computational geometry, randomized algorithms, computational learning theory, crypto-analysis
Siva Ram Murthy C., Ph.D. (IISc, Bengaluru)	Parallel and distributed computing, real-time systems, wireless networks
Sreenivasa Kumar P., Ph.D. (IISc, Bengaluru)	Graph theory, algorithms, parallel computations, data mining and databases
Sukhendu Das, Ph.D. (IIT Kharagpur)	Visual perception, image intelligence, graphics and visualization
Madhu Mutyam, Ph.D. (IIT Madras)	Computer architecture
Narayanaswamy N.S., Ph.D. (IISc, Bengaluru)	Algorithms, complexity theory, artificial intelligence
Anurag Mittal, Ph.D. (University of Maryland)	Computer vision, pattern recognition and image understanding
Ravindran B., Ph.D. (University of Massachusetts, Amherst)	Machine learning, reinforcement learning, network analytics, deep learning
Associate Professors	
V. Krishna Nandivada, Ph.D. (University of California, Los Angeles)	Compilers, program analysis, programming languages, multicore systems
Sutanu Chakraborti, Ph.D. (The Robert Gordon University, UK)	Information retrieval, memory-based reasoning, machine learning
Jayalal Sarma M.N., Ph.D. (Institute of Mathematical Sciences, Chennai)	Computational complexity theory, circuit complexity, algebra and computation
John Augustine, Ph.D. (University of California, Irvine)	Distributed algorithms, randomised algorithms
Manikandan Narayanan, Ph.D. (University of California at Berkeley)	Bioinformatics, computational network biology, systems biology/genomics in health and disease, data science
Raghavendra Rao B.V., Ph.D. (Institute of Mathematical Sciences, Chennai)	Computational complexity theory, algebraic complexity, combinatorial commutative algebra, descriptonal complexity theory
Assistant Professors	
Rupesh Nasre, Ph.D. (IISc, Bengaluru)	Compilers, parallelization, program analysis
Meghana Nasre, Ph.D. (IISc, Bengaluru)	Algorithms, graph theory, matching algorithms
Chester Rebeiro, Ph.D. (IIT Kharagpur)	Hardware and system security, side-channel analysis, cryptography, computer architecture, operating systems, VLSI
Mitesh Khapra, Ph.D. (IIT Bombay)	Deep learning, natural language processing, question answering, multimodal multilingual conversation systems



Shweta Agrawal, Ph.D. (University of Texas, Austin)	Cryptography, information theory
L A Prashanth, Ph.D. (IISc, Bengaluru)	Reinforcement learning, stochastic optimization, multi-armed bandits
Yadu Vasudev, Ph.D. (Institute of Mathematical Sciences, Chennai)	Algorithms, especially sub-linear algorithms and computational complexity theory
Harish Guruprasad, Ph.D (IISc Bengaluru)	Machine learning, learning theory and optimisation
Pratyush Kumar, Ph.D (ETH, Zurich)	Cyber-physical systems, machine learning programming models, compilers, static analysis, schedulers, threading systems, and memory management
K C Sivaramakrishnan (Purdue University)	Machine learning, rank aggregation, statistical learning
Arun Rajkumar (IISc Bengaluru)	Machine Learning, rank aggregation, statistical learning

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

Sl. No.	Title	Period
Conferences		
1.	General Chair, Conference on Advanced Computing and Communication (ADCOM 2018) - Dr. B. Ravindran	21-23 September 2018, Bengaluru
2.	Co-organiser of an AI/ML conclave at IIT Madras in collaboration with ASSOCHAM and Latent View Analytics - Dr. B. Ravindran	23 October 2018, IIT Madras
Workshops		
1.	Organised a one-day workshop on Skilling India for AI in collaboration with NITI Aayog and NASSCOM - Dr. B. Ravindran	20 September 2018, Bengaluru
2.	8 th International Conference on Security, Privacy, and Applied Cryptography	15-19 December 2018, IIT Kanpur, India
3.	NVIDIA-IITM Hackathon	24-25 January 2019, CSE Department, IIT Madras
4.	Theory of Cryptography Conference	14-18 November 2018, Goa
5.	MSR Research Academic Summit (Jointly with MSR and ACM India)	24-25 January 2019, IIT Madras
6.	First RBC-DSAI Web Science Symposium	25-26 February 2019, IIT Madras
7.	One-year Certificate programme on Data Analytics jointly with Bombay Stock Exchange	June 2018 - June 2019, IIT Madras

Special lectures delivered by the faculty in other institutions

Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
1	Chester Rebeiro	Side channel analysis for post-quantum cryptography	SETS, Chennai Post Quantum Cryptography Workshop	27 March 2018
2	John Augustine	Distributed algorithms	NIT Trichy	27 March 2018
3	C Chandra Sekhar	Support vector machines and deep learning models	ECIT FDP, NIT Warangal	17 March 2018
4	Chester Rebeiro	Cache timing attacks	IIT Kharagpur	3 July 2018
5	Chester Rebeiro	Software side channel attacks	IIT Kharagpur	4 July 2018
6	Mitesh M. Khapra	Introduction to deep learning	ACM Summer School, Goa, India	13-14 June 2018
7	V Krishna Nandivada	Writing efficient parallel programs	IIT Mandi	13 June 2018
8	V Krishna Nandivada	Introduction to compiler optimizations	ACM summer school, Pune, India	21-22 June 2018
9	V Krishna Nandivada	Topics in compiler design	IIT Mandi	7 May-13 June 2018
10	Chester Rebeiro	Tools for side channel analysis	Cyberweek Conference, TAU, Israel	18 June 2018
11	Chester Rebeiro	Microarchitectural attacks	SETS, Chennai	30 June 2018
12	Chester Rebeiro	Secure coding	IIITDM	17 April 2018
13	C. Chandra Sekhar	Support vector machines and deep learning models	GITAM, Hyderabad	2 June 2018



Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
14	Meghana Nasre	ACM Summer School on Graph Theory and Graph Algorithms	PSG Tech Coimbatore	21-24 May 2018
15	Meghana Nasre	NCM IST Mathematics for Computer Science	CMI, Chennai	20-23 June 2018
16	Shweta Agrawal	Indistinguishability obfuscation	ENS de Lyon, France	22 May 2018
17	Harish Guruprasad Ramaswamy	Ensemble methods and learning theory	ACM Summer School, Goa, India	11 June 2018
18	C. Chandra Sekhar	Deep learning models for representation learning from image data	Vignan University, Guntur	29 September 2018
19	C. Chandra Sekhar	Neural networks, support vector machines and deep learning models	SRM University, Kattankalathur, Chennai	23 October 2018
20	Shweta Agrawal	Ad hoc multi-input functional encryption	ENS de Lyon, France	14 October 2018
21	Sutanu Chakraborti	Study of cognitive models influencing AI/ML	College of Engineering, Guindy	28 September 2018
22	Sutanu Chakraborti	Natural language processing and machine learning	SSN College of Engineering, Kalavakkam	7 September 2018
23	Hema Murthy	Classical machine learning, basics of linear algebra, unimodal and GMMs, HMMs, PCA, LDA	SRM University, Kattankalathur, Chennai	24 October 2018
24	Hema Murthy	Machine learning in audition	NPOL, Kochi, India	22 October 2018
25	N. S. Narayanaswamy	Expository lectures in geometric and graph algorithm	BITS Hyderabad	21-22 September 2018
26	B. Ravindran	Learning complex policies in deep reinforcement learning	Samsung, Bengaluru	6 September 2018
27	B. Ravindran	Learning complex policies in deep reinforcement learning	TCS Innovation Labs, Noida	14 September 2018
27	B. Ravindran	Why the recent excitement in AI?	Abbott Pharma, Mumbai	17 September 2018
28	B. Ravindran	A gentle introduction to deep reinforcement learning	SSN College of Engineering, Chennai	26 September 2018
29	B. Ravindran	Why the recent excitement in AI? (A manufacturing perspective)	St. Gobain Research Centre, IIT Madras Research Park	27 September 2018
30	B. Ravindran	Learning complex policies in deep reinforcement learning	Amazon, Bengaluru	28 September 2018
31	B. Ravindran	Introduction to deep reinforcement learning	Thiagarajar College of Engineering, Madurai	2 October 2018
32	Krishna Moorthy Sivalingam	5G Networks: Opportunities and challenges	International Conference on Advanced Computing, MIT Campus, Anna University, Chennai	14 December 2018
33	C Chandra Sekhar	Support vector machines and deep learning models	ECIT Faculty Development Program at Sri Venkateswara College of Engineering, Tirupati	15 November 2018
34	C. Chandra Sekhar	Deep learning models for image processing tasks	Pre-conference Tutorial at ICIIT 2018, College of Engineering, Guindy, Anna University	10 December 2018
35	Manikandan Narayanan	Biological/genomic data science: moving beyond correlation to causation	Pre-conference Tutorial at ICIIT 2018, College of Engineering, Guindy, Anna University	10 December 2018
36	Pratyush Kumar	Hardware-software co-design of deep learning systems	Seoul National University, NEST workshop by ETRI	19-20 December 2018
37	V. Krishna Nandivada	Efficiency and expressiveness in UW-OpenMP	UT Austin	8 February 2019



Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
38	Chester Rebeiro	Fault injection attacks and cache timing attacks	SAG, DRDO	7 February 2019
39	Chester Rebeiro	Secure systems engineering	ISEA, 2 nd Conference	9 January 2019
40	Chester Rebeiro	Secure systems engineering	RBI College, Chennai	3 January 2019
41	Meghana Nasre	Stability, popularity, and lower quotas	Complexity, Algorithms, Automata and Logic Meet (CAALM), Chennai Mathematical Institute, Chennai	22 January 2019
42	Meghana Nasre	Classified matchings with one-sided preferences	Recent Trends in Algorithms, NISER Bhubaneswar	7 February 2019
43	Hema A. Murthy	Signal processing and machine learning in speech	Madras University, Guindy Campus	18 February 2019
44	B. Ravindran	Beyond rewards	CoDS-COMAD 2019, Kolkata, Invited Talk	3 January 2019
45	B. Ravindran	Introduction to reinforcement learning	CCBR Workshop, IIT Madras	7 January 2019
46	B. Ravindran	An introduction to deep reinforcement learning	Tutorial, Indian Control Conference, IIT Delhi	10 January 2019
47	B. Ravindran	Panel discussion on the State of AI in India	PanIIT summit, IIT Delhi	20 January 2019
48	B. Ravindran	Moderated the IIT Director's panel discussion on the Role of IITs in AI in India	PanIIT summit, IIT Delhi	20 January 2019
49	B. Ravindran	How effective is AI?	IQUMA-TN annual meeting, Sri Ramachandra Medical College, Chennai	9 February 2019
50	B. Ravindran	A gentle introduction to reinforcement learning	19, DRDO Aero India Seminar, Bengaluru	19 February 2019
51	B. Ravindran	Beyond rewards	1 st NVIDIA AI Workshop on Research, Trends and Practices, Bengaluru	20 February
52	B. Ravindran	Looking under the hood of deep neural networks	Research Seminar on Applied Machine Learning, PSG Tech, Coimbatore	22 February 2019
53	B. Ravindran	Panel discussion on Nurturing a web science ecosystem in India	First RBC DSAI Web Science Symposium, IIT Madras	26 February 2019
54	N. S. Narayanaswamy	Dynamic matching algorithms	Recent Trends in Algorithms workshop, NISER Bhubaneswar	7-10 February 2019
55	N. S. Narayanaswamy	Survey of results on conflict-free coloring	Indo-Italian Workshop on Algorithms and Discrete Mathematics, IIT Kharagpur	11-12 February 2019

Visits abroad by faculty

Sl. No.	Faculty Member	Country Visited	Date	Purpose of visit	Funding from
1	John Augustine	NUS, Singapore	25-28 April 2018	Research discussions	
2	Krishna Moorthy Sivalingam	Hawaii, USA	13-24 April 2018	Session Chair at IEEE INFOCOM 2018 Conference	CPDA and Project
3	Manikandan Narayanan	Cold Spring Harbor Laboratory, USA	20-23 March 2018	Research poster presentation at Systems Biology: Global Regulation of Gene Expression meeting	
4	Chester Rebeiro	Tel Aviv University, Israel	17-24 June 2018	Invited talk at Cyber Week 2018 and possible collaborations with TAU in cyber security	



Sl. No.	Faculty Member	Country Visited	Date	Purpose of visit	Funding from
5.	John Augustine	University of Paderborn, Germany	20 May-10 June 2018	Research visit	
6.	C. Pandu Rangan	Washington D.C, USA	9-14 June 2018	Technical discussions for collaborative research	
7.	B. Ravindran		30 April-7 May 2018	On project	
8.	Janakiram D	Chicago, USA	30 May-11 June 2018	IOT - North America Conference	
9.	Meghana Nasre	LAquila, Italy	24-30 June 2018	17 th International Symposium on Experimental Algorithms	
10.	Shweta Agrawal	Bertinoro, Italy	20-25 May 2018	Attending Lattice Algorithms Workshop	
11.	Shweta Agrawal	ENS de Paris, Paris	1 June 2018	Examiner for PhD Defense	
12.	Shweta Agrawal	Lyon, France	26-31 May 2018	Research Collaboration	
13.	Sukhendu Das	Munich, Germany	8-14 September, 2018	European Conference on Computer Vision (ECCV)	
14.	Siva Ram Murthy C	Montreal, Canada	28 October-2 November, 2018	ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems	
15.	Krishna Nandivada V	Limassol, Cyprus	10 October-5 November 2018	Parallel Architectures and Compilation Techniques (PACT)	
16.	Shweta Agrawal	Lyon, France	15-19 October 2018	PhD Defense of Fabrice M.	
17.	Anurag Mittal	Singapore	19-21 September 2018	ACCV Area Chair Meeting	
18.	Raghavendra Rao B V	Hannover, Germany	3-16 October 2018	Project discussions	
19.	Krishna Moorthy Sivalingam	National Chiao Tung University, Hsinchu, Taiwan	10-17 November 2018	Research Collaboration	NCTU, Taiwan
20.	Sukhendu Das	14 th Asian Conference on Computer Vision (ACCV), Perth, WA, Australia	2-6 December 2018	Paper Presentation	
21.	Pratyush Kumar	Seoul National University, ETRI, Ajou University Seoul, Republic of Korea	17-22 December 2018	Invited talks	
22.	B. Ravindran	Honolulu, Hawaii, USA	28 January -2 February 2019	AAAI 2019 Conference	

Honours and awards obtained by faculty

Sl. No.	Faculty Member	Award	Awarded by	Awarded for	Date of award
i. Honours					
1	Rupesh Nasre.	A.P.J. Abdul Kalam HPC Award in the category of Young Researcher in R&D Systems		Young Researcher in R&D Systems	
2	C. Pandu Rangan	Institute Chair	IIT Madras		May 2018 onwards
3	Dr. M N Jayalal Sarma	Srimathi Marti Annapurna Gurunath Award for Excellence in Teaching 2017-18		Excellence in Teaching 2017-18	April, 2018
ii. Award					
1	V. Kamakoti	Techno Visionary Award	Indian Electronics and Semiconductor Association		



Journal editorial boards

Sl. No.	Faculty Member	Position (Editor/Member)	Journal Name
1	Krishna M. Sivalingam	Member	<i>IEEE Networking Letters</i>
2	Madhu Mutyam	Associate Editor	<i>IEEE Transactions on Computer Aided Design of Integrated Circuits and Systems</i>
3	B. Ravindran	Member	<i>Journal of Artificial Intelligence Research</i>
4	B. Ravindran	Academic Editor	<i>PLoS One Journal</i>
5	B. Ravindran	Associate Editor	<i>Frontiers in AI and Machine Learning</i>
6	C. Pandurangan	Member	<i>IET Information Security</i>
7	Venkata Krishna Nandivada	Associate Editor	<i>Sadhana</i>

4.7.4. Research and Consultancy

Sponsored research projects (ongoing and new)

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
1	Indigenous 5G test bed (building an end-to-end 5G test bed) in India	Three years, March 2018-March 2021	Department of Telecommunication	597	Radhakrishna Ganti (EE), Bhaskar Ramamurthi (EE), Nitin Chandrachoodan (EE), Aniruddhan S (EE), Giridhar (EE), Krishna Moorthy Sivalingam
2	Exploring algorithm design for catalytic memory	One year, 8 March 2018-7 March 2019	IC & SR Research Fund	9.75	Jayalal Sarma MN
3	National Blockchain Project	Five years	NCSC	3,300	Shweta Agrawal, Manindra Agrawal (IIT Kanpur) and Sandeep Shukla (IIT Kanpur)
4	Automatic question generation using reinforcement learning	Three months	Adobe	5000 USD	Mitesh M. Khapra
5	Distributed algorithmic foundations of large-scale graph computation	Three years	SERB	17 lakh USD (first sanction)	John Augustine (host) and Gopal Pandurangan (VAJRA Visiting Faculty)
6	VAJRA Visiting Faculty - Dr. Gopal Pandurangan	29 March 2018-28 March 2021	Department of Science & Technology	16.40	John Ebenezer Augustine
7	VAJRA Visiting Faculty - Dr. Srinivasan Parthasarathy	28 March 2018-27 March 2021	Department of Science & Technology	9.84	Ravindran B
8	Integration of 13 Indian languages TTS systems with screenreaders for Windows, Linux and Android platforms	27 March 2018	Department of Electronics and Information Technology	32.50	Hema A Murthy Chandra Sekhar C Umesh S (EE)
9	VAJRA Visiting Faculty - Dr. Shrikanth S Narayanan	12 April 2018	Department of Science & Technology	34.00	Hema A Murthy
10	Descriptive complexity of parameterized counting problems - DST DAAD	21 August 2018	Department of Science & Technology	5.60	Raghavendra Rao B V
11	Towards a theory of convergence to near optimality in swarm intelligence systems - DST DAAD	26 June 2018	Department of Science & Technology	14.82	John Ebenezer Augustine
12	Efficiency of secure computation	13 April 2018	Department of Science & Technology	15.00	Shweta Agrawal



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
13	Simulation-based optimization in a cumulative prospect theory framework	30 August 2018	Department of Science & Technology	45.90	Prashanth LA
14	Computational methods for multi-tissue models of health and disease	1 September 2018	Wellcome Trust UK	355.32	Manikandan Narayanan
15	Conversation agents for urban navigation	24 December 2018	Impacting Research Innovation and Technology - IMPRINT	68.20	Ravindran B, Gitakrishnan Ramadurai (CE)
16	Computing on encrypted data: new paradigms in functional encryption	4 January 2019	Indo-French Centre for the Promotion of Advance Research	51.19	Shweta Agrawal
17	Development of anti-spoofing method for automatic speaker verification system	19 November 2018	Science and Engineering Research Board	10.05	Hema A Murthy
18	RISC-V ISA extensions for code density	1 January 2019	Western Digital Corporation	10.00	Kamakoti V
19	Lower bounds in distributed computing	12 March 2019	Science and Engineering Research Board	6.60	John Ebenezer Augustine
20	Text to speech generation with chosen accent and noise profiles for aerospace and industrial domains	21 February 2019	IMPRINT	34.85	Hema A Murthy

Industrial consultancy projects (ongoing and new)

Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
1	Kamakoti V, Mitesh M Khapra	Performance assessment of star registration software	IG Registration Office, Government of Tamil Nadu	88.50
2	Ravindran B	Learning representations on network data	Intel Technology India Private Limited	108.00
3	Harish Guruprasad Ramaswamy	Data science education (Ford)	Gyan Data Private Limited	0.36
4	Mitesh M Khapra	Knowledge graph driven domain specific multimodal conversation systems	Google Research	30.10
5	Ravindran B	Development of machine learning algorithm to model semi-conductor fab manufacturing process as multiple states	Applied Materials India Private Limited	95.09
6	Pandu Rangan C	Proxy technology and its applications to cryptocurrency and distributed storage	O Chain	17.68
7	Janakiram D	Enhancing message filter framework for secure Android based on MOOL	Diamondbay Technologies Private Limited	7.80
8	Hema A Murthy	Speaker identification and speaker statistics	Honeywell Technology Solutions Laboratory Private Limited	35.40
9	Ravindran B	Development of features on three web-based platforms	Northwestern University	38.61
10	Kamakoti V	Performance assessment of eDistrict governance software	Tamil Nadu E-Governance Agency	9.86
11	Pratyush Kumar, Chester Dominic Rebeiro, Kamakoti V	High-performance computing and cybersecurity for powertrain applications	Continental Automotive Components (India) Private Limited	31.86



Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
12	Anurag Mittal	Google India PhD Fellowship in Machine Perception for Arulkumar S (CS15D202) and Prime Minister's Fellowship for Doctoral Research scheme from SERB	Google Ireland Limited and SERB	35.85
13	Chester Dominic Rebeiro	A framework for automatic detection of fault attack vulnerabilities	University of Florida	18.35
14	Ravindran B	Research advisory services in the area of data sciences and artificial intelligence for the Corporate Technology Officer (CTO) and the TCS Retail Business Unit	Tata Consultancy Services	7.08
15	Ravindran B	Program mentorship consultancy	Greyatom Edutech Private Limited	47.20
16	Kamakoti V	Safety critical standard based on SHAKTI Framework	Thales research and Technology	167.60
17	Mitesh M Khapra	Automatic question generation using reinforcement learning	Adobe Systems Incorporated	3.49
18	Ravindran B	Deep learning for alignment of images	KLA Tencor	18.00
19	Sivaramakrishnan K C	Upstreaming multicore support to OCaml programming language	OCaml Labs Consultancy Limited	15.83
20	Ravindran B	Consultation to Honeywell Technology Solutions Private Limited in the area of machine learning/artificial intelligence	Honeywell Technology Solutions Laboratory Private Limited	4.25
21	Sutanu Chakraborti	Towards prescriptive analytics: adaptive planning, reasoning, optimization and decision-making algorithms for the Accenture Cognitive Engine (ACE)	Accenture	16.50

Distinguished Visitors to the Department

Sl. No.	Visitor and Designation	Date of Visit	Purpose of Visit
1	Shrikanth Narayanan USC, LA California	22 August-24 September 2018	VAJRA Faculty
2	Vyas Sekar, Carnegie Mellon University, Pittsburgh, USA	9-13 July 2018	Venky Harinarayan and Anand Rajaraman Visiting Chair Program
3	Gopal Pandurangan, University of Houston, Houston, USA	July-August 2018	VAJRA Faculty
4	Srini Parthasarathy, Ohio State University, Columbus, USA	August 2018	VAJRA Faculty
5	Arun Rajkumar, Conduent Research Labs	4 May 2018	Seminar talk
6	Sandeep Chandran, AMD	11 May 2018	Seminar talk
7	Gopal Pandurangan, University of Houston, USA	11 June-17 August 2018	VAJRA Visiting Faculty
8	Mrigankar Sur, MIT, USA	20-23 June 2018	NR Narayana Murthy CBR Distinguished Chair Professor
9	Dr. Milind Tambe (University of Southern California)	3 October 2018	Research seminar
10	Dr. Bjoern Hartmann (UC Berkeley)	12 October 2018	Research seminar
11	Dr. Karthi Duraiswamy (Synopsys, USA)	15 October 2018	Faculty candidate seminar
12	Dr. Alice Pellet-Mary	22 October-2 November 2018	Research and seminar
13	Dr. Vijay Nagarajan, School of Informatics, University of Edinburgh	November 2018-March 2019	Honorary Visiting Faculty, Department of CSE, IIT Madras
14	Tony C. Kim, Hiekeun Ko, Pedja Neskovic, Haiwon Lee (Office of Naval Research)	13 February 2019	Funding opportunities



Sl. No.	Visitor and Designation	Date of Visit	Purpose of Visit
15	Dr. Shota Yamada, AIST Japan	19-30 November 2018	Research interactions with Dr. Shweta Agrawal
15	Dr. Amitangshu Pal, Temple University, USA	9 January 2019	Research seminar
16	Dr. David Peleg, Weizmann Institute of Science, Israel; Venky Harinarayan and Anand Rajaraman Distinguished Visiting Chair of CSE, IITM	17-26 February 2019	Research seminars and interaction with faculty/students
17	Sandeep Narayanan, University of Maryland Baltimore County (UMBC)	21 January 2019	Research seminar
18	Dr. John Tsang, Chief, Multiscale Systems Biology Section, and Co-Director, Center for Human Immunology at NIH (National Institutes of Health), USA	7 March 2019	4 th IBSE (Initiative for Biological Systems Engineering) Colloquium; Research interactions with BIRDS group members of Dr. Manikandan Narayanan and with IBSE scholars

4.7.5. Other Activities of the Department

1. Faculty visits

Sl. No.	Faculty Member	Purpose of Visit	Date and Venue
1	Hema A Murthy	Faculty Selection Committee	4 April 2018, IIT Ropar
2	C. Siva Ram Murthy	INSA Sectional Committee Meeting	25-27 April 2018, New Delhi
3	Krishna Sivalingam	Ph.D viva voce exam	13 July 2018, IIT Hyderabad
4	Krishna Sivalingam	Technical Committee for Tender Submission Evaluation, AP Government, Disaster Management Authority	5 July 2018, Amaravathi, AP
5	Krishna Sivalingam	Faculty Selection Committee	31 August 2018, IIT Hyderabad
6	Sukhendu Das	IMPRINT project Review	26 August 2018, IIT Delhi
7	Sukhendu Das	Ph.D viva voce exam	20 July 2018, IISc Bangalore
8	Sukhendu Das	Scientist recruitment	4-5 July 2018, RAC - DRDO, Delhi
11	Krishna Sivalingam	Board of Studies Meeting	2 May 2018, Hindustan Institute of Technology and Sciences, Chennai
12	Krishna Sivalingam	PhD viva voce exam	17 May 2018, IIT Guwahati
13	Krishna Sivalingam	Technical Assessment Committee for Purchase Tender, Government of AP	5 June 2018, Vijayawada
14	Krishna Sivalingam	Faculty Development Programme	15-16 and 30 June, 2018, VIT, Vellore
15	C. Chandra Sekhar	Faculty Selection Committee Meeting	7-8 May 2018, IIT Tirupati
16	C. Chandra Sekhar	Registrar Selection Committee Meeting, IITM Kottayam	10 May 2018, IISER Trivandrum
17	C. Chandra Sekhar	Faculty Development Programme	12 June 2018, VIT Vellore
18	C. Chandra Sekhar	Board of Studies meeting and Ph.D. interviews	18 June 2018, Department of CSE, NIT Warangal
19	C. Chandra Sekhar	Faculty Selection Committee Meeting	19-20 June 2018, SRMAP, Amaravati
20	C. Chandra Sekhar	Academic Council Meeting	23 June 2018, Kalasalingam University
21	C. Siva Ram Murthy	INAE Sectional Committee Meeting	22 June 2018, New Delhi
22	Sukhendu Das	IIT Kharagpur - PhD viva	15-16 May 2018
23	Krishna Sivalingam	5G Wireless Testbed Project meeting	7-8 September 2018, IIT Bombay
24	Krishna Sivalingam	MEITY Visweswaraya PhD and Young Faculty Scheme: Academic Committee Meeting	14-15 September 2018, MNIT Jaipur
25	Krishna Sivalingam	MEITY Visweswaraya PhD and Young Faculty Scheme: Academic Committee Meeting	22 September 2018, IIT Delhi
26	Krishna Sivalingam	PhD viva voce exams for two candidates	22 October 2018, IIT Delhi
27	C Chandra Sekhar	Faculty Selection Meeting	12-13 October 2018, SRM University, Amaravati, AP



Sl. No.	Faculty Member	Purpose of Visit	Date and Venue
28	Hema A Murthy	Academic Advisory Committee	30 October 2018, Iswari Engineering College
29	Hema A Murthy	PRSG Meeting	October 2018, MeitY, Delhi
30	B. Ravindran	Chief Guest, Inauguration of the AI Study Group. at	2 October 2018, Thiagarajar College of Engineering, Madurai,
31	B. Ravindran	Attended a meeting of the SEBI Committee on Financial and Regulatory Technologies (Group C) (a co-chairman of this Group)	5 October 2018, Mumbai
32	B. Ravindran	An invited attendee of the inauguration of the Centre for the 4 th Industrial Revolution of the World Economic Forum	11 October 2018, New Delhi
33	B. Ravindran	Participated in the NITI Aayog Lecture Series as a panelist in Vigyan Bhavan. (This event was attended by the Prime Minister, the entire council of ministers, all secretaries, joint secretaries, additional secretaries of the Union Government and special invitees.)	22 October 2018, New Delhi
34	B. Ravindran	Roundtable on Industry-Academia Collaboration for AI, NASSCOM New Product Conclave	26 October 2018, Bengaluru
35	B. Ravindran	Panel discussion: AI Research in India: Solving for India, NASSCOM New Product Conclave	26 October 2018, Bengaluru
36	Krishna Moorthy Sivalingam	India's Indigenous 5G Testbed, Project Review Meeting	2-5 December 2018, Lonavala, Pune
37	Krishna Moorthy Sivalingam	PhD viva voce exam	17 December 2018, IISc Bangalore
38	Madhu Mutyam	MSc (Engineering) oral exam	3 December 2018, IISc Bangalore
39	Madhu Mutyam	PhD viva voce exam	7 December 2018 BITS, Goa Campus
40	C. Chandra Sekhar	Interviews for PMRF Ph.D. candidates	8 December 2018, IIT Delhi
41	C. Chandra Sekhar	Senate meeting	21 December 2018, IISER Trivandrum
42	Krishna Moorthy Sivalingam	Expert Committee for selection of H. H. Mathur Award for Excellence in Research	12 February 2019, IIT Bombay
43	C Chandra Sekhar	Faculty selection meeting	18-19 January 2019, SRM University AP, Amaravati
44	C Chandra Sekhar	Faculty selection meeting	9 February 2019, VIT AP, Amaravati
45	C Chandra Sekhar	Ph.D. viva voce examination	14 February 2019, Indian Institute of Space Science and Technology (IIST), Trivandrum
46	John Augustine	Ph.D. Synopsis meeting	23 February 2019, Karunya Institute of Technology, Coimbatore
47	Hema A Murthy	Brainstorming session on Spoken Language Machine Translation	31 January-1 February 2019, IIIT Hyderabad
48	Hema A Murthy	Selection committee research grant for faculty	2 February 2019, KTU, Trivandrum
49	Hema A Murthy	Panelist, IRISS (organised by ACM)	7 February 2019, Cochin, Rajagiri Engineering College, Ernakulam
50	Hema A Murthy	CACM Workshop	23 February 2019, MSR Bangalore
51	B. Ravindran	PanIIT Alumni Meeting	20 January 2019, IIT Delhi
52	B. Ravindran	Meet with Murugappa Group organised by the IAR office	16 February 2019, IIT Madras



4.8. Department of Electrical Engineering

4.8.1. Introduction

The Department of Electrical Engineering comprises several laboratories. These laboratories are grouped into six major areas: EE1 – Communications (including wireless), Digital, Speech and Image Processing; EE2 – Power Systems, Power Electronics and High Voltage; EE3 – Microelectronics; EE4 – Control, Instrumentation, Biomedical; EE5 – Photonics; and EE6 – Integrated Circuits and Systems. All faculty members in the department have earned Ph.D. degrees from reputed universities.

EE1 - Communications, Signal Processing and Communication Networks

Facilities: Vector network analyzer, USRP and various RF bands, FPGA facilities, digital communication trainer, 5G test bed

EE2 - Power Systems, Power Electronics and High Voltage

Facilities: Machines and Drives Laboratory: Motor generator sets, regulating transformer, cradle-type DC dynamometer, torque transducer, data acquisition systems, vector visualizer, special purpose AC supply generators, multilevel inverters, measurement storage oscilloscopes, microprocessor-based drive systems, simulation software for power electronic systems, PSIU, magnet 2D, 3D, FEM software, motor control DSP kits, FPGA kits – Altera, Xilinx

High Voltage and Power System Laboratory: HV testing transformer (800 kV, 400 kVA), lightning impulse generator; high-frequency voltage generator, digital bandwidth storage oscilloscopes; capacitance measurement unit, PD detector unit; power system simulator, power system analysis and application software; power quality, monitoring and analysis unit; FACTS and custom power devices experimental units, DSP-based power controllers

EE3 - Microelectronics, MEMS and Analog and Digital VLSI

Facilities: Microelectronics and MEMS Laboratory: Class 100/Class 1000 Clean Rooms, laser writer for mask making; E-beam writer, E-beam metallization unit; sputtering units, furnaces for oxidation and diffusion; rapid thermal processing, double-sided mask aligner and exposure systems; PECVD and LPCVD systems; reactive ion etching systems and DRIE;

substrate bonder and wire bonder; dicing machine and glove box for organic electronics

Characterization: Spectroscopic ellipsometer, interferometric 3D surface profiler; four-point probe and confocal microscope; tabletop SEM and wafer probe stations; semiconductor parametric analyzer and multi-frequency LCR meters; Cantisens and Doppler vibrometer; solar simulator device and MEMS simulation tools

EE4 - Control Systems, Measurements and Instrumentation

Facilities: Control Laboratory: Micro selection C development systems for VLSI-based control; simulation packages: MATLAB, PSPICE, MAXPLUS II; motor control systems and speed control systems (analog and digital); benchmark vision system and high-precision measuring instruments; Cobra RS-23-5 Axis robot and Eshed ERIII, Eshed E&V: 5 Axes robots; position control systems (AC and DC)

Measurements and Instrumentation Laboratory: Precision-indicating instruments and standard R, L and C components; virtual instrumentation laboratory with ELVIS; meter calibrator and pressure calibrator; energy meter testing desk and instrument transformer calibrator; high-current AC and DC supply units; biomedical instrumentation (ultrasonic and optical)

EE5 - Photonics, Optical Communications and RF

Facilities: Fibre optic educational kit/laboratory; experimental optics laboratory with lightwave measurement unit, BER tester; fibre laser laboratory; integrated optoelectronics laboratory; class 100,000 room for development of space applications ground stations—satellite communications and control; high-speed optical communication laboratory; Fiber Bragg Grating Fabrication facility; high-power fiber lasers (HPFL) laboratory; optical communications and networks (200 Gbps coherent communication system, quantum communication)

EE6 - Integrated Circuits and Systems

Facilities: Analog and Digital Circuits and VLSI Design Laboratory: workstations and EDA tools for complete IC design flow; EPLD/FPGA design software and workstations; DSP kits and workstations; IC test facilities



4.8.2. Academic Programmes

New courses introduced

Sl. No.	Course No.	Title
1	EE6299	Advanced Topics in Power Systems
2	EE6323	Wireless System Design
3	EE5121	Convex Optimization
4	EE6362	Advanced Topics in Microelectronics and MEMS
5	EE6258	DC Power Transmission Systems
6	EE6326	Integrated Circuit Design and Testing

Students on roll as of September 2018+M.S. and Ph.D admission in January 2019

Programme	Year I	Year II	Year III	Year IV	Year V and others	Total
B.Tech.	73	73	66	65	29	306
Dual Degree	58	58	60	65	95	336
M.Tech.	155	143			18	316
M.S.	15	41	7	22	52	137
Ph.D.	48	84	51	60	113	318

Student/scholar who attended conference/seminar/symposium/workshop abroad/India

Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/ Workshop	Date and Venue	Financial Assistance from
Abroad					
1	Aswin R C	EE15S053	IEEE International Symposium on Information Theory, 2018	17-22 June 2018, USA	IIT Madras
2	Chandan Bhat	EE16S079	Progress in Electromagnetics Research Symposium 2018	1-4 August 2018, Japan	IIT Madras
3	Ankit Gupta	EE16S026	Progress in Electromagnetics Research Symposium 2018	1-4 August 2018, Japan	IIT Madras
4	Debajyoti Biswas	EE14D302	2018 European Material Research Society Spring Meeting	17-22 June 2018, France	IIT Madras
5	Nimal J Kumar	EE14D403	40th IEEE EMBC	17-27 July 2018, USA	IIT Madras
6	Ramesh K	EE13D204	13 th Pacific Rim Conference on Lasers and Electro-Optics (CLEO Pacific Rim 2018)	29 July-3 August 2018, USA	Institute
7	Pratibha N	EE15D003	18 th International Conference on Power Electronics and Motion Control 2018	26-30 August, Hungary	IIT Madras
8	Prashanth Kumar	EE12D206	11 th International Symposium on Flexible Organic Electronics 2018	2-5 July 2018, Greece	IIT Madras
9	Snehanshu Maiti	EE12S037	45 th Conference on Plasma Physics, European Physical Society 2018	2-6 July 2018, Czech Republic	IIT Madras
10	Yashrajsinh Parmar	EE14D200	IECON 2018	21-23 October 2018, USA	IIT Madras
11	Vundurthy Bhaskar	EE13D023	IECON 2018	21-23 October 2018, USA	IIT Madras
12	Manas Srivastava	EE10S044	13 th Pacific Rim Conference on Lasers and Electro-Optics (CLEO Pacific Rim 2018)	29 July-3 August 2018, USA	IIT Madras
13	Aneesh Sobhanan	EE15D011	13 th Pacific Rim Conference on Lasers and Electro-Optics (CLEO Pacific Rim 2018)	29 July-3 August 2018, USA	IIT Madras
14	Aneesh Sobhanan	EE15D011	Optical Networking and Communication Conference and Exhibition	3-7 March 2019, Hong Kong	IIT Madras



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/ Workshop	Date and Venue	Financial Assistance from
15	Arunabh Srivastava	EE16B132	Workshop on Resource Allocation, Cooperation and Competition in Wireless Networks (RAWNET) 2019	3 June 2019 Avignon, France	IIT Madras
16	Soumen Deb	EE14D036	International Workshop on Nitride Semiconductors 2018 (IWN2018)	11-19 November 2018, Kanazawa, Japan	IIT Madras
17	Srikanth Kannaga	EE14D037	IWN2018	11-19 November 2018, Kanazawa, Japan	IIT Madras

Students/scholars who won outside prizes and awards

Sl.No.	Student/Scholar	Roll No.	Prize	Prize awarded by
1	Ananya Ghosh	EE16D009	Best Poster	IEEE-ICEE 2018
2	Soumen Deb	EE14D036	Best Poster	IEEE-ICEE 2018
3	Pavan Ch LN	EE13D038	Best Poster	IEEE-ICEE 2018
4	Ramesh	EE13D204	Best Poster	CLEO-PR 2018
5	Smaranika Swain	EE13D207	Best Oral Presentation Award	Photonics 2018
6	Kavita Sharma	EE11D038	Best Poster Presentation Award	Photonics 2018

Students/scholars who won Institute Convocation/Institute Day Prize

Sl.No.	Student/Scholar	Roll No.	Prize	Donor
1.	Rajat Vadiraj Dwaraknath	EE16B033	Shri K. Krishnamurthy	K. Krishnamurthy
2	Pradyumna V Chari	EE15B122	Shri V. Rajagopalan Memorial Prize	Shri V. Rajagopalan
3	Amol Delmade	EE14S020	Vedagiri Memorial Award	Shri Vedagiri

4.8.3. Faculty and their activities

Faculty

Name and Qualifications	Major Areas of Specialisation
Head	
Dr. Devendra Jalihal	Signal processing, communication
Professors	
Dr. Amitava Das Gupta	Semiconductor devices
Dr. Anil Prabhakar	Photonics, magnonics, assistive technologies
Dr. Aravind R	Signal processing communication
Dr. Andrew Thangaraj	Signal processing communication
Dr. Anjan Chakravorty	Semiconductor devices
Dr. Ashok Jhunjhunwala	Energy, EV and battery management
Dr. Bhaskar Ramamurthi	Signal processing communication
Dr. Bijoy Krishna Das	Silicon photonics
Dr. Christopher S	Radar and signal processing
Dr. David Koil Pillai	Signal processing communication
Dr. Devendra Jalihal	Signal processing communication
Dr. Enakshi Bhattacharya	Semiconductor devices
Dr. Giridhar K	Signal processing communication
Dr. Harishankar R	Plasma, RF electromagnetics
Dr. Jagadeesh Kumar V	Instrumentation and measurements
Dr. Karmalkar S	Semiconductor devices
Dr. Krishna Vasudevan	Power electronics
Dr. Mahesh Kumar	Power systems
Dr. Nandita Das Gupta	Semiconductor devices
Dr. Rajagopalan A N	Image processing
Dr. Sarathi R	High voltage
Dr. Shanthi Pavan Y	Analog circuits
Dr. Shanti Swarup	Power systems
Dr. Srikrishna	Signal processing communication
Dr. Sridharan K	Control systems and digital architecture
Dr. Umesh	Speech processing



Name and Qualifications	Major Areas of Specialisation
Dr. Vinita Vasudevan	Digital systems and VLSI
Dr. Balaji Srinivasan	Photonics
Dr. Bobby George	Instrumentation and measurements
Dr. Nagendra Krishnapura	Analog circuits
Dr. Shanthi Bhattacharya	Optics
Dr. Srirama Srinivas	Power electronics
Associate Professors	
Dr. Anantha Krishnan	Computational electromagnetics
Dr. Aniruddhan S	Analog and RF circuits
Dr. Arun D. Mahindrakar	Digital control and systems theory
Dr. Arun Pachai Kannu	Signal processing, communication
Dr. Bharath Bikkaji	Control theory
Dr. Deleep R Nair	Semiconductor devices
Dr. Deepa Venkitesh	Photonics
Dr. Gaurav Raina	Communication networks
Dr. Kalyan Kumar	Power systems
Dr. Lakshmi Narasamma	Power electronics
Dr. Mohansankar S	Biomedical devices
Dr. Nitin C	Digital systems and architectures
Dr. Radhakrishna Ganti	Communication systems
Dr. Ramkrishna Pasumarthy	Control theory
Dr. Ramalingam CS	Speech processing
Sr. Sheetal Kalyani	Communications
Dr. Venkatesh TG	Communication networks
Dr. Krishna Jaganathan	Communication networks
Dr. M Anbarasu	Semiconductor devices
Assistant Professors	
Dr. Arun Karuppaswamy	Power electronics
Dr. Avhishek Chatterjee	Communication networks
Dr. Debduitta Ray	Semiconductor devices and organic LEDs
Dr. Janakiraman Viraraghavan	Digital systems and architectures
Dr. Kamalesh Hatua	Power electronics
Dr. Krishna S	Power systems
Dr. Kaushik Mitra	Image processing
Dr. Manivasakan R	Communication systems
Dr. Mathiazhagan C	Analog circuits
Dr. Pradeep Sarvepalli	Quantum information theory
Dr. Puduru Viswanatha Reddy	Control, theory and game theory
Dr. Qadeer Ahmad Khan	Digital system, low power design
Dr. Rachael Kalpana	Control theory
Dr. Soumya Dutta	Semiconductor devices and organic LEDs
Dr. Saurabh Saxena	Analog and mixed signal circuits, clock generators, SERDES
Dr. Uday Khankhoje	Inverse problems, computational electromagnetics
Dr. Venkatesh Ramaiyan	Wireless networks
Dr. Abhishek Sinha	Communication networks
Dr. Bhaswar Chakraborti	Semiconductor devices
Inspire Faculty	
Dr. Pramitha V	Photonics
Dr. Mansi Sharma	3D Image processing
Ramalingaswamy Fellow	
Ramya Balachandran	Biomedical devices
Scientific Officers/Engineers	
Jeyasutha Avudai Thangam	

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members

Sl. No.	Coordinator(s)	Title	Period
Symposium			
1	EE Department	EE Research Symposium	1 March 2019



Sl. No.	Coordinator(s)	Title	Period
Short-term Course			
1	Saurabh Saxena, S. Aniruddhan, Nagendra Krishnapura	AICTE-sponsored short-term course on PLLs	17-22 December 2018

Short-term courses/workshops/seminars/symposia/conferences/training attended by the faculty members in academic institutions and public sector undertakings

Sl. No.	Faculty Member	Title	Institution	Period
Workshop				
1	Dr. Shanti Pavan	Sigma-Delta Data Converters	Switzerland	18-22 June 2018
Symposium				
1	Dr. Aniruddhan	ISCAS 2018	Italy	25-30 May 2018
Conferences				
1.	Dr. Srirama Srinivas	Power Electronics and Motion Control	Hungary	26-30 August 2018
2	Dr. Nagendra Krishnapura	2018 IEEE Customs Integrated Circuits Conference	USA	8-11 April 2018
3	Dr. Shanti Bhattacharya	OSA Board Meeting	USA	23-24 April 2018
4	Dr. Mohanasankar Sivaprakasam	IEEE International Symposium on Biomedical Imaging	USA	4-7 April 2018
5	Dr. Amitava Das Gupta	International Conference on Microwave and Millimeter Wave Circuits (InMMIC) 2018	France	7-11 July 2018
6	Ramkrishna P	American Control Conference (ACC 2018)	USA	27-29 June 2018
7	Ramkrishna P	International Symposium on Mathematical Theory of Network and Systems 2018 (MTNS 2018)	Hong Kong	16-20 July 2018
8	Uday Khankhoje	Progress in Electromagnetics Research Symposium 2018 (PIERS 2018)	Japan	1-4 April 2018
9.	Avhishek Chatterjee	Information Theory and Applications Workshop	USA	11-19 February 2019
10.	Srikrishna Bhashyam	52 nd Asilomar Conference on Signals, Systems and Computers	Pacific Grove, CA, USA	28-31 October 2018
11.	Abhishek Sinha	The International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt) 2019	Avignon, France	7-11 May 2018

Special lectures delivered by the faculty in other institutions

Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
1	Nandita Das Gupta	GaN-based HEMTs for RF power applications (Keynote Lecture)	Brive La Gaillarde	5-6 July 2018
2	Dr. Enakshi Bhattacharya	Silicon-based bio-sensors	IIT Bombay	12-13 October 2018
3	Dr. Shanti Bhattacharya	Diffraction optics on fibre facets	IIT Kanpur	20-22 September 2018
4	Dr. Amitava Das Gupta	Talk on Piezoelectric on silicon	Singapore	April 2018
5	Dr. Ashok Jhunjhunwala	Talk on Challenges in energy and railways at Dogra Hall, IIT Delhi	IIT Delhi	April 2018
6	Dr. Shanti Pavan	Linear periodically time varying circuits and systems demystified	Hong Kong	17 January 2019
7	Dr. Srikrishna Bhashyam	Optimal multi-antenna transmission with multiple power constraints	IIT Kanpur	15 February 2019
8.	Avhishek Chatterjee	Workshop on Optimization in stochastic networks	IIT Bombay	22 March 2019
10	Deepa Venkitesh	Summer School in Optics and Photonics (SOAP 2018)	IISc Bangalore	25-28 July 2018



Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
11	Saurabh Saxena	Design techniques in high speed serial links	Faculty Development Programme, (organised by NIT Warangal under EICT Academy, Government of India)	16 April 2018
14	Saurabh Saxena	Phase locked loops	A short-term course on High-Speed Communication Circuits, IIT Guwahati	27 June 2018
15	Saurabh Saxena	Wireline communication: The backbone of data transfer	STMicroelectronics Private Limited, Greater Noida	25 January 2019

Visits abroad by faculty

Sl. No.	Faculty Member	Country Visited	Date	Purpose of Visit	Funding from
1	Dr. Nagendra Krishnapura	USA	17-19 January 2019	IEEE 2019	IIT Madras
2	Dr. Shanthi Pavan	USA	17-21 February 2019	ISSCS	IIT Madras
3	Dr. R. Sarathi	Japan	18 March 2019	DST-JPS	DST
4	Ramkrishna P	USA	26 June-15 July 2018	ACC + visit to Stanford Medicine	IIT Madras +Stanford University
5	Ramkrishna P	Hong Kong	16-20 July 2018	MTNS 2018	IIT Madras
6	Ramkrishna P	USA	4 March-15 May 2019	Research Project	Stanford University
7.	Srikrishna Bhashyam	USA	27 October-2 November 2018	Asilomar Conference on Signals, Systems and Computers	IIT Madras, Nokia Bell Labs
8.	Pramitha V	Germany	4-29 June 2018	Visit to Max Planck Institute for Intelligent Systems	Max Planck Society, IGSTC (DST)
9.	Devendra Jalihal	Taiwan	4-7 December 2018	NCTU University	NCTU University
10	K Giridhar	Taiwan	4-7 December 2018	NCTU University	NCTU University
11	Shanthi Pavan	Taiwan	4-7 December 2018	NCTU University	NCTU University
12.	Nandita Das Gupta	France	3-10 July 2018	University of Limoges	University of Limoges
13.	Amitava Das Gupta	France	3-10 July 2018	University of Limoges	University of Limoges
14.	Abhishek Sinha	France	29 May-10 June 2019	WiOpt 2019 + Talk at Huawei Math and Algorithmic Research Lab, Paris	IIT Madras

Honours and awards obtained by faculty

Sl. No.	Faculty Member	Award	Awarded by	Awarded for	Date of Award
i. Honours					
1.	Dr. Andrew Thangaraj	Associate Editor, <i>Coding Techniques</i>	IEEE Transactions on Information Theory Society	IEEE Transactions on Information Theory	29 June 2018
2.	Dr. Rajagopalan A.N	\$20,000 Research support from Google	Google	Research Support	3 October 2018
3	Arun Pachai Kannu	Qualcomm Innovation Fellowship 2018	Qualcomm India	Focus on Master and PhD Students	19 June 2018
ii. Awards					
1	Dr. V. Janakiram	SERB Early Career Research Award	SERB	In memory computing circuits for deep neural network hardware	March 2019
2	Dr. Uday Khankhoje	SERB Early Career Research Award	SERB	Microwave inverse scattering for breast cancer detection	March 2019

Sl. No.	Faculty Member	Award	Awarded by	Awarded for	Date of Award
3.	Dr. Saurabh Saxena	Early Career Research Award	SERB		March 2018
4.	Dr. Abhishek Sinha	Best Paper Award, INFOCOM 2018, Honolulu, HI, USA	IEEE	For paper, Optimizing age of information in wireless networks with throughput constraints, I. Kadota, A. Sinha, E. Modiano	April 2018

Special lectures delivered by the faculty in other institutions

Sl. No.	Faculty Member	Position (Editor/Member)	Journal Name
1	Andrew Thangaraj	Associate Editor	<i>IEEE Transaction on Information Theory</i>
2	Dr. V. Jagadeesh Kumar	Associate Editor	<i>IEEE Transaction on Instrumentation and Measurement</i>
3`	Dr. Bobby George	Associate Editor	<i>IEEE Transactions on Industrial Electronics for the Sensors and Instrumentation Area</i>
4	Dr. Srikrishna Bhashyam	Editor	<i>IEEE Transactions on Communications for Source-Channel Coding and Signal Processing</i>
5	Deepa Venkitesh	Associate Editor	<i>OSA Advances in Optics and Photonics</i>
6	Anil Prabhakar	Member	<i>Scientific Reports (Nature)</i>
7	Anil Prabhakar	Member	<i>IEEE Trans. Magnetics</i>

4.8.4. Design and Development Activities

4.8.4.1. Patents

4.8.4.1.1 Patents filed

Sl. No.	Faculty Member	Topic of patent
1.	Abhishek Sinha <i>et al</i>	Physical uplink control channel reliability enhancements (US patent filed with Qualcomm on 8 April 2019)

4.8.5. Research and Consultancy

4.8.5.1. Sponsored Research Projects (ongoing and new)

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Coordinators
1	Nanoelectronics network for research and applications (N-NeTRA) – IIT Madras, DST and MeitY	2018 - 2022	DST	2648.65	Nandita DasGupta
2.	Development of circuit building blocks using unique combination of solution-based organic semiconductor technology and microelectronic technology	2019	DST	60.00	Dr. Soumya Dutta, Dr. Aniruddan
3.	Learning algorithms for search in structured environments	2017-2020	DST	20.18	Srikrishna Bhashyam
4.	Energy-efficient and wide range 15Mb/s-1.5Gb/s SERDES	November 2018 - October 2021	ISRO	41.60	Saurabh Saxena, Qadeer Khan, Nagendra Krishnapura, S. Aniruddhan, Shanthi Pavan
5.	Miniaturized wideband analog phase modulator using phase locked loop	March 2019-2021	ISRO	21.35	Saurabh Saxena, Nagendra Krishnapura



Industrial consultancy projects (ongoing and new)

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)
1.	Dr. Deepa Venkitesh	Advanced photonic signal processing for future optical and wireless communication systems	SPARC	72.28

RBIC projects (ongoing and new)

Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
1	Srikrishna Bhashyam	Self-learning wireless receiver design	Nokia Bell Labs	16.00
2	Arun Pachai Kannu	Cell discovery in mm wave systems	Qualcomm	10.00

Retainer consultancy (ongoing and new)

Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
1	Srikrishna Bhashyam	Design review of 5G wireless modem	WiSig Networks Private Limited	7.08

Exchange programmes with other universities, including institutions/universities under MoU

Faculty members' participation with other institution under MoU

Sl. No.	Faculty Member	Participation details	University/Institution
1	Dr. V. Jagadesh Kumar	Video-based M.Tech (UoP M.Tech) in Communications and Signal Processing	BEL

Distinguished Visitors to the Department

Sl. No.	Visitor and Designation	Date of Visit	Purpose of Visit
1	Prof. Buon Kiong Lau, Lund University, Sweden	2 November 2018	Lecture: Terminal antenna design for future wireless
2	Prof. Karthi Duraisamy, Synopsys California	27 November 2018	Talk: High-performance system-on-chips with low latency network-on-chip architectures
3	Prof. Vivek Goyal, Boston University, USA	4 December 2018	Lecture: Computational imaging with few photons, electrons or ions
4	Dr. Vishnu Boddeti, Michigan State University	9 August 2018	Seminar: Capacity and intrinsic dimensionality of image representations
5	Dr. Ravinder K Jain, University of New Mexico, USA	18 March 2019	Talk: Glass-based advanced mid-infrared photonic devices
6	Prof. Brain Barsky, University of California	22 March 2019	Talk: Simulating human vision and vision correcting displays
7	Prof. Sandeep Juneja, Dean, STCS, TIFR Mumbai	6 August 2018	Seminar: Partition identification using pure exploration multi-armed bandits
8	Prof. Jayakrishna Nair, EE, IIT Bombay	30 October 2018	Seminar: SRPT on multiple servers: The speed scaling edge
9	Prof. Mythili Vutukuru, CS, IIT Bombay	20 April 2018	Seminar: Network function virtualization: challenges and opportunities
10	Prof. Rajesh Sundaresan, ECE, IISc Bangalore	29 October 2018	Seminar: Learning to detect an oddball target
11	Prof. Nambi Seshadri, University of California, San Diego, USA	December 2018	Seminar and interactions
12	Prof. Aria Nosratinia, University of Texas, Dallas	19 March 2019	Seminar: Community detection with side information: fundamental limits and EXIT analysis



4.9. Department of Engineering Design

4.9.1. Introduction

Set up in 2006, the Department of Engineering Design was the 16th department of Indian Institute of Technology Madras. Engineering design is a series of steps that engineers follow to come up with a solution to a problem. Many times, the solution involves designing a product that meets certain criteria and/or accomplishes a certain task. It is a decision-making process, often iterative, in which the basic sciences and the engineering sciences are applied to the optimal conversion of resources to meet a stated objective. Students are first introduced to the design process along with fundamental mathematics, science and engineering, graphic art, design and aesthetics. They are trained not only in the mechanical aspects of design, but also in electronics, control and embedded systems for all-round skill development. Courses in geometric modelling, finite

elements, materials engineering, automotive engineering, mechatronics, robotics, biomedical imaging and diagnostic techniques are also offered.

4.9.2. Academic Programmes

A first of its kind in India, the department provides much-needed leadership in engineering design with two novel dual-degree programmes. Both the programmes offer a B.Tech. in Engineering Design, and the first that began in 2006 offers an M.Tech. in Automotive Engineering. The second programme, launched in 2008, offers an M.Tech. in Biomedical Design. From 2007, the department also offers M.S. and Ph.D. programmes. Recently, an M.Tech. and Ph.D. dual-degree programme has been introduced.

New courses introduced

Sl. No.	Course No.	Title
1	ED6007	Mechanics and Control of Serial Robots

Modification of courses

Sl. No.	Course No.	Title
1.	ED 5016	Bio-MEMS and Bio-NEMS: Devices and Applications

Prerequisite of courses

Sl. No.	Course No.	Title
1.	ED5260 for ED5314	Design, Analysis and Control of Robot Manipulators

Students on roll as of September 2018+M.S. and Ph.D admission in January 2019

Programme	Year I	Year II	Year III	Year IV	Year V and others	Total
Dual Degree	57	56	56	52	61	282
M.S.	9	10	11	5	2	37
Ph.D.	17	10	9	6	32	74
Direct Ph.D.	1	1	4	2	-	8
M.Tech.+Ph.D.	-	1	1	2	5	9
Total	84	78	81	67	100	410

Student/scholar who attended conference/seminar/symposium/workshop abroad/India

Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue	Financial Assistance from
Abroad					
1	Nagamanikandan Govindan	ED14D020	IEEE International Conference on Robotics and Automation (ICRA 2018); paper: A novel robotic platform with grasping, manipulation, and multimodal locomotion capability	21-25 May 2018, Brisbane, Australia	CPDA (Partial)



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue	Financial Assistance from
2	Thiyagarajan Ranganathan	ED12D020	ICRA 2018; paper: Design and analysis of a novel underwater glider–RoBuoy	21-25 May 2018, Brisbane	ICRA travel grant
3	Gangaram Sandeep Kumar	ED17S601	SENG Summer Camp for Elite Students	15-24 July 18, Hong Kong University of Science and Technology	IIT Madras
4	Ramya Selvaraj	ED14D008	Pacific Rim Conference on Lasers and Electro Optics (CLEO-PR 2018)	29 July-3 August 2018, Hong Kong, China	IIT Madras
5	Hemalaxmi R	ED16D003	CLEO-PR 2018	29 July-3 August 2018, Hong Kong Convention Center, China	IIT Madras
6	Venkata Ramani Shreya	ED15D500	29 th IEEE Intelligent Vehicles Symposium	26-30 July 2018, Changshu, Suzhou, China	IIT Madras
7	Balamurugan T S	ED14D015	Electromagnetic Non-Destructive Evaluation (ENDE2018)	9-13 September 2018, Detroit, USA	IIT Madras
8	Gokulakrishnan J	ED16S001	6 th International Conference on Engineering Optimization	17-19 September 2018, Lisbon, Portugal	IIT Madras
9	Nithya Sridhar	ED16S003	ASME International Mechanical Engineering Congress and Exposition (IMECE) 2018	9-15 November 2018, Pittsburgh, PA, USA	IIT Madras
10	Mullai T	ED14D006	International Conference on Digital Image Correlation and Non-contact Experimental Mechanics	15-18 October 2018, Hangzhou, China	IIT Madras
11	Sathya Priya	ED15S013	IEEE International Microwave Biomedical Conference	14-15 June 2018, Pennsylvania, USA	IIT Madras
12	Dr. Jayaram K P (Institute PDF; Mentor: Kavitha Arunachalam)	ED17IPF01	ENDE2018	9-13 September 2018, Detroit, USA	Contingency
India					
1	Nithya Sridhar Sashidhar P	ED16S003 ED16S005	37 th FISITA Automotive World Congress Conference	2-5 October 2018, Chennai	IIT Madras
2	Mullai T	ED14D006	IEEE International Conference on High Performance Parallel Computing, Data and Analytics (HiPC)	17-20 December 2018, Radisson Blu Hotel, Bengaluru	IIT Madras
3	Pauline John	ED13D005	Fibre Optics and Photonics	11-17 December 2018, IIT Delhi	IIT Madras
4	Ramya Selvaraj	ED14D008	Photonics 2018	12-17 December 2018, IIT Delhi	IIT Madras
5	Hemalaxmi	ED16D003	DAE-BRNS National Laser Symposium (NLS- 27)	30 November-8 December 2018, Indore	IIT Madras
6	Dr. Jayaram K P (Institute PDF; Mentor: Kavitha Arunachalam)	ED17IPF01	NDE 2018, Indian Society for Non-Destructive Testing (ISNT)	19-21 December 2018, Mumbai	Contingency
7	T.S. Balamurugan	ED14D015	NDE 2018, ISNT	19-21 December 2018, Mumbai	IIT Madras
8	T S Balamurugan	ED14D015	IEEE Asia Pacific Radio Science Conference URSI 2019	11-15 March 2019, New Delhi, India	IIT Madras



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue	Financial Assistance from
9	Dr. Jayaram K P (Institute PDF; Mentor: Kavitha Arunachalam)	ED17IPF01	IEEE Asia Pacific Radio Science Conference URSI 2019	11-15 March 2019, New Delhi, India	Contingency
10	Sathya Priya	ED15S013	IEEE Asia Pacific Radio Science Conference URSI 2019	11-15 March 2019, New Delhi, India	IIT Madras
11	Divya Bhaskaran	ED16D002	IEEE Asia Pacific Radio Science Conference URSI 2019	11-15 March 2019, New Delhi, India	IIT Madras
12	Shabeeb Ahamed	BT15D050	IEEE Asia Pacific Radio Science Conference URSI 2019	11-15 March 2019, New Delhi, India	IIT Madras
13	Mahesh Raja	Project associate	NDE-2018, ISNT, Mumbai	19-21 December 2018, Mumbai	Project
14	P. Emmanuel	ED13D017	Indo-Japan Bilateral Symposium on Futuristic Materials and Manufacturing	15-16 July 2018, IIT Madras	IIT Madras

Students/scholars who won outside prizes and awards

Sl. No.	Student/Scholar	Roll No.	Prize	Awarded by
1.	Jobin John	ED12D025	Young Researcher Award	International Research Council on Biomechanics of Injury (IRCOBI) Asia Conference 2018
2.	Aditya Bagari, Ashish Kumar, Avinash Kori and Mahendra Khened	ED14B045 ED14B004 ED15B006 ED15D404	Best Entry for Brain Tumor Classification from MRIs and Pathology Slides	MICCAI Conference, Granada, Spain
3.	Avinash Kori Varghese Alex Kollerathu	ED15B006 BT13B054	Cataracts 2018 as a part of the Endoscopic Vision Challenge	MICCAI 2018 in Granada, Spain
4.	Balamurugan T S	ED14D015	First prize for best oral presentation	NDE 2018, ISNT, Mumbai
5.	Deepak Prakash K Suganthan Suriyamoorthy	ED15B010 ED15B053	3 rd Prize for Poster Presentation	Student Poster Presentation Competition (SPPC) in SIAT 2019 (Symposium on International Automotive Technology) under category Safe Mobility, Pune
6.	Amal Dev Parakkat	ED14D014	Replicability Stamp Award	SMI 2018, Lisbon, Portugal
7.	Amal Dev Parakkat Uday Bondi Pundarikakshaa	ED15B007	Honorable Mention Award	SMI 2018, Lisbon, Portugal
8.	Dr. Jayaram K P (Institute PDF; Mentor: Kavitha Arunachalam)	ED17IPF01	URSI/InRaSS Young Indian Radio Scientists award 2019	IEEE Asia Pacific Radio Science Conference URSI 2019
9.	Dr. Jayaram K P (Institute PDF; Mentor: Kavitha Arunachalam)	ED17IPF01	SERB International travel support for young scientist (ITS) award, 2018	SERB, DST
10.	N. Aparna	ED11D020	Best Research Scholar for the excellence in research work	IIT Madras
11.	Y. Esther Blesso Vidhya	ED12D004	Best Research Scholar for the excellence in research work	IIT Madras



Students/scholars who won Institute Convocation/Institute Day Prize

Sl. No.	Student/Scholar	Roll No.	Prizes
1	Rajat Abhijit Dandekar	ED13B015	Prema & Nagaraja Setty Prize
2	Deepak Prakash K	ED15B010	Ms Latha & Sampath Srinath Prize
3	Sathuluri Akhil	ED14B037	Dr. Srikanth Sundararajan Prize
4	Rajat Abhijit Dandekar	ED13B015	Sarada Bhaskara Reddy Award
5	Aparna N	ED11D020	Dr. M Mukunda Rao Endowment Prize

4.9.3. Faculty and Their Activities

Faculty

Name and Qualifications	Major Areas of Specialisation
Professors	
Asokan T	Robotics, mechatronics, control, electro-hydraulic servo systems
Jayaganthan	Materials engineering, nanomaterials and design, biomaterials, additive manufacturing, energy storage devices
Krishna Kumar R	Nonlinear finite elements, vehicle dynamics and tyre mechanics
Nilesh J. Vasa	Opto-mechatronics, laser-based sensing and micro-manufacturing
Ramanathan M	Geometric and solid modelling, CAD, computer vision, computational geometry, computer graphics, computational biology, shape search
Saravana Kumar G	CAD, computational geometry, reverse engineering, shape optimisation, biomechanical modeling, biomedical imaging and reconstruction, biomimetic prosthetic and scaffold design, layered manufacturing and soft computing
Shankar Ram C S	Vehicle dynamics and control, transportation systems
Srikanth Vedantam (Head)	Design with novel materials, mechanical behaviour of materials, wetting, microstructure evolution
Venkatesh Balasubramanian	Design thinking, innovation management, human factors and ergonomics, biomedical devices and implants, and public policy
Associate Professors	
Balkrishna C Rao	Sustainable manufacturing, sustainable design, nano-manufacturing, manufacturing for bio-medical applications, simulation of manufacturing processes
Ganapathy Krishnamurthi	Medical image analysis, pre-clinical imaging systems-X-ray micro-CT, fluorescence imaging
Kavitha Arunachalam	Biomedical instrumentation, radio frequency and microwave antenna design, hyperthermia physics, non-destructive material evaluation
Palaniappan Ramu	Optimisation, application of statistical and probabilistic techniques for engineering design under uncertainties, risk/reliability based engineering design, surrogate-based modeling and analysis
Sandipan Bandyopadhyay	Robotics, dynamics of multibody systems, design
Sankara J. Subramanian (resigned on 31 August 2018)	Digital image correlation, nano-indentation, mechanics of materials, finite element analysis
Assistant Professor	
Tuhin Subhra Santra	Bio-nano/micro electro mechanical systems (bio-NEMS/MEMS), biomedical micro/nano devices, bio-micro/nano fabrication, single cell technology, nanomedicine, biosensors and bioelectronics, bionanomaterials

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members

Sl. No.	Coordinator(s)	Title	Period
Short-term courses			
1.	Shankar Ram C S	Vehicle Handling Dynamics	April-May 2018
2.	Shankar Ram C S	CEP on Applied Vehicle Dynamics	June-July 2018
3.	Shankar Ram C S	CEP on Fundamentals of Automotive Systems	July 2018
4.	Shankar Ram C S	CEP on Vehicle Dynamics for Mercedes- Benz R&D India	November-December 2018



Sl. No.	Coordinator(s)	Title	Period
5.	Dr. Prasad Patnaik B S V Dr. R. Jayaganthan Dr. R. Velmurugan	Mechanics of impact and blast: Introduction, modeling and prediction (MIB:IMP)	25-30 March 2019
6.	Venkatesh Balasubramanian	Anand Manufacturing Excellence – Innovation and Lean Manufacturing	18 June-13 July 2018 19 November-14 December 2018
Conference			
7.	Saravana Kumar G	National Conference on PDMA – India NPD Conference 2018	22-23 December 2018
Workshop			
8.	Saravana Kumar G	Manufacturing Boot Camp	13-15 June 2018

Short-term courses/workshops/seminars/symposia/conferences/trainings attended by the faculty members in academic institutions and public sector undertakings

Sl. No.	Coordinator(s)	Title	Institution	Period
Conferences				
1.	Asokan T	2018 IEEE International Conference on Robotics and Automation	Australia	21-25 May 2018
2.	Palaniappan Ramu	Asian Conference on Structural and Multidisciplinary Optimization	China	21-25 May 2018
3.	Venkatesh Balasubramanian	International Ergonomics Association 2018	Florence, Italy	26-30 August 2018
4.	Venkatesh Balasubramanian	Australian Road Safety Conference 2018	Sydney, Australia	1-7 October 2018
5.	Venkatesh Balasubramanian	Working Group of International Standards Organization (ISO/TC 159/SC4/WG9)	Lund, Sweden	19-22 November 2018

Special lectures delivered by the faculty in other institutions

Sl. No.	Faculty Member	Topic	Institution	Date
1.	Jayaganthan R	Fatigue studies on additively manufactured alloys for biomedical applications	Indo-Japan Bilateral Symposium on Futuristic Materials and Manufacturing, IIT Madras	15-16 July 2018
2.	Nilesh J Vasa	Different approaches for pulsed laser surface structuring of thin films for photovoltaics and automotive applications	Indo-Japan Bilateral Symposium on Futuristic Materials and Manufacturing, IIT Madras	15-16 July 2018
3.	Venkatesh Balasubramanian	Suzhal Management System (SMS) – a framework for lean implementation	29 th Annual Convention of GMA, Ghaziabad, India	19 January 2019
4.	Venkatesh Balasubramanian	Man in management – factoring humans for (operational) excellence	Conference on Total Employee for Operational Excellence, CII Mysore, India	18 December 2018
5.	Kavitha Arunachalam	Design and evaluation of medical microwave radiometer for measuring tissue temperature; Session: Photonic signal processing, real-time instruments and biomedical imaging	IEEE Asia Pacific Radio Science Conference URSI 2019	11-15 March 2019
6.	Kavitha Arunachalam	EMI and EMC for product development – Design and challenges	EMI/EMC testing short-term course conducted by CEC, IIT Madras	12 February 2019
7.	Kavitha Arunachalam	Medical applications of microwaves – Imaging and therapy	Short-term course on Frontiers in microwaves, Department of Physics, IIT Madras	22-27 October 2018
8.	Kavitha Arunachalam	Antenna design and characterization for medical applications	Workshop on Advanced Antenna Design and Applications, SRM Institute of Science and Technology, Kattankalathur	10-11 August 2018



Sl. No.	Faculty Member	Topic	Institution	Date
9.	Tuhin Subhra Santra	Biomedical micro/nano devices for cell therapy and diagnostics	Indo-China Virtual Conference on Advances in Biomaterials Research, Vellore Institute of Technology, Vellore, India	11 January 2019
10.	Shankar Ram C S	Overview of vehicle dynamics	National Seminar on Recent Trends in Vehicle Dynamics, Madras Institute of Technology, Chromepet, Chennai	16 March 2019
11.	Venkatesh Balasubramanian	Comprehensive data driven road safety – framework and process plan	Keynote address at Tamil Nadu Police District Additional Superintendent Conference, Chennai, India	28 September 2018
12.	Venkatesh Balasubramanian	Business excellence in engineering – concepts to practice	Engineers Day address at Neyveli Lignite Corporation, Neyveli, India	15 September 2018
13.	Venkatesh Balasubramanian	Road safety research at RBG labs – past, present and future	Keynote address at FICCI Road Safety Conference, Chennai, India	31 July 2018

Visits abroad by faculty

Sl. No.	Faculty member	Country Visited	Date	Purpose of Visit	Funding from
1.	Jayaganthan R	Germany	28-30 May 2018	Project	CPDA
2.	Asokan T	Australia	21-25 May 2018	International Conference	CPDA
3.	Palaniappan Ramu	China	21-25 May 2018	Asian Conference on Structural and Multidisciplinary Optimization	CPDA (Partial)
4.	Srikanth Vedantam	USA	30 April-2 May 2018 and 14-16 May 2018	Project	CPDA (Partial)
5.	Ramanathan M	Portugal	6-8 June 2018	Shape Modeling International (SMI 2018) Symposium	CPDA (Partial)
6.	Ramanathan M	Spain	11-13 June 2018	Solid and Physical Modeling 2018	CPDA (Partial)
7.	Saravana Kumar G	Athens, Greece	10-14 September 2018	Workshop and IRCOBI Conference	CPDA (Partial)
8.	Dr. Venkatesh Balasubramanian	Florence, Italy	26-30 August 2018	20th Congress of International Ergonomics Association	CPDA (Partial)
9.	Dr. Venkatesh Balasubramanian	Australia, Sydney	3-5 October 2018	Australian Road Safety Conference	CPDA (Partial)
10.	Dr. Venkatesh Balasubramanian	Lund, Sweden	17-24 November 2018	Working Group Meeting of ISO (ISO/TC 159/SC4/WG9)	GOI and Projects (Partial)
11.	Dr. Tuhin Subhra Santra	China	11-15 November 2018	22 nd International Conference on Miniaturized Systems for Chemistry and Life Sciences, Kaohsiung	CPDA (Partial)

Honours and awards obtained by faculty

Sl. No.	Faculty Member	Award	Awarded by	Awarded for	Date
i. Honours					
1	Tuhin Subhra Santra	Honorary Visiting Professor	Institute of Nano Engineering and Microsystems (NEMS)	National Tsing Hua University (NTHU), Taiwan	1 October 2018-30 September 2020
2	Tuhin Subhra Santra	Honorary Research Fellow	NTHU, Taiwan		1-31 December 2018
ii. Awards					
1	Kavitha Arunachalam Krishnamurthy C V	1 st Prize for best Oral Presentation	Indian Society for Non-Destructive Testing (ISNT)	NDE 2018	19-21 December 2018



Sl. No.	Faculty Member	Award	Awarded by	Awarded for	Date
2	Sandipan Bandyopadhyay	Best Paper Award	5 th Asian Conference on Mechanism and Machine Science (Asian MMS 2018)	Forward dynamics of the double-wishbone suspension mechanism using the embedded Lagrangian Formulation	18-19 December 2018
3	Venkatesh Balasubramanian	Congress Competition for Practice Examples	20th Congress of International Ergonomics Association	Case study: Tamil Nadu accident and emergency care initiative (TAEI) - impact of lean ergonomics on emergency care	26-30 August 2018

Journal Editorial Boards

Sl. No.	Faculty	Position (Editor/Member)	Journal Name
1	Tuhin Subhra Santra	Guest Editor	<i>International Journal of Molecular Science, Special issue: Nanomedicine and Molecular Medicine</i> , 2018
			<i>International Journal of Molecular Science, Special issue: Single Cell Technology</i> , 2018

4.9.4. Design and Development Activities

New facilities added or major equipment procured

Sl. No.	Equipment	Value (INR)	Value (FC)
1.	Numeric 10KVA (1Ph-1Ph) 12 Volt 65 Ah 20 nos Onfiniti batteries	164556	
2.	Blue Star Mega Split A/c 2.5 ton	147202	
3.	Hitachi Split A/c 2. ton RMC524HBEAW Hitachi Tousei 5100X	112590	
4.	Hitachi A/c 1.5 ton RSD517HBEAW Hitachi Tousei 5100X	135540	
5.	Honey Comb Table and Active Vibrator	245918	
6.	Real Time Spectrum Analyzer Make Tektronix USB model No.RSA306B	455644.45	\$6643.5
7.	Pressure Mapping System	818898.50	\$11870
8.	Numeric 5 KVA (1Ph-1Ph) 12V/34AH/20 nos Model No: Onfiniti battery: Exide Power safe	101521.36	
9.	Laptop Getac F 110 Core i7 6500 Processor vehicle adapter	198000	
10.	Apple laptop LUB MacBook Air (13 inch)	128763.60	
11.	Olympus microscope	181500	
12.	Repaired and upgrade Lumitherm module 4 channel optimized and sensors		\$6800
13.	CarnetSoft driving simulator	22200	
14.	Tekscan pressure mat	850000	

Patents

Patents filed

Sl. No.	Faculty Member	Topic of patent
1.	Poojali Jayaprakash, Arunachalam Kavitha, Krishnamurthy C V	Polarization independent frequency selective surfaces for atmospheric remote sensing
2.	Geetha Chakaravarthi, Krishna Prasath L, Jayaganthan R., Velmurugan R., Kavitha Arunachalam	Reusable passive wireless RFID sensor for structural health monitoring
3.	Asokan T	A compact modular active hand rehabilitation device
4.	Saravana Kumar G	Peano heat exchanger



Patents awarded

Sl. No.	Faculty Member	Topic of patent
1	Asokan T	A non-destructive method to identify used syringes and thus prevent their re-use

4.9.5. Research and Consultancy

Sponsored Research Projects (ongoing and new)

Sl. No.	Title	Period		Funding Agency	Amount (Rs. In lakh)	Co-Ordinators
		From	To			
1.	Developing a commercially viable real-time driver behaviour and fatigue monitoring system	31 August 2016	30 August 2019	Uchhatar Avishkar Yojana - IIT Madras	110.50	Venkatesh Balasubramanian
2.	Design for environmental excellence: lifecycle assessment of hybrid composite structures	27 October 2016	26 October 2019	Uchhatar Avishkar Yojana - IIT Madras	57.98	Palaniappan Ramu
3.	Experimental and numerical studies on cold swaging of Zr alloy bars for end cap manufacturing in PHWR fuel assemblies	10 November 2016	9 November 2019	Board of Research in Nuclear Sciences	53.08	Jayaganthan
4.	Design and development of a novel six degree of freedom robotic motion platform for medical rehabilitation	18 April 2017	17 April 2020	Department of Science and Technology (DST)	66.99	Sandipan Bandyopadhyay
5.	Massively parallel high throughput single cell nano-electroporation chip	29 March 2017	28 March 2020	DST	54.96	Tuhin Subhra Santra
6.	Development of micro-nano zinc oxide based functional devices - IJCSP	27 September 2017	26 September 2019	DST	5.53	Nilesh Jayantilal Vasa, Sarathi R, Ramachandra Rao M S
7.	Low-cost high resolution x-ray imaging system with image intensifier augmentation	28 November 2017	27 November 2019	DST	83.46	Ganapathy Krishnamurthi, Sivarama Krishnan
8.	Scale-up process development of highly efficient innovative core-shell structured electrode materials and investigate their electrochemical performance by fabricating lithium batteries for clean energy storage	23 May 2017	22 May 2019	DST	21.12	Jayaganthan
9.	Massively parallel high throughput single cell intracellular delivery using light pulses	1 January 2018	31 December 2022	Wellcome Trust UK	166.85	Tuhin Subhra Santra
10.	A multi-modal pre-clinical imaging system—combining x-ray, fluorescence and ultrasound	17 May 2018	16 May 2021	DST	53.26	Ganapathy Krishnamurthi, Arun K Thittai
11.	Fabrication of SiC targets and pulsed laser deposition of functional thin films - DST AMT	14 August 2018	13 August 2020	DST	48.20	Nilesh Jayantilal Vasa, Srinivasa Rao Bakshi, Tiju Thomas
12.	Design and development of rf sensors for identification and localization of incipient discharges in GIS	6 February 2019	5 August 2020	Central Power Research Institute	35.20	Kavitha Arunachalam, Sarathi R
13.	Standardization in assessment of fetal ultrasound routine scans with computational modelling and machine learning	15 March 2019	14 March 21	Scheme For Promotion of Academic and Research	36.88	Krishna Kumar R, Srikanth Vedantam

Industrial Consultancy projects (ongoing and new)

Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
1.	Srikanth Vedantam	Vehicle Dynamics Using Steering Robot	Common Code	5.00
2.	Kavitha Arunachalam	EM Test and Measurement	Common Code	0.45
3.	Srikanth Vedantam Krishna Kumar R	Vehicle dynamics using RT 3002 accessories	Common Code	5.00

RBIC projects (ongoing and new)

Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
1	Asokan T	Short-term design development of Cargo Ground Buildup System (CGBS)	Lockheed Martin Corporation	31.39
2	Ramanathan M	Geometric segmentation for partial search	Science Solutions Private Limited	12.00
3	Venkatesh Balasubramanian	Developing comprehensive reporting App for Tamil Nadu Accident and Emergency Care Initiative (TAEI)	National Health Mission	8.00
4	Venkatesh Balasubramanian	Developing a Comprehensive Reporting App for CEMONC	National Health Mission	5.80
5	Shankar Ram C S	Conceptual design of an electric bus powertrain	Bharat Heavy Electricals Limited	10.20
6	Sandipan Bandyopadhyay	Design and development of 3-DOF motion seat of payload 150kg	Army	26.55
7	Kavitha Arunachalam Krishnamurthy C V	Design and development of flexible, miniature array type eddy current probes for nondestructive imaging of defects in thin walled stainless steel tubes	Indira Gandhi Centre for Atomic Research	25.85
8	Shankar Ram C S	Development of an antilock brake system for heavy commercial road vehicles	Madras Engineering Industries Private Limited	59.86
9	Ganapathy Krishnamurthi Balaji Srinivasan	Development of the algorithms for histopathology image analysis to improve the ranking of applied materials in Camleyon'17 Challenge	Applied Materials India Private Limited	31.20
10	Balakrishna C Rao	A study on the efficacy of lubricants in enhancing both tool-life and productivity during the machining of Ti-6Al-4V alloy	Total Oil India Private Limited	9.91
11	Ganapathy Krishnamurthi Arun K Thittai	Artifact detection in medical images	Philips India Limited	10.92
12	Venkatesh Balasubramanian	Development of instrumented seat for driver performance monitoring	Harita Seating Systems Limited	68.40
13	Palaniappan Ramu	Watch rejection analysis and ways to detect them	Titan Company Limited	10.03
14	Krishna Kumar R	Raghupathi Singhania Centre of Excellence for Tyre and Vehicle Mechanics Phase - IV	Hari Shankar Singhania Elastomer & Tyre Research Institute	82.88
15	Kavitha Arunachalam Krishnamurthy C V	Modeling and optimization on remote field eddy current probe	Indira Gandhi Centre for Atomic Research	26.10

Retainer consultancy (ongoing and new)

Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
1	Krishna Kumar R	Retainer Consultancy Services Phase-II	Hari Shankar Singhania Elastomer & Tyre Research Institute	9.00
2	Venkatesh Balasubramanian	Expert opinion on EPS Steering	Mando Automotive India Private Limited	2.36



4.9.6. Distinguished visitors to the department

Sl. No.	Name and Designation	Date of Visit	Purpose of Visit
	Mr. Georges Santini, Director Network N+; Ms. Golda Malhotra, Coordinator, India, Sri Lanka & Nepal, Network N+; Mr. Yesihati Nuwujuma, Digital Marketing Strategy and International Promotion & Recruitment at Pole Universitaire Leonard de Vinci; Ms. Shaherazade Bendjelloun - ESILV	25 September 18	Opportunities in France for our students for doing Masters, Ph.D, internships

4.9.5. Other Activities of the Department

The department arranged a staff retreat on 8 September 2018 at VGP Resort. The faculty and staff members enjoyed the trip along with their family members.

Inter-disciplinary group achievements of the department

Adarsh Somayaji (ED15B001) and Sashank Tirumala (ED16B031) were placed 25th at the 12th edition of the University Rover Challenge (URC) held at Hanksville, Utah, USA from 31 May to 2 June 2018. They scored 91.7/100

in the science task, and their approach towards finding habitability on Mars was appreciated by the jury. Their steering mechanism that enabled a high degree of manoeuvrability and novel 3 DoF arm were well received.

International collaboration achievements

- MoU completed between IIT Madras and Indian Spinal Injuries Centre, Delhi for student exchange: Dr. Saravana Kumar G
- MoU completed between IIT Madras and King's College London for student exchange: Dr. T Asokan

Student visit

Sl. No.	Students	Purpose of Visit	Date and Venue
1	Shibaura Institute of Technology, Tokyo	Study Tour Programme	28 August 2018





4.10. Department of Humanities and Social Sciences

4.10.1. Introduction

Founded in 1959, the Department of Humanities and Social Sciences is one of the oldest departments in Indian Institute of Technology Madras. The department's essentially interdisciplinary nature is its distinguishing factor, which allows students to develop an appreciation for a diverse set of fields such as development studies, economics, English studies, environmental studies, history, international relations, philosophy, political science and sociology. The department offers both Master's and Doctoral programmes, as well as electives for B. Tech and M. Tech students.

Coupled with its multi-disciplinary background, the department boasts of a highly diverse and experienced faculty. It has an excellent student-teacher ratio, providing opportunities for academically intense learning. Equipped with state-of-the-art facilities in a serene campus, the department offers an enriching academic environment.

4.10.2. Academic programmes

Integrated M.A. (five-year programme)

New courses introduced

Sl. No.	Course No.	Title
1	HS5640	Advanced Linguistics
2	HS6750	Applied Linguistics
3	HS3017	Introduction to Linguistics
4	HS3029	Principles and Parameters of Natural Language
5	HS3028	Language and Society in India
6	HS7080	Philosophy of Mind
7	HS5611	English Phonetics and Phonology
8		Language and Mind (NPTEL)
9		Language and Society (NPTEL)
10		Applied Linguistics (NPTEL)

Students on roll as of September 2018+M.S. and Ph.D admission in January 2019

Programme	Year I	Year II	Year III	Year IV	Year V and others	Total
M.A.	44	41	45	42	65	237
Ph.D.	28	21	24	21	22	116
Total	72	62	69	63	87	353

Student/scholar who attended conference/seminar/symposium/workshop abroad/India

Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue	Financial Assistance
Abroad					
1	Gargi Roy	HS15D005	10 th Annual Meeting of the Illinois Language and Linguistics Society	6-8 April 2018 and University of Illinois, USA	
2	Vipin V	HS14D024	DEA40: International Conference on Data envelopment Analysis	13-20 April 2018 and Aston University, UK	
3	Thapasya J	HS15D027	63 rd Annual Conference on Linguistic Association	19-27 April 2018 and St. Johns University, USA	
4	Aniket Nandan	HS13D015	12th Annual International Conference on Sociology	7-10 April 2018 and Titania Hotel, Athens, Greece	
5	Ipsita Rakshit	HS15D030	DEA40: International Conference on Data Envelopment Analysis	16-18 April 2018 and Aston University, UK	
6	Jyoti Mishra	HS16D009	2018 International Conference on Religion and Film	3-5 May 2018 and University of Toronto, Canada	



Sl. No.	Student/ Scholar	Roll No.	Conference/Seminar/Symposium/ Workshop	Date and Venue	Financial Assistance
7	Md Roshan C K	HS14D014	UCLA Graduate Conference on Religion	9-10 May 2018 and University of California, USA	
8	Mayuri	HS14D013	28 th Annual Meeting of the Southeast Asian Linguistics Society	15-22 May 2018 and Wenzao Ursuline University, Taiwan	
9	Padmapriya Govindaranjan		16 th Chinese International Conference	22-23 May 2018 and Leiden University, Sweden	
10	Abhinand Shankar	HS14H001	International Conference on Urban Studies	12 May 2018 and University College London, UK	
11	Md Shahid Zaman	HS15D028	Data Envelopment Analysis International Conference 2018	14-16 June 2018 and Ming Chuan University, Taipei, Taiwan	Alumni
12	Aishwarya Anand	HS14H004	International Conference on Sports and Society	19-20 July 2018 and Florida International University, USA	
13	Tanima Bagchi	HS16D001	ASA18: Sociality, Matter, and the imagination: Re-creating Anthropology' conference	18-21 September 2018 and University of Oxford, UK	
14	Tanima Bagchi	HS16D001	Conference on Dialogue and Becoming: technologies, agencies, and ways of relating	24 September-1 October 2018 and Chinese Culture University, Taiwan	
15	Priyadarshini J	HS14H021	Conference on Women and Gender Studies 2018	September 2018 and Institute of Academic Researches, Sri Lanka	
16	Swathi Sudhakaran	HS15D016	International Conference on Literature Studies'18	26-27 October 2018 and Nippon Hotel, Istanbul, Turkey	
17	Parthiv P. Kidangoor	HS16H050	International conference on Economics Research	19-20 October 2018 and Alanya Alaadin Keykubat University and Reserve Bank of Turkey	
18	Abhinand Shankar	HS14H001	Great Asian Street Symposium/Pacific Rim Design Network/Structures for Inclusion Conference	14-16 December 2018 and National University of Singapore	
19	Elizebeth Neduparambil	HS16D010	2 nd Asia Pacific Applied Economics Association (APAEA) PhD/Masters Scholars Conference	19-20 January 2019 and Changsha University of Science and Technology, China	
20	Radeef Chundakkadan	HS15D022			
21	Saleem Khan A	HS18IPF01	Symposium on Climate Change and Natural Hazards: Coping with and Managing Hazards in the Context of Climate Change	25-28 February 2019 and University of Padova, Italy	
22	Mridula Robert	HS18D016	International Conference on Gender Studies: Gender Power	2 March 2019 and University of London	
23	Kongkona Dutta	HS15D014	Asian Conference on Arts and Humanities	29-31 March 2019 and Toshi Center Hotel, Tokyo, Japan	IIT Madras
24	Renjith R	HS15D031	WEAI 15 th International Conference	19-27 March 2019 and Kels University, Tokyo, Japan	
India					
1	Renjith R	HS15D031	12th World Congress of the RSAI: Special Systems: Social Integration, Regional Development and Sustainability	28 May-2 June 2018 and BITS, Goa	
2	A Harisankar	HS17D020	Presented a paper at the two-day National Symposium on Victorian Indian Identities	6-7 June 2018 and IIT Madras	



Sl. No.	Student/ Scholar	Roll No.	Conference/Seminar/Symposium/ Workshop	Date and Venue	Financial Assistance
3	P Ketan Kumar Reddy	HS17D008	RIS-EXIM Bank Summer School on International Trade Theory and Practice	11-18 June 2018 and RIS, Delhi	
4	Jyoti Mishra	HS16D009	Intercollegiate students' seminar - Of Dragons, Demons and Droids	2 August 2018 and Stella Maris College, Chennai	
5	Ashna Joy	HS17D025	Borders and Regionalism in South Asia	25 August 2018 and South Asian University, Delhi	
6	Athira Anand	HS17D012			
7	Jyoti Mishra	HS16D009	International Conference on Globalization, Literature and Culture	7-8 September 2018 and Shiv Chhatrapati Sports Complex, Pune	
8	Mumataz Ahmad Shah	HS14D015	Identity and the Politics of Security Sovereignty and Challenges of World Politics	14-17 September 2018 and National Law University, Gujarat	
9	Sancharini Mitra	HS17D004	Conference: Movement of Our Times: New Frameworks for Studying Women's Movements	17-20 September 2018 and KSP Women's Studies Centre, Pune University	
10	Simi K Salim	HS18D013	Workshop on Intersectionality	19 September 2018 and Christ University, Bangaluru	
11	Harisankar A	HS17D020	A national-level seminar on Jane Austen	31 October 2018 and IIT Madras	
12	Prantik Bagchi	HS18D007	Environmental Economics and Sustainable Development: Theory and Methodology for Valuation (GIAN)	17-25 November 2018 and NIT Karnataka	
13	Tanima Bagchi	HS16D001	Workshop on the The pragmatics of political discourse in the public sphere	21-28 October 2018 and IIT Gandhinagar	
14	Sofia	HS14H037	National Seminar on Jane Austen	31 October 2018 and IIT Madras	
15	Chandni Shyam	HS16D019	GIAN workshop on Clinically applied anthropology critical perspectives on mental health theory and practice in India	1-8 November 2018 and IIT Hyderabad	
16	Thamarai Selvan	HS17D018	Anchoring Innovation in Handloom Weaving In India - Workshop on Rethinking Indian Industrialization of Crafts (Rural Economic and Educational Development Society), Maastricht University, University of Leiden	11-18 November 2018 and REEDS, Chirala, Andhra Pradesh	
17	Chandni Shyam	HS16D019	Workshop on The Sexuality and Mental Health Institute	12-17 November 2018 and Ibiza Fern Conference Hall, Kolkata	
18	Jayakrishnan N	HS15D017	The CoRe: IGI PhD. Colloquium	13-16 November 2018 and IGI, Mumbai	
19	Sancharini Mitra	HS17D004	Movement of Our Times: New Frameworks for Studying Women's Movements	14-15 November 2018 and Savtribai Phule, Pune University	
20	Jayakrishnan N	HS15D017	The 13 th Annual International Conference of Forum for Global Knowledge Sharing on Technology and Employment	15-17 November 2018 and TISS, Mumbai	
21	Md Shahid Zaman	HS15D028	International Workshop on Efficiency and Productivity Measurement Using	27-29 November 2018 and South Asian University, New Delhi	
22	Vipin V	HS14D024	Data Envelopment Analysis		



Sl. No.	Student/ Scholar	Roll No.	Conference/Seminar/Symposium/ Workshop	Date and Venue	Financial Assistance
23	Akshay M Patil	HS17H015	(Re)constructing Kannada Identity: A Linguistic Study of Identity Formation in Karnataka	November 2018 and Aligarh Muslim University, Uttar Pradesh	
24	Fahima A	HS14H015	Early Lexical Acquisition in Multilingual Environments		
25	Mridula Robert	HS18D016	National Conference on Being and Doing Gender: Multidisciplinary Perspectives	6-7 December 2018 and University of Madras	
26	Aldas Vani Prashamsa	HS18D019	Research Methodology Workshop	8-26 December 2018 and CSD, New Delhi	
27	Lini Jolly	HS18D015			
28	Hemachana Padhan	HS18D008	6 th IIFT Conference	13-14 December 2018 and IIFT, New Delhi	
29	Jithin P	HS15D029			
30	Lakshmi Chithra Dilipkumar	HS16D012	International Conference on Ecology and Culture	14-17 December 2018 and Amrita Vidyapeetham, Kollam	
31	Hemachandra Padhan	HS18D008	60 th Annual Conference on the Indian Society of Labour Economics	19-21 December 2018 and Indira Gandhi Institute of Development Research, Mumbai	
32	Thamarai Selvan C	HS17D018	School on Political Economy as Peoples Report 2018	26-29 December 2018 and French Institute of Pondicherry	
33	Alfiya K Jose	HS18D003	44 th All India Sociological Conference	27-29 December 2018 and St. Philomenas College, Mysore	
34	Chanakanti Behera	HS18D009	Econometric Tools for Business Research	2-10 January 2019 and Pondicherry University	
35	Vipin V	HS14D024	55 th Annual Conference of TIES	7-10 January 2019 and NISM, Patalganga, Mumbai	
36	Elizebath Neduparambil	HS16D010	55 th Annual Conference of TIES		
37	Ipsita Rakshit	HS15D030	55 th Annual Conference of TIES		
38	Mumtaz Ahmad Shah	HS14D015	All India International and Area Studies Convention	29 January-1 February 2019 and JNU, New Delhi	
39	Sancharini Mitra	HS17D004	IAWS Southern Regional Conference	30-31 January 2019 and University of Calicut	
40	Ramnath Reghunadhan	HS18D022	All India International and Asia Studies Convention 2019 – Ascending India: Reflections on Global and Regional Dimensions	30 January-1 February 2019 and JNU, New Delhi	
41	Sayanty Chatterjee	HS15D026	Region/Nation/Transnation: Literature–Cinema Interface	31 January-4 February 2019 and BITS, Goa	
42	Neelima B	HS18D018	International Colloquium on Possible Words: Theory and The Transformative Humanities	1 February 2019 and Thalassery Campus, Kannur, Kerala	
43	Abhinita Mohanty	HS16D029	Winter School on Changing Grounds: Dynamics of Culture and Livelihoods	10-16 February 2019 and IIT Delhi	
44	Irshad C V	HS17D016	Econometric Methods and Applications	11-15 February 2019 and Farook College, Calicut, Kerala	
45	Renjith R	HS15D031	Two-day National Workshop on Growth and Productivity of Indian Economy: Contemporary Issues	11-14 February 2019 and Delhi School of Economics	
46	Neethu S Biju	HS17D026	National Workshop on Gender and Development	11-16 February 2019 and WSDC, Delhi University	



Sl. No.	Student/ Scholar	Roll No.	Conference/Seminar/Symposium/ Workshop	Date and Venue	Financial Assistance
47	Viju VV	HS16D030	Moving Image: A Hands-on Workshop	12-16 February 2019 and Manipal Centre for Humanities	
48	Irshad C V	HS17D016	A five-day short-term course on Econometrics Methods and Applications	13-17 February 2019 and Farook College, Kerala	
49	Simi K Salim	HS18D013	International Conference in Innovative Research	22-28 February 2019 and JNU, New Delhi	
50	Pratiti Palit	HS17D002	Workshop on Approaches to Language Variation (WALV) 2019	22-23 February 2019 and IIT Delhi	
51	Thapasya J	HS15D027	WALV 2019	22-23 February 2019 and IIT Delhi	
52	Shabeera K	HS17D022	Religion in Cultural and Comparative Perspectives	26 February-1 March 2019 and University of Hyderabad	
53	Rashi Shrivastava	HS18D028	Literature: An Interplay of Art and Culture	27 February 2019 and Anna Adarsh College Chennai	
54	Soham Chakraborty	HS18D024	Literature: An Interplay of Art and Culture	27 February 2019 and Anna Adarsh College, Chennai	
55	Chanakanti Behera	HS18D009	A seven-day national-level workshop on Econometrics Tools for Business Research	3-9 March 2019 and Pondicherry University, Puducherry	
56	Irshad C V	HS17D016	Population Dynamics in India and Its Implications on Health and Environment	7-9 March 2019 and IRD&PR, Hyderabad	
57	Shiji Mariam Varghese	HS18D011	MELANGE 2019: Culinary Narratives, Representations, and Discourses	8-9 March 2019, Christ University, Bangalore	
58	Jayakrishnan N	HS15D017	National Conference, Histories of Media and Performance; SN School of Communication, Hyderabad University	14-15 March 2019	
59	Viju V V	HS16D030	Workshop on Malayalam Cinema: Contested Screens, contending economics	11-18 March 2019 and University of Kerala	
60	Jayakrishnan N	HS15D017	Carnatic Music Videos and Ragamala Paintings: A Semiotic Study presented at Histories of Media and Performances; The Political, the Cultural and the Deep Pasts, a two- day national conference	14-15 March 2019 and S. N. School of Arts and Communication, Hyderabad	
61	Jayakrishnan N	HS15D017	Research symposium	18 March 2019 and IIT Madras	
62	Jeena Anne K	HS16D016			
63	Sancharini Mitra	HS17D004	Workshop: Egalitarianism, Hierarchy and Global Intellectual Labour beyond the West	National Institute of Advanced Studies, Bengaluru	
64	Uma Makesh	HS16H085	Eco-Conference and tiNai Ecofilm Festival 2019	21-22 March 2019 and Madras Christian College, Chennai	
Seminars at IIT Madras					
1	Aniket Nandan	HS13D015	Caste predicament in Bihar: violence, mobilisation and identity assertion	11 April 2018 and IIT Madras	
2	Sumirtha G	HS14D021	Continuum of maternal health care services in India: A subnational level analysis		



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue	Financial Assistance
3	Sheeja Rajagopal	HS13D007	Narrating breast cancer: A study of personal narratives of women with breast cancer	18 April 2018 and IIT Madras	
4	Praveen Singh	HS16D007	Complex predicates in Hindi-Urdu	1 May 2018 and IIT Madras	
5	Md Ali P K	HS13D019	Mappila Muslim masculinities vis-à-vis historical and contemporary body politics	23 April 2018 and IIT Madras	
6	Balaji M	HS14D007	Negotiating poverty line: study on density effect around the poverty line	8 May 2018 and IIT Madras	
7	Nishanth Kumar	HS15D036	Cognition, consciousness and self: Aphilosophical study on Mahayana and Hinayana Buddhism	2 May 2018 and IIT Madras	
8	Ispita Rakshit	HS15D030	Technical progress, energy use efficiency and convergence: A global level analysis	24 May 2018 and IIT Madras	
9	Deepak Kumar Behera	HS15D001	Impact of macroeconomic policies and alternative sources of revenue on public health expenditure in India: a fiscal space perspective	28 May 2018 and IIT Madras	
10	Gargi Roy	HS15D005	Embedded clause structure in Kokborok	7 August 2018 and IIT Madras	
11	Vipin V	HS14D024	Performance scenario and its determinants for selected Indian industries: conventional vis-à-vis Bootstrap-based inferences	13 August 2018 and IIT Madras	
12	Visakh M S	HS14D005	Configuring traditional authority: Religious knowledge and the place of Ulama in Sunni Muslim self-fashioning	20 August 2018 and IIT Madras	
13	Radeef Chundakkadan	HS15D022	Central banks' liquidity operations and impact on financial markets	30 August 2018 and IIT Madras	
14	Deepak Kumar Behera	HS15D001	Health financing in India: a fiscal space perspective	4 September 2018 and IIT Madras	
15	Renjith N R	HS15D031	Foreign direct investment and industrial agglomeration: evidence from India	10 September 2018 and IIT Madras	
16	Vipin V	HS14D024	Contemporary developments in management	11-13 September 2018 and IIT Madras	
17	Md Shahid Zaman	HS15D028	Stressed assets of balance sheet business activities and performance of Indian banking industry	6 February 2019 and IIT Madras	

Students/Scholars who won outside prizes and awards

Sl. No.	Student/Scholar	Roll No.	Prize	Prize awarded by
1	Neethu S Biju	HS17D026	Delegate of the National Students Parliament	Kerala
2	Uma Mahesh S	HS16H085	Best Paper and Best Presentation	International Conference themed Ecological Migrations and Transcultural Ethics, and tiNai Eco Film Festival organised by Madras Christian College



Students/Scholars who won Institute Convocation/Institute Day Prize

Sl. No.	Student/Scholar	Roll No.	Prize
1	Kalyani S	HS13H015	Wodehouse-Christie-Asimov Award for Fiction Writing (Science Fiction) Joint Winners
2	Shravya Chavali	HS16H072	Wodehouse-Christie-Asimov Award for Fiction Writing (Crime Fiction)
3	Vinjamuri Sruthi Ranjani	HS16H092	Shri M. N. Ramachanan and Smt. Gowri Appadorai Ramachanan Prize
4	Madhura Niveditha Balasubramaniam	HS13H017	Dilip Veeraraghavan Memorial Award (Integrated MA Programme – DS)
5	Marva M	HS13H018	A V Krishna Rao Memorial Award (Integrated MA Programme – ES)
6	Pauline Mathew T	HS16H052	Institute Merit Prize
7	Melwin James	HS15H021	Institute Merit Prize
8	Anwasha Pathi	HS14H008	Institute Merit Prize
9	Divya Vijayakumar	HS14H014	V Ravi Kumar Memorial Prize
10	Pritam majumdar	HS13H026	Gonsalvez Foundation Prize
11	Madhura Niveditha Balasubramaniam	HS13H017	RaviKumar Memorial Prize
12	Madhura Niveditha Balasubramaniam	HS13H017	Swati/Jayalakshmi Memorial Award
13	Aiswarya Anand	HS14H004	Silver in Institute Blues 2019

4.10.3. Faculty and Their Activities

Faculty

Sl. No.	Name and Qualifications	Designation	Major Areas of Specialisation
1	Umakant Dash, Ph.D. (IIT Kanpur) (Head)	Professor	Financial economics, health policy analysis, economic evaluation of healthcare programmes and inter-industry analysis
2	Malathy Duraisamy, Ph.D. (Madras University)	Professor	Labour economics/econometrics, economics of education, industrial economics
3	Muraleedharan, V.R, Ph.D. (IIT Madras)	Professor	Healthcare policy, environmental health, technology and development, history of healthcare in South India
4	Sudhir Chella Rajan, Ph.D. (University of California)	Professor	Automobility, sustainability and political theory, social studies of corruption
5	Srilata K, Ph.D. (University of Hyderabad)	Professor	Creative writing studies, women's writing, Indian writing in English and translation
6	Aysha Iqbal Viswamohan Ph.D. (Vikram University)	Professor	American literature, film studies and popular culture
7	SreeKumar N, Ph.D. (University of Hyderabad)	Professor	Philosophical and phenomenological hermeneutics, philosophies of Wittgenstein and Gadamer, bioethics
8	Dhanavel S.P., Ph.D (Tripura University)	Professor	Literary studies, English language teaching, communication and soft skills
9	Jyotirmaya Tripathy, Ph.D (IIT Kharagpur)	Professor	Culture studies, postcolonial theory, gender studies
10	Swarnalatha R, Ph. D. (Madras University)	Professor	Ecocriticism, American literature
11	Suresh Babu M, Ph. D. (JNU, New Delhi)	Professor	Applied macroeconomics, industrial economics and trade and development
12	Rajesh Kumar, Ph.D. (University of Illinois)	Professor	Language in education, sociolinguistics, linguistic theory
13	Satya Sundar Sethy, Ph.D. (University of Hyderabad)	Professor	Philosophy of language, analytical philosophy and Indian philosophy
14	Sonika Gupta, Ph. D. (JNU, New Delhi)	Professor	Chinese domestic politics, foreign policy, international relations theory
15	Subash S, Ph. D. (IIT Bombay)	Associate Professor	Applied industrial economics, foreign direct investment, economics of innovation and technological change



Sl. No.	Name and Qualifications	Designation	Major Areas of Specialisation
16	Roland Wittje, Ph.D (NTNU Trondheim)	Associate Professor	History of science and technology
17	John Bosco Lourdasamy, D.Phil. (Oxford University)	Associate Professor	Plantation studies, history of S&T and medicine in Modern India
18	Milind Brahme, Ph.D. (JNU, New Delhi)	Associate Professor	German language and literature, comparative literature and literary theory, education
19	Prema Rajagopalan, Ph.D. (IIT Kanpur)	Associate Professor	Sociology of science and technology, sociology of development
20	Solomon J Benjamin, Ph.D. (Massachusetts Institute of Technology)	Associate Professor	Urban studies, world development
21	Sudarsan Padmanabhan, Ph.D. (University of South Florida and Pondicherry University)	Associate Professor	Social and political thought, Indian philosophy and culture, philosophy of law
22	Anup Kumar Bhandari, Ph.D. (Indian Statistical Institute)	Associate Professor	Industrial economics, applied econometrics, Indian banking and financial economics
23	Binitha V. Thampi, Ph. D. (ISEC, Bengaluru)	Associate Professor	Gender and development, decentralisation and governance reforms, welfare state, poverty reduction policies and programmes
24	Joe Thomas Karackattu, Ph.D. (Jawaharlal Nehru University)	Assistant Professor	Economic interdependence and conflict, international relations
25	Kalpna, K., Ph. D. (MIDS)	Assistant Professor	Gender and development, women's studies and microfinance
26	Mathangi Krishnamurthy Ph.D. (University of Texas at Austin)	Assistant Professor	Anthropology of work, medical anthropology, gender studies
27	Merin Simi Raj, Ph.D. (IIT Bombay)	Assistant Professor	Postcolonial studies, Indian fiction in English and literary historiography studies
28	Sabuj Kumar Mandal, Ph. D. (ISEC, University of Mysore)	Assistant Professor	Energy and environmental economics, applied econometrics, industrial economics
29	Santhosh Abraham, Ph.D. (University of Hyderabad)	Assistant Professor	Mental asylums in Colonial India, Muslims, history, education, social mobility
30	Santhosh R., Ph.D. (ISEC, University of Mysore)	Assistant Professor	Sociology, globalisation and change
31	Tabraz S. S., Ph. D. (JNU New Delhi)	Assistant Professor	International relations theory, conflict resolution, international mediation and politics of west and South Asian regions
32	Hemachanan, Ph. D. (Cambridge University)	Assistant Professor	Literary criticism and rhetoric, disability studies and comparative musicology
33	Santhosh Kumar Sahu, Ph.D. (IIT Bombay)	Assistant Professor	Industrial economics, energy economics, economics of global climate change
34	Anindita Sahoo, Ph.D (IIT Delhi, New Delhi)	Assistant Professor	Linguistic typology, syntax, Indian English grammar, language acquisition, pragmatics, historical linguistics, language and communication studies
35	Divya A, Ph.D (NTU Singapore)	Assistant Professor	19 th -Century English Fiction and Visual Culture; Early Modern English Drama and Shakespeare; 19 th -Century Colonial Writings on India; Colonial Picturesque and Company Paintings; Gender Studies; Children's Literature
36	Avishek Parui, Ph.D (Durham University)	Assistant Professor	Modernism, masculinity studies, memory studies, posthumanism
37	Chiungwen Chang	Visiting Faculty	Chinese language
38	Johannes Wenzel	DAAD Faculty	German language



Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members

Sl. No.	Coordinator(s)	Title	Period
Conferences			
1	Sudarsan P	Seminar on Politics, Democracy and Governance and Sansad Ratna Awards, IC & SR, IIT Madras	9 June 2018
2	Sudarsan P	A Southern Regional Consultation on Electoral and Political Reforms	30 June 2018
3	Merin Simi Raj	Second International Conference on Anglo-Indian Studies	2-4 August 2018
4	HSS Department	8 th Annual Academic Conference on Identity and Citizenship	31 January-2 February 2019
5	Divya A and Avishek Parui	Victorian Indian Identities, Department of Humanities and Social Sciences, Indian Institute of Technology Madras	6-7 June 2018
Seminars			
1	Avishek Parui	The Narratology of the Graphic: Exploring the Narrativity of the Contemporary Graphic Novel	12 September 2018
2	Divya A	National Seminar on Jane Austen Explorations in Gender, Class and Romance	31 October 2018
3	Avishek Parui	Extended Reality and Empathy. (An academia-industry interface event on memory studies and digital storytelling in collaboration with TCS)	26 March 2019
Symposia			
1	Avishek Parui	Food, Foodscapes and Nostalgia	8 November 2018
2	Avishek Parui	Perspectives from International Relations and Anthropology	21 August 2018
3	Avishek Parui	Wellcome Trust Symposium on Medical Humanities	1-2 February 2019
4	Avishek Parui	Homo Ludens: Language, Play and Culture	13 February 2019
5	Suresh Babu	One-day research symposium	18 March 2019
Workshops			
1	Roland Wittje	Uses and Audiences of Recent Scientific Heritage	15 June 2018
2	Sudarsan P	First Southern Regional Consultation on Electoral and Political Reforms	30 June 2018
3	Binitha V Thampi and Kalpana K	Gender, Livelihoods and Collective Action at HSS, IIT Madras	16-17 July 2018
4	Sudarsan P	Koothambakkam Model Panchayat Field Visit to Koothambakkam, Tiruvallur	28 November 2018
5	Rajesh Kumar	English Language teaching workshop, AICTE	1-6 December 2018
6	Sudarsan P	The Kenyon-IITM Writing Workshop, Department of HSS, IIT Madras	10-14 December 2018
7	Dhanavel S P	Literature and Life	9 January 2019
8	Milind Brahme	Education for Sustainable Development for a cohort of teaching and research fellows at Bhoomi College, Bengaluru	January 2019
9	Avishek Parui and Merin Simi Raj	Writerly Rituals: A Workshop by Keith Butler	22 February 2019
10	Divya	World Short Stories	1 March 2019
11	Avishek Parui and Merin Simi Raj	Extended Reality and Empathy: An Interdisciplinary Approach in collaboration with TCS	26 March 2019
Short-term Courses			
1	Aysha Iqbal Viswamohan	English for Competitive Exams Technical English for Engineers	July-November 2018
2	HSS Department	Two-day certificate course in Public Policy for Young Leaders	23-24 February 2019
3	Rajesh Kumar	English Language Teaching: Addressing the Global Demand and Assessing Indian Classrooms Preparedness	1-6 October 2018

Short-term courses/workshops/seminars/symposia/conferences/trainings attended by the faculty members in academic institutions and public sector undertakings

Sl. No.	Faculty Member	Title	Institution	Period
Workshops				
International				
1	Sudhir Chella Rajan	British Academy Workshop on Cities	United Kingdom	26 June 2018
2	Roland Wittje	Sound Objects in Transnational Contexts	Max Planck Institute for the History of Science, Berlin	12 July 2018



Sl. No.	Faculty Member	Title	Institution	Period
3	Roland Wittje	Transnational Sound Detection on the Battlefield: How Did World War I Change Acoustic Measurement?	Berlin, Germany	12 July 2018
4	Santhosh Kumar Sahu	Aggregate Fluctuations and Technological Shocks: The Indian Case	Madras School of Economics	11 August 2018
5	Milind Brahme	Ways of Reading Goethe and Kafka	University of Delhi	September 2018
6	Santhosh Kumar Sahu	Regressions with Dummy Variables in Research Methodology	Madras University	24 September 2018
7	Jyotirmaya Tripathy	Jagannath in Dravidanadu: Kanchi Kaveri Legend and other possibilities in Kanathur Jagannath Temple	IIT Madras	29 September 2018
8	Avishek Parui	Bonding with the Lord	IIT Madras	29-30 September 2018
9	Avishek Parui	The Kenyon-IITM Writing Workshop, Department of HSS, IIT Madras	IIT Madras	10-14 December 2018
10	Roland Wittje	What is an Archive in India and Europe?	French Institute, Pondicherry	7-8 March 2019
11	Dhanavel S P	Teaching of Soft Skills and English Grammar	Bishop Heber College, Trichy	23 March 2019
National (India)				
1	SreeKumar N	Philosophy workshop	Amrita Vishwa Vidyapeetham	17-18 July 2018
2	SreeKumar N	Brainstorming meeting and panel discussion on Indigenous Healing Traditions and Ritual Arts of Kerala	National Institute of Advanced Studies, Bengaluru	16-17 January 2019
3	Kalpana K	Paper: Forging Solidarities: Women Workers in the Informal Sector in Tamil Nadu	National Workshop on Gender, Livelihoods and Collective Action at IIT Madras	16 July 2018
4	Kalpana K	Paper: Unionizing Women Workers in the Home-based Food Industry, North Chennai	National Workshop on Gender, Livelihoods and Collective Action, IIT Madras	17 July 2018
5	Kalpana K	Plenary presentation: Welfare in Mind the Gap; National Workshop on Gender Equality from the Perspective of Agenda 2030	Rajiv Gandhi National Institute of Youth Development, Sriperumbudur	31 August 2018
Seminars				
1	Dhanavel S P	National Seminar on Digital Humanities in Literature	Bharathiar University Coimbatore	8-9 March 2019
2	Milind Brahme	Multi-grade Multi-level Education and Outlined Concrete Research Proposals for Continuing the Ongoing Cooperation	University of Wuerzburg, Germany	November 2018
Symposia				
1	Kalpana K	Panellist at panel discussion, Labour, Consent and Agency: The Anti-Trafficking Bill 2017	Event organised by SIAAP (South India AIDS Action Programme), Vadamalar, Nirangal and Orinam	25 June 2018
2	Sabuj Kumar Mandal	A Coastal Climate Service Awareness Framework for Community Based Adaptation to Rising Sea-Levels, International Symposium on Disaster Resilience and Sustainable Development	AIT Bangkok	7-8 March 2019
3	Divya	Tracing Time-Space trajectories in Toru Dutt's Our Casuarina Tree (1881), International Symposium on Beyond the Clock	NTU, Singapore	16 March 2019
Conferences				
International				
1	Divya A	The International Conference on Arts and Humanities	Kobe Art Centre, Kobe, Japan	30 March-1 April 2018



Sl. No.	Faculty Member	Title	Institution	Period
2	Kalpana K	Feminist Analysis of Social and Solidarity Economy Practices: Views from Latin America and India (Virtual presentation via Skype)	Geneva, Switzerland	3-5 May 2018
3	Kalpana K	Visiting Professorship in Institute Etudes Politiques of Toulouse	Toulouse, France	1-17 December 2018
4	Sonika Gupta	Negotiating and Preserving Liminality: The Case of the Tibetan Refugees in India	Roskilde University, Denmark	23-25 May 2018
5	Rajesh Kumar	The Making of Indian English CANNON: Evidence from Early Experiments in the Craft of Literary Writing	Ateneo de Manila University, Philippines	31 May-2 June 2018
6	Hemachanan Karah	The Making of Indian English CANNON: Evidence from Early Experiments in the Craft of Literary Writing	Ateneo de Manila University, Philippines	31 May-2 June 2018
7	Roland Wittje	XIX Universeum Network Meeting	University of Glasgow	13-15 June 2018
8	Avishek Parui	International Conference on Modernism and Empathy	Hong Kong	15-16 June 2018
9	Binitha V Thambi	27 th Annual Conference of the International Association for Feminist Economics	USA	18-21 June 2018
10	Satya Sundar Sethy	International Conference on Educational Media and Innovative Learning	Amsterdam, Netherlands	25-29 June 2018
11	Evangeline Manickm	30th International Society for Humor Studies 2018 Conference	Tallinn, Estonia	26-29 June 2018
12	Sudhir Chella Rajan	Development Studies Annual Conference	Manchester, UK	27-29 June 2018
13	Rajesh Kumar	20th Annual Conference of the International Congress of Linguists	South Africa	2-6 July 2018
14	Sudarsan P	Association of Asian Studies in India – Roundtable: South Asian Studies in Motion: Coming to Terms with Area Studies in a Global Curriculum	Ashoka University, Delhi	7 July 2018
15	Roland Wittje	Annual Meeting of the International Committee for the History of Technology (ICOHTECH)	Jean Monnet University, Saint-Étienne, France	17-20 July 2018
16	Roland Wittje	XXXVII Scientific Instrument Symposium	Museum Boerhaave, Leiden, The Netherlands	3-7 September 2018
17	Roland Wittje	Joint Conference of the European Society for the History of Science and the British Society for the History of Science	University College London, UK	14-17 September 2018
18	Roland Wittje	MIDA conference, Entangled Archives: Perspectives from Modern India in German Archives	Humboldt University, Berlin	27-28 September 2018
19	Santosh R	Boundary Demarcation and Coalescence Between the Religious and the Secular: The Case of a 'Secular' Muslim Organization in India	Leipzig University, Germany	4-6 October 2018
20	Santhosh Kumar Sahu	Firm Level Determinants of Corruption: The Indian Experience	NTU Taipai, Taiwan	27-28 October 2018
21	Subash S	FDI, Labor Market and Welfare: How Inequality Navigate Welfare Loss?	NTU Taipai, Taiwan	27-28 October 2018
22	Roland Wittje	Berlin Radio-Acoustic Research and Development in the Electrical Industry	Haus der Kulturen der Welt in Berlin, Germany	3 November 2018
23	Roland Wittje	Anchoring Innovation in Handloom Weaving in India	Chirala, Andhra Pradesh	11-18 November 2018
National (India)				
1	Santosh Kumar Sahu	Micro Data and Macro Policy: The Case of Manufacturing Sector of India	TISS, Mumbai	16-18 November 2018



Sl. No.	Faculty Member	Title	Institution	Period
2	Binitha V Thambi	Fifty Years of Kerala: Questions on Egalitarianism, Social Justice and Development	Department of Political Science, Calicut University, Kerala	19 February 2019
3	Binitha V Thambi	Engendering Feminism – A Critical Evaluation of State Feminism	Mahatma Gandhi University, Kottayam	27-28 February 2019
4	Binitha V Thambi	Gender and Development – Theoretical Debates and Questions	Sree Sankara Sanskrit University (Ettumanoor Centre), Kerala	28 February 2019
5	Binitha V Thambi	Re-inventing Welfare Politics	Sree Sankara Sanskrit University, Kerala	21-22 March 2019

Short-term Courses

International

1	Roland Wittje	Centre for Modern Indian Studies Colloquium Summer Semester 18	Germany	6 June 2018
2	Suresh Babu M	Visiting Researcher at the University of Lausanne	Switzerland	17-27 June 2018
3	John Bosco Lourdusamy	Visit Max Planck Institute for the History of Science (MPIWG)	Germany	20-30 June 2018
4	John Bosco Lourdusamy	Visit University of Wisconsin	Madison, USA	1 October 2018
5	John Bosco Lourdusamy	SHOT Program - 2018 Annual Meeting	St. Louis, Missouri, USA	11-14 October 2018
6	John Bosco Lourdusamy	Visit North Caroline State University	Raleigh, USA	15 October 2018
7	Anup Kumar Bhandari	16 th International Conference on Data Envelopment Analysis	Jiangnan University, Wuhan, China	25-28 October 2018
8	Subash S	16 th International Convention of the East Asian Economic Association 2018	Taipei, China	26-31 October 2018
9	Sudarsan P	Samanvay 2018 – Inaugural Panel, organised by DoMS	IC & SR, IIT Madras	26 October 2018
10	Sonika Gupta	Yale Interdisciplinary Migration Conference	New Haven, USA	26-27 October 2018
11	Santhosh R	Private visit to United Arab Emirates	Dubai, United Arab Emirates	5-11 November 2018
12	Mathangi Krishnamurthy	117 th Annual Meeting of the American Anthropological Association	San Jose, California, USA	14-18 November 2018
13	Suresh Babu M	International Workshop on Gender and Religion	Würzburg, Germany	18-22 November 2018
14	Mathangi Krishnamurthy	Visit to University of Texas	Austin, Texas, USA	25 November- 4 December 2018
15	Milind Brahme	Visit the India Study Centre of the Hochschule Bremen, City University of Applied Sciences	Bremen, Germany	28 November-14 December 2018
16	Sonika Gupta	Visit to Hochschule Bremen, City University of Applied Sciences	Bremen, Germany	1-9 December 2018
17	Kalpna K	Visiting Professorship in Institute Etudes Politiques of Toulouse	Toulouse, France	1-17 December 2018
18	Solomon J benjamin	9 th East Asian Regional Conference in Alternative Geography	Daegu, South Korea	10-15 December 2018
19	Anindita Sahoo	Visit to the Chinese University of Hong Kong	Hong Kong, China	24 December-13 January 2019
20	Sudarsan P	Sansad Ratna Awards – Felicitations of IIT Madras	Raj Bhavan, Chennai	19 January 2019
21	Jyotirmaya Tripathy	Workshop at Frobenius Institute for Research in Cultural Anthropology	Goethe University, Germany	20-21 February 2019



Sl. No.	Faculty Member	Title	Institution	Period
22	Sudarsan P	15 th National Conference on Electoral and Political Reforms, Association for Democratic Reforms, New Delhi		1-3 March 2019
23	Sudarsan P	Meeting of National Election Watch Coordinators, New Delhi		1 March 2019
24	Sudarsan P	Discussion with Senior Deputy Election Commissioner, Election Commission of India	DDUSIRD, Lucknow	
25	Sudarsan P	Chair, Panel on Local and Urban Governance, at 15 th National Conference on Electoral and Political Reforms		2 March 2019
26	Sudarsan P	Member, Panel on Role of Youth and Voter Awareness: In Preparation for Lok Sabha 2019, at 15 th National Conference on Electoral and Political Reforms		3 March 2019
27	Sabuj Kumar Mandal	International symposium on Disaster Resilience and Sustainable Development	Pathumthani, Thailand	7-8 March 2019
28	Santhosh Kumar Sahu	Workshop and Symposium	University of Tokyo, Japan	19-20 March 2019

Special lectures delivered by the faculty in other institutions

Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
1	Swarnalatha R	Nature as an Anthropocene Sutra	IIT Kanpur	6 April 2018
2	Dhanavel S P	Career Advancement Committee Meeting for the Department of English and Foreign Studies	SRM Institute of Science Technology Kattankulathur	7 April 2018
3	Muraleedharan V R	As Adjunct to deliver lecture for PhD students in HSS Department	IIT Jodhpur	23-27 April 2018
4	Binitha V Thampi	Lecture on Gender and Social Policy at an Orientation Workshop on Social Policy	RGNIYD, Sriperambudur	3 May 2018
5	Muraleedharan V R	As a resource person for a National Consultation on Universal Access to Diagnostics	TISS, Mumbai	4-5 May 2018
6	Muraleedharan V R	Meeting on Technical Advisor Committee, Health Technology Assessment Board	DHR, New Delhi	23 May 2018
7	Umakant Dash	Faculty Development Workshop	VIT Vellore	25-26 May 2018
8	Muraleedharan V R	As a resource person in a Flagship course on Health System Strengthening and Sustainable Financing	Mussoorie, Uttarakhand	28-31 May 2018
9	Mathangi Krishnamurthy	Naming the Body Multiple: Biomedicine, Genetics and Sexual Identity in the Lives of CAH Patients	India Habitat Centre	4-6 June 2018
10	Dhanavel S P	Delivered a lecture on A New Historicist Approach to A R Ammonss Tape for the Turn of the Year	Bharathiar University, Coimbatore	5 June 2018
12	Roland Wittje	Instrumente wissenschaftlich-technischer Bildung: Deutsch-Indische Zusammenarbeit am Indian Institute of Technology Madras 1959-1974	Europa-Universität Flensburg, Germany	5 June 2018
13	Roland Wittje	Instruments of Development: Indo-German Scientific Collaboration and Engineering Practices at IIT Madras	University of Göttingen, Germany	6 June 2018
14	Dhanavel S P	Opportunities for Research Publications in the Arts	Stella Maris College, Chennai	8 June 2018
15	Jyotirmaya Tripathy	Delivered a talk on Urban Naxals and Contemporary Academia	CPR Convention Centre, Chennai	10 June 2018



Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
16	Jyotirmaya Tripathy	Delivered a keynote on Academia for Society: Challenges, Responsibilities and the Way Forward	Jindal Global University, NCR	12 June 2018
17	Roland Wittje	Instruments of Scientific and Technological Development: Indo-German Collaboration at the Indian Institute of Technology Madras 1959-1974	University of Regensburg, Germany	27 June 2018
18	SreeKumar N	Delivered three lectures at the Philosophy Workshop	Amrita Vishwa Vidyapeetham	17-18 July 2018
19	Milind Brahme	Specialised Study of an Author (Frieich Nietzsche)	Centre of German Studies, JNU, New Delhi	Jul to October 2018
20	Milind Brahme	Theories of Literature	Centre of German Studies, JNU, New Delhi	
21	Muraleedharan VR	Universal Health Coverage: What are we learning from Tamil Nadu	IIM Bangalore	24 August 2018
22	Dhanavel S P	The Role of Students in Enhancing Quality in Higher Education	Stella Maris College, Chennai	27 August 2018
23	Anindita Sahoo	English for Engineers	Annamacharya Institute of Tech and Sciences, Rajampet	31 August 2018
24	Divya A	Glimpsing Gender in Indian Short Fiction	N. G. P. College of Arts and Sciences, Coimbatore	7 September 2018
25	Dhanavel S P	Vision, Mission and Values	Pondicherry University	12 September 2018
26	Dhanavel S P	Public speaking	Pondicherry University	
27	Dhanavel S P	Positive Communication Skills	Eswari Engineering College, Chennai	12 October 2018
28	SreeKumar N	Capacity Building Programme For Social Science Faculty Members	Department of Politics and International Studies, Pondicherry University	22 October 2018
29	Santhosh Kumar Sahu	Assessment of the Socio-Economic Impacts of Climate Change and Energy Use	Assumption college, Kottayam, Kerala	2 November 2018
30	SreeKumar N	Outcome-based Education in Humanities	Sree Sankaracharya Univrsity of Sanskrit, Kerala	3 November 2018
31	Santhosh Kumar Sahu	Indian Economy: Emerging Trends and issues	University of Madas, Chennai	21 November 2018
32	Kalpana K	Mobilizing Women: A Feminist Perspective	Sciences Po Toulouse (The Institut d'études politiques de Toulouse)	5 December 2018
33	Rajesh Kumar	Tapping Existing Classroom Resources in between Teaching and Learning at the Sri Krishna Arts and Science College, Coimbatore	Sri Krishna College of Arts and Science, Coimbatore	7 December 2018
34	Dhanavel S P	Tapping Existing Classroom Resource Between Teaching and Learning	Sri Krishna College of Arts and Science, Coimbatore	8 December 2018
35	Dhanavel S P	Teaching of English	Alagappa Chettiar Government College of Engineering and Technology, Karaikudi	13 December 2018
36	Rajesh Kumar	English in Linguistic Ecology of India: An Analysis from Structure, Acquisition and Change in Natural Language	SV University, Tirupati	8 January 2019
37	Dhanavel S P	English for Entrepreneurs	Global Arts and Science College for Women, Vellore	22 January 2019
38	Dhanavel S P	Integrated Teaching of English and Soft Skills	KSR Arts and Science College, Tiruchengode	28 January 2019



Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
39	Anup Kumar Bhandari	Performance of Indian Textile Industry: Comparison between Pre- and Post-Withawal of Multi-fibre Agreement at the workshop on Growth and Productivity of Indian Economy: Contemporary Issues	Delhi School of Economics	11-12 February 2019
40	Swarnalatha R	Delivered a Plenary Lecture on Aranyakas in the Anthropocene in the international conference: Writing the Anthropocene: Engendering Ecological Consciousness in English and Telugu Literatures	Adikavi Nannaya University, Andhra Pradesh	18-20 February 2019
41	Binitha Thambi	Made a thematic address: Gender Mainstreaming in Kerala – A Critical Overview in the Conference on Fifty Years of Kerala: Questions on Egalitarianism, Social Justice and Development	Calicut University, Kerala	19 February 2019
42	Rajesh Kumar	Identity – Bihar – Languages of Bihar, a plenary talk	IIT Patna	21 February 2019
43	Anup Kumar Bhandari	Use of Data Envelopment Analysis as a Methodology to Evaluate Performance of the Production Units	VIT Vellore	23 February 2019
44	Binitha V Thambi	A thematic lecture on Engendering Feminism – A Critical Evaluation of State Feminism, Kerala Studies Conference	Department of Gandhian Thought and Development Studies, Mahatma Gandhi University, Kerala	27-28 February 2019
45	Binitha V Thambi	Invited lecture on Gender and Development – Theoretical Debates and Questions	Sree Sankara Sanskrit University, Kerala	28 February 2019
46	Roland Wittje	IIT Madras in German Archives on the Institute Heritage Centre Day 2019	Heritage Centre, IIT Madras	1 March 2019
47	Umakant Dash	A plenary talk in AMCCON2019: Is strategic purchasing feasible in publicly funded health systems?	AMCHSS, SCTIMST, Thiruvananthapuram, Kerala	2 March 2019
48	Dhanavel S P	The Art of Communication	Krishna Aditya Arts and Science College, Coimbatore	9 March 2019
49	Binitha V Thambi	Gave a thematic lecture on Changing Contours of State Welfarism and Emerging Citizenship in the national conference on Re-inventing Welfare Politics	Sree Sankara Sanskrit University, Kerala	21-22 March 2019
50	Rajesh Kumar	Negation through Select South Asian Languages at the Workshop on Approaches to the Study of Variation	Department of Humanities and Social Sciences, IIT Delhi	22 February 2019
51	Dhanavel S P	Teaching of Soft Skills and English Grammar	Bishop Heber College, Tiruchirappalli	23 March 2019
52	Subash S	Invited lecture on Foreign Direct Investment and Environment	Bharathiar University, Coimbatore	28 March 2019
53	Subash S	Lecture Disinvestment in India: An Overview	Center for Public Policy Research, Kochi	23 March 2019
54	Sudarsan P	Talk on Professional Ethics at the Executive Training Programme	Apollo Hospital, Trichy	25 March 2019
55	Rajesh Kumar	Generative Foundations of Multilingualism in Learning of Language in Zakir Husain Centre for Educational Studies	Jawaharlal Nehru University, New Delhi	28 March 2019
56	Rajesh Kumar	Missing Identity Coordinates in Bihari Languages in Zakir Husain Centre for Educational Studies	Jawaharlal Nehru University, New Delhi	4 April 2019



Visits abroad/India by faculty

Sl. No.	Faculty Member	Country Visited	Date	Purpose of Visit
1	Divya A	Japan	30 March-1 April 2018	Conference
2	Sonika Gupta	Germany (Bremen)	12-22 May 2018	Delivering an intensive seminar course on Chinese politics
3	Roland Wittje	Germany (Berlin, Darmstadt, Göttingen)	13 May-31 July 2018	Several conferences and seminars, archival work
4	Sudhir Chella Rajan	India (Delhi)	16 May 2018	The expert committee meeting of our proposed projects on research in social sciences
5	Malathy D	USA (Berkeley)	17 May-12 June 2018	Review and discussion meetings
6	Binitha V Thampi	India (Chennai)	18 May 2018	ILO-Ministry of Labour and Employment Regional Consultation on drafting of National Policy for Recruitment and Placement agencies, Hyatt Regency, Chennai
7	Sonika Gupta	Denmark (Roskilde, Copenhagen)	22-30 May 2018	APAD Annual Conference
8	Mathangi Krishnamurthy	Sweden (Stockholm)	28 May-11 June 2018	New Shape Forum
9	Rajesh Kumar	Philippines (Quezon City)	29 May-3 June 2018	23 rd Conference of the International Association for World Englishes
10	Hemachanan Karah	Philippines (Manila)	30 May-3 June 2018	Annual Conference of the International Association of World Englishes 2018
11	Avishek Parui	Hong Kong (China)	14-17 June 2018	Modernism and Empathy Conference
12	Binitha V Thampi	USA (New Paltz, New York)	16 June-2 July 2018	Annual Conference of the International Association for Feminist Economics
13	Sureshbabu M	Switzerland (Lausanne)	17-27 June 2018	Lectures and joint research
14	Evangeline Manickam	Estonia (Tallinn)	24-29 June 2018	International Society for Humour Studies
15	Satya Sundar Sethy	The Netherlands (Amsterdam)	24-30 June 2018	International Conference on Educational Media and Innovative Learning
16	Sudhir Chella Rajan	United Kingdom (London, Manchester)	25-30 June 2018	Two events: 1. Organising British Academy Workshop on Inclusive, Smart and Sustainable Cities, London 2. Participating in panel on From Inclusive Cities to Sustainable Development, Development Studies Association Conference
17	Merin Simi Raj	United Kingdom (Oxford)	30 June-8 July 2018	Digital Humanities Workshop at University of Oxford
18	John Bosco Lourdusamy	Germany (Darmstadt)	1-17 July 2018	Visiting Fellowship
19	Rajesh Kumar	South Africa (Cape Town)	2-6 July 2018	20th International Congress of Linguistics (ICL20)
20	Prema Rajagopalan	Canada (Toronto)	2-21 July 2018	XIX ISA World Congress of Sociology (15-21 July 2018)
21	Mathangi Krishnamurthy	India (Bengaluru and Delhi)	5-8 July 2018	Fairwork Foundation-IITB Online Platform Labour Workshop; AAS-in-Asia 2018
22	John Bosco Lourdusamy	France (St. Etienne)	17-21 July 2018	ICOHTEC (International Committee for the History Technology) Conference
23	Milind Brahme	India (New Delhi)	20 July-8 August 2018	Collaborative Research Project and Seminar Sessions at Centre of German Studies, JNU, New Delhi
24	John Bosco Lourdusamy	France (Grenoble)	22-26 July 2017	Private trip in the free days after a conference in France and before another in the US
25	John Bosco Lourdusamy	USA (New York)	27-28 July 2018	Meeting old students in New York before a conference in Boston



Sl. No.	Faculty Member	Country Visited	Date	Purpose of Visit
26	John Bosco Lourdusamy	USA (Boston)	29 July-3 August 2018	XVIII World Economic History Congress, MIT, Boston
27	Roland Wittje	Germany/ Netherlands/UK (Berlin/Leiden/ London)	1 August-2 October 2018	(a) XXXVII Scientific Instrument Symposium, 3-7 September 2018 (b) Joint meeting of the European Society for the History of Science and the British Society for the History of Science, 14-17 September 2018
28	Sonika Gupta	Kyrgyzstan (Bishkek)	12-19 August 2018	Asian Borderlands Research Network, IIAS Leiden, Annual Conference
29	Swarnalatha R	Malaysia (Melaka)	13-17 August 2018	10 th Malaysia International Conference on Languages, Literatures and Cultures: Engaging Diversity, Charting Trajectories, 14-16 August 2018
30	Milind Brahme	India (New Delhi)	10 September-3 October 2018	Lectures, Research Project consultation
31	Santhosh R	Germany (Leipzig)	3-8 October 2018	Secularities - Patterns of Distinction, Paths of Differentiation
32	Muraleedharan V R	United Kingdom (Liverpool)	4-14 October 2018	Health Systems Research Symposium, Liverpool, 8-12 October 2018, and RESYST consortium meeting, 5-6 October
33	Umakant Dash	UK (Liverpool)	4-7 October 2018	Annual Meeting of the Resilient and Responsive Health Systems (RESYST) Consortium
34	Subash S	India (Gangtok)	4-7 October 2018	National Conference - India After a Quarter Century of Economic Reforms: The Benefits and Costs
35	John Bosco Lourdusamy	USA (St.Louis, Raleigh, Madison)	9-20 October 2018	SHOT Conference, 11-13 October; paper at North Carolina State University, 16 October; talk at University of Wisconsin, 19 October 2018
36	Anup Kumar Bhandari	China (Wuhan)	23-30 October 2018	16 th International Conference on Data Envelopment Analysis
37	Sonika Gupta	US (New Haven)	25-28 October 2018	Yale Interdisciplinary Migration Conference
38	Subash S	Taiwan (Taipei)	25-31 October 2018	16 th International Convention of the East Asian Economic Association (EAEA-16) 2018
39	Santosh Kumar Sahu	Taiwan (Taipei)	25-31 October 2018	EAEA-16, 2018
40	Rajesh Kumar	India (Aligarh)	1-4 November 2018	A three-day symposium on Linguistics Across Disciplines
41	Hemachanan Karah			
42	Swarnalatha R	India (Varanasi)	12-16 November 2018	National Seminar History, Myth and Orality: Cultural and Literary Traditions in India
43	Mathangi Krishnamurthy	USA (San Jose, Austin)	12 November 2018-1 January 2019	American Anthropological Association Annual Meeting, San Jose, USA; Lecture series at The University of Texas at Austin
44	Subash S	India (Mumbai)	15-16 November 2018	13 th Annual Conference of Knowledge Forum, 16-18 November 2018, hosted by Tata Institute of Social Sciences, Mumbai
45	Sureshbabu M	Germany (Wurzburg)	18-22 November 2018	International workshop on Gender
46	Milind Brahme	Germany (Bremen)	28 November-4 December 2018	International Day at Hochschule Bremen and discussions on ongoing cooperation with Hochschule Bremen and its India Study Centre
47	Sonika Gupta	Germany (Bremen)	3-7 December 2018	To teach a Seminar Course and Project discussion
48	Kalpna K	France (Toulouse)	3-17 December 2018	Visiting professorship in Sciences Po Toulouse (The Institut d'études politiques de Toulouse) and discussions/paper writing with principal collaborator of sponsored project, Isabelle Guerin



Sl. No.	Faculty Member	Country Visited	Date	Purpose of Visit
49	Solomon J Benjamin	Korea (Daegu)	8-17 December 2018	9 th East Asian Regional Conference in Alternative Geography (EARCAG)
50	Solomon J Benjamin	India (Goa)	19-22 December 2018	Multidimensionalising Land
51	Anindita Sahoo	China (Hong Kong)	24 December 2018-11 January 2019	A talk on the topic, Why and When We Use Passives at the Chinese University of Hong Kong, Shenzhen and engage in a series of extended research meetings to deepen the researcher's understanding of South Asian languages within the broader context of the world's languages, with a special focus on neighbouring languages in East and Southeast Asia, which her potential collaborator, Foong Ha Yap has worked with extensively.
52	Kalpana K	India (Chennai)	30 January 2019	Special Lecture Series for all officers and staff at head office of Tamil Nadu Corporation for Development of Women, Chennai, including staff of Tamil Nadu State Rural Livelihoods Mission, Tamil Nadu Urban Livelihoods Mission, and Tamil Nadu Rural Transformation Project
53	Swarnalatha R	India (Rajahmundry)	18-19 February 2019	Writing the Anthropocene: Engendering Ecological Consciousness in English and Telugu Literatures
54	Jyotirmaya Tripathy	Germany (Frankfurt)	19-23 February 2019	Workshop on Religious Speakers and Religious Speech at Frobenius Institute, Goethe University
55	Rajesh Kumar	India (Darbhanga)	19-21 February 2019	A visit to the project site at Pindaruch in Darbhanga
56	Rajesh Kumar	India (Patna)	21-23 February 2019	Conference on Indigenous Languages
57	Sabuj Kumar Mandal	Thailand (Bangkok)	6-11 March 2019	International Symposium on Disaster Resilience and Sustainable Development
58	Swarnalatha R	India (Bengaluru)	15 March 2019	National Level Seminar on Eco-narratives
59	Santosh Kumar Sahu	Japan (Tokyo)	17-21 March 2019	Development of the Alliance for Future Society
60	Divya	Singapore	15-16 March 2019	Symposium

Honours and awards obtained by faculty

Sl. No.	Faculty Member	Award	Awarded by	Awarded for	Date of Award
ii. Award					
1	Avishek Parui	Meenakshi Mukherjee Prize 2019	Indian Association for Commonwealth Literature and Language Studies (4)	Best published paper of the year	2019

Fellowships of academies and professional societies

Sl. No.	Faculty Member	Year of Admission
Others		
1	Rajesh Kumar	Life Member, Linguistic Society of America, Washington, DC
2	Rajesh Kumar	Life Member, International Association for World Englishes Inc. (IAWE)
3	Rajesh Kumar	Life Member, Linguistic Society of India, Pune, MH (05/09)
4	Rajesh Kumar	Life Member, Indian Science Congress Association, Kolkata, WB (L15158)
5	Rajesh Kumar	Life Member, Dravidian Linguistics Association of India, Thiruvananthapuram, Kerala
6	Rajesh Kumar	Life Member, Association for English Studies of India
7	Rajesh Kumar	Life Member, Indian Sociological Society, New Delhi (LMI-3452)
8	Rajesh Kumar	Life Member, Sandarbha (Eklavya, Bhopal) (9192)
9	Rajesh Kumar	Member, Forum for Teachers of English Language and Literature (FORTELL), New Delhi, India. Fortell is an associate of International Association of Teachers of English as a Foreign Language (IATEFL), UK and an affiliate of Teachers of English to Speakers of Other Languages, Inc (TESOL)
10	Rajesh Kumar	Member, English Language Teachers Association of India (2018-2028, 30016338)

Journal Editorial Boards

Sl. No.	Faculty Member	Position (Editor/Member)	Journal Name
1	Roland Wittje	Member	<i>The International Journal for the History of Engineering and Technology</i>
2	Rajesh Kumar	Associate Editor (with Suranjana Barua, 2018-)	<i>Language and Language Teaching</i> (ISSN No. 2277-307X), Vidya Bhawan Society and Azim Premji University
3	Rajesh Kumar	Member Editorial Board (2010-)	<i>Language and Language Teaching</i> (ISSN No. 2277-307X), Vidya Bhawan Society and Azim Premji University

4.10.4. Research and Consultancy

Sponsored Research Projects (ongoing and new)

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
1	An analysis of financial and investment policies of limited liability partnership firms	August 2018- July 2019	Ministry of Corporate Affairs	5,00,000	Subash S
2	Vulnerability of coastal infrastructure due to climate change in ECZ of India		Department of Science & Technology		Sudhir Chella Rajan
3	Religion in the cyberspace: A study on the emerging cyberspace among the Muslim religious organisations in Kerala		IC&SR	7.5 lakh	Santhosh R
4	Historical archive of IIT Madras	2019-2022	IIT Madras	2,00,000	PI: Roland Wittje, Co-PI: Nagarajan R
5	Creating proficiency in English – project under corporate social responsibility scheme		M/s. Fullerton India Credit Co Ltd	54,40,000	Rajesh Kumar
6	Father's time spent with sons and daughters	2018-2020	NIH		Binitha V Thambi
7	Feminist analysis of social and solidarity economy practices: views from India and Latin America	2016-2019	French Institute of Pondicherry (IFP)		Kalpna K
8	Erasmus Plus with Aarhus University, Denmark	2017-2019	European Union	Mobility	Sudarsan P and Jyotirmaya Tripathy

Exchange programme with other universities, including institutions/universities under MoU

Faculty Member	Particulars
Umakant Dash	Invited to serve as Adjunct Professor at IIM Trichy for a period of three years (2019-21)
Umakant Dash	MoU with WHO India for undertaking an evaluation study of PM-JAY (National Health Insurance Scheme under Ayushman Bharat Initiative) of Government of India's flagship programme (Rs. 35 lakh)
Muraleedharan V R	MoU with National Health Mission, Tamil Nadu, for establishing a State Health Systems Resource Centre at IIT Madras. This will be a think-tank for Tamil Nadu Government for health sector (about Rs. 1 crore, initial budget)
Muraleedharan V R	MoU with Department of Health and Family Welfare, Government of Tamil Nadu, for monitoring progress of universal health coverage in Tamil Nadu (Rs. 15 lakh)
Muraleedharan V R	Centre for Technology and Policy and IGCS have entered into an MoU with Department of Environment, Forest and Climate Change, Gol, for creating a structure for managing hazardous wastes (Rs. 1.5 crore).
Sudarsan P	Fulbright-Nehru Fellowship, USIEF - Ms. Colleen Moore, Kenyon College, Gambier, Ohio, USA
Sudarsan P	Continuing MoU - Aarhus University, Aarhus, Denmark
Sudarsan P	Nordic Centre of India, Chair, Aarhus University, New Delhi
Binitha V Thambi	Mentoring Ms. Sona Hoigorova, an exchange student from the University of Florence from 15 January-15 May, and helping to write her MA dissertation.



Faculty members' participation with other institution under MoU

Sl. No.	Faculty Member	Participation Details	University/Institution which has MoU
1	Roland Wittje	Visiting	French Institute Pondicherry
2	Roland Wittje	Visiting summer 2018	Max Planck Institute for the History of Science, Berlin
3	Roland Wittje	Guest researcher summer 2018	Technical University of Berlin
4	Muraleedharan Suresh Babu	For an intervention research study for a period of three years	MoU between Centre for Technology and Policy (CTap), Department of HSS, IITM and Department of School Education, Government of Tamil Nadu

4.10.5. Distinguished visitors to the department

Sl. No.	Visitor and Designation	Date of Visit	Purpose of Visit
1	Dr Martina Fromhold, Economic Geographer from RWTH Aachen,	3 April 2018	Deliver a talk
2	Dr Susie Tharu, Dept of HSS, IITD and IITK	9-10 April 2018	Deliver a talk
3	Dr Nayanika Mukherjee	21 August 2018	Deliver a talk
4	Dr Mark Lacy	21 August 2018	Deliver a talk
5	Dr Tulsi Bainath (Writer)	6 September 2018	Deliver a talk
6	Dr Rinzin Dorjee and Tenzin Dalha	11 September 2018	Deliver a talk
7	Ved Arya (Founder Director of Srijan)	27 September 2018	Deliver a talk
8	Ms Geethanjali Rajan, Haiku Practitioner and Japanese scholar	11 October 2018	Deliver a talk
9	Dr Patnaik B. N. (Retd), IIT Kanpur	1 October 2018	Deliver a talk
10	Dr Anindya Raychaudhuri, University of St Andrews, UK	8 November 2018	Deliver a talk
11	Ms Chandni Chanan, IAS	14 October 2018	Deliver a talk
12	Dr Deva Sundaram N	30 October 2018	Deliver a talk
13	Dr Uther Charlton-Stevens, Institute of Economy and Finance, Volgograd State University, Russia	14 January 2019	Deliver a talk
14	Dr Ruth Gamble, La Trobe University, Melbourne, Australia	30 January 2018	Deliver a talk
15	Dr Kausik Chaudhuri, Leeds University Business School	16 January 2019	Deliver a talk
16	Dr Parth Shah, Economist and Founder, Centre for Civil Society, New Delhi	13 February 2019	Deliver a talk
17	Dr G Subramaniam, Senior Deputy Editor, <i>The Hindu</i>	6 February 2019	Deliver a talk
18	Mr. Keith Butler, Anglo-Indian novelist from New Zealand	22 February 2019	Deliver a talk
19	Dr Parashar Kulkarni, Yale-NUS College Singapore	26 February 2019	Deliver a talk
20	Dr Alka Acharya, School of International Studies, JNU, New Delhi	19 February 2019	Deliver a talk
21	Dr Ashok Maharaj and Jae Grant, TCS	26 March 2019	Deliver a talk
22	Dr Parashar Kulkarni, Yale-NUS College Singapore	1 March 2019	Deliver a talk
23	Dr Robn Anews, Massey University, New Zealand	19 March 2019	Deliver a talk
24	Dr Lakshmi Bandlamudi, Professor of Psychology at LaGuardia Community College, City University of New York	11 February 2019	Deliver a talk

4.10.6. Other activities of the department

Inter-disciplinary group achievements of the department

Sudarsan P (with the Dean of Students), 6 April 2019, New India Internship and Creative Engineering Project, Dean of Students Office, IIT Madras

Socially relevant activities carried out by the Department

- Umakant Dash and Muraleedharan V R organised a module on Health Economics for the MPH students of National Institute of Epidemiology, Chennai, 9-13 April 2018

- Department Event on Tamil Nadu Economic Policy Dialogue by Tamil Nadu Young Thinkers Forum on 7-8 September 2018 at CLT, IIT Madras
- Sudarsan P (Coordinator) (Design, Planning and Implementation with the Dean (Students) and the Director, IIT Madras) initiated New India Internship (Technology and Rural Development) with Member of Parliaments sanctioned by the Prime Minister's Office and MHRD, New Delhi.
 - TVSSST (Srinivasan Services Trust, Chennai): Collaboration with New India Internship on Rural Development

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| <ul style="list-style-type: none"> b) 25 February 2019, New India Internship, Review with Tamil Nadu MPs, IC&SR, IIT Madras c) 23 February 2019, New India Internship, Discussion of Findings and Challenges, Dean Students Office, IIT Madras d) 7 February 2019, Presentation to Deans Committee, Review of New India Internship, Directors Conference Room, IIT Madras e) 28 January 2019, New India Interns, Debriefing, HSB 356, IIT Madras f) 26 January 2019, New India Mentors Meeting, Dean Students Office, IIT Madras g) 27 November 2018, New India Internship Orientation, HSB 133, IIT Madras h) 10 November 2018, New India Interns and Mentors Meeting, HSB 133, IIT Madras | <ul style="list-style-type: none"> i) 26 October 2018, New India Internship, discussion with four Tamil Nadu MPs, TGH, IIT Madras j) 12 October 2018, Introduction to New India Internship (Pilot), CLT, IIT Madras k) 15 August 2018, Directors Announcement of New India Internship (Pilot), Manohar C Watsa Stadium, IIT Madras l) 6 July 2018, Discussion with Associate Dean (Student Affairs), Sangeeta Kohli, IIT Delhi about New India Internship m) 27 July 2018, New India Internship, Steering Committee Meeting, Dean Students Office, IIT Madras n) 7 May 2018, New India Internship, MHRD Approval o) 12 April 2018, New India Proposal handed over to Prime Minister Narendra Modi by Director, IIT Madras |
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International collaboration achievements by the department

1. Faculty visit

Sl. No.	Faculty Member	Purpose of Visit	Date and Venue
1	Mathangi Krishnamurthy	Jury Member in New Shape Prize (South Asia)	May 2018 and Sweden
2	Santhosh Kumar Sahu	Review meeting on Women Entrepreneurs of Tamil Nadu	27 June 2018 and Entrepreneurs Development and Innovation Institute, Chennai
3	Santhosh Kumar Sahu	International Day for MSMEs	

2. Student visit

Sl.No	Students	Purpose of Visit	Date and Venue
1.	Ipsita Rakshit	Attend a conference	2-6 July 2018 and Seoul, South Korea
2.	Thapasya J	Attend a conference	28 June-9 July 2018 and Cape Town, South Africa
3.	Subheesh N P	Paper presentation	27-29 June 2018 and University of Aveiro, Potrugal
4.	Deepak Behera	Paper Presentation	11-14 July 2018 and Maastricht, Netherlands





4.11. Department of Management Studies

4.11.1. Introduction

Set up in April 2004, the Department of Management Studies (DoMS) offers a two-year, full-time M.B.A. programme (started in July 2001), research programmes leading to M.S. and Ph.D. degrees, an M.S. (Entrepreneurship) programme, Visionary Leadership in Manufacturing (VLM) programme, and a Post-graduate Diploma for Executives (PGPEX-VLM) jointly with IIM Calcutta and IIT Kanpur. There is also an Executive MBA degree programme (two-year) for working professionals.

Over the years of its existence, the department thoroughly revised its MBA programme curriculum, expanded its research activities, re-launched the M.S. (Entrepreneurship) programme with a new structure and worked towards establishing long-term relationships with globally reputed institutions and organisations. The following sections present an outline of the department's work.

Some major areas of research at the

department are:

- Applied statistics
- Models in supply chain management
- Combinatorial optimisation
- Production and operations management
- Finance
- Project management
- Human resource management
- Quality management
- Information systems
- Strategy and business policy
- Knowledge management
- Services management
- Marketing
- Technology management

4.11.2. Academic Programmes

M.B.A., M.S. and Ph.D. degrees, M.S. (Entrepreneurship), Visionary Leadership in Manufacturing, PG Diploma for Executives, Executive MBA for working professionals

Students/scholars who attended conference/seminar/symposia abroad/India

Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue	Financial Assistance from
Abroad					
1.	Sujatha Manohar	MS14D012	International Conference and Doctoral Consortium of the Emerging Markets Conference Board	4-7 April 2018, South Africa	IIT Madras
2.	Kavitha Balaiyan	MS14D001	AGIFORS - Revenue Management SG Meeting 2018	15 -17 May 2018, Hong Kong	IIT Madras
3.	Krishna Mohan TV	MS13D014	10 th Annual Alliance for Research on Corporate Sustainability (ARCS) Research Conference, Sloan School of Management (awarded to papers selected in the PhD workshop)	11-13 June 2018, MIT, USA	Conference Travel Grant
4.	Aghila Sasidharan	MS16D014	JIFMIM - Cross Country Perspective in Finance Conference	21-23 June 2018, Guangzhou, China	IIT Madras
5.	Denila Jinny A	MS12D021	63 rd ICSB World Congress	26-29 June 2018, Taiwan	IIT Madras
6.	Abraham Cyril Issac	MS16D027	15 th International Human Resource Management (IHRM 2018)	13-15 June 2018, Madrid, Spain	IIT Madras
7.	Neethu Mohammed	MS15D006	19 th European Conference on Knowledge Management	6-7 September 2018, University of Padua, Italy	IIT Madras
8.	Veeravalli S	MS15D003	19 th European Conference on Knowledge Management	6-7 September 2018, University of Padua, Italy	IIT Madras



Sl. No.	Student/ Scholar	Roll No.	Conference/Seminar/Symposium/ Workshop	Date and Venue	Financial Assistance from
9.	V. Krithika	MS15D014	Australia and New Zealand Academy of Management Conference	4-7 December 2018, Auckland, New Zealand	IIT Madras
India					
1.	Kelitha Mary Cherian	MS13D211	4 th Management Doctoral Colloquium and VGSOM Research Scholar's Day	14-15 March 2018, IIT Kharagpur	IIT Madras
2.	Suraj Kumar	MS14D013	Management Doctoral Colloquium and VGSOM Research Scholar's Day	14-15 March 2018, IIT Kharagpur	IIT Madras
3.	Aghila Sasidharan, Anuja Sethiya, Sharon Christina Tensingh	MS16D014, MS15D010, MS15D200	Research Summer School in Empirical Finance and Accounting Research	2-9 May 2018, IIM Calcutta	IIT Madras
4.	Ramya M	MS17D016	Five-day workshop on Structural Equation Modelling: Testing Mediation and Moderation models	16-20 May 2018, School of Management Studies, University of Hyderabad	IIT Madras
5.	Aghila Sasidharan	MS16D014	International Conference on Financial Markets and Corporate Finance; paper: Does excess cash lead to more related party transactions in group firms: evidence from India	12-14 July 2018, IIT Kanpur	IIT Madras
6.	Krishna Mohan TV	MS13D014	37 th FISITA World Automotive Congress	2-5 October 2018, Chennai	IIT Madras
7.	Abraham Cyril Issac	MS16D027	Workshop on Applied Data Science and Business Analytics	21-25 November 2018, NIT Calicut	IIT Madras
8.	Abraham Cyril Issac	MS16D027	18 th Consortium of Students in Management Research (COSMAR); paper: Strategic factors engendering knowledge hiding: a relational analysis using total interpretive structural modelling (TISM)	29-30 November 2018, IISc Bangalore	IIT Madras
9.	Jaimini Bhattacharyya	MS14D008	22 nd International Conference of the Society of Operations Management 2018; paper: Contracting with a dishonest retailer under asymmetric demand information	20-22 December 2018, IIM Kozhikode	IIT Madras
10.	Shashank Bansal	MS14D010	India Finance Conference 2018; paper: Does concentrated founder ownership affect related party transactions? evidence from emerging economy	20-22 December 2018, IIM Calcutta	IIT Madras
11.	Jaimini Bhattacharyya	MS14D008	12th Annual ISDSI (Indian Subcontinent Decision Science Institute) Conference 2018; paper: Designing a revenue-sharing contract under asymmetric demand information	27-30 December 2018, SP Jain Institute of Management Research (SPJIMR), Mumbai	IIT Madras
12.	Krishna Kumar Balaraman	MS13D013	SMS India Special Conference	15-18 December 2018, ISB Hyderabad	IIT Madras



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue	Financial Assistance from
13.	Krishna Mohan TV	MS13D014	51 st Annual Convention of the Operational Research Society of India (ORSI) and the International Conference	16-19 December 2018, IIT Bombay	IIT Madras
14.	Veeravalli S	MS15D003	COSMAR 2018 – An Annual Research Consortium	29-30 November 2018, IISc Bangalore	IIT Madras
15.	Krishna Mohan TV	MS13D014	Engineering Doctoral Colloquium; received Best Paper Award in Operations Track	7-8 April 2018, IIT Kanpur	IIT Madras
16.	Ramya M	MS17D016	6 th PAN IIM conference; presented paper: What drives corporate environmental responsibility: the role of accurate mental models and green nudging	12-15 December 2018, IIM Bangalore	IIT Madras
17.	Ramya M	MS17D016	Fully funded winter school on Bounded Rationality	TAPMI-Max Planck-Soton, 14-20 January 2019	

Students/Scholars who won outside prizes and awards

Sl. No.	Student/Scholar	Roll No.	Prize	Other info
	Ayush Chaudhary, guided by Dr. Varisha Rehman; Kruteeka Baskaran, guided by Dr. Saji Mathew; Rajesh Kumar, guided by Dr. Upendra Kumar	MS17S005, MS17S003, MS17D015	Second prize for Best Paper; paper: An alternate perspective of new product development for the bottom of the pyramid market: insights from Geddesian Town Planning Theory; prize worth Rs. 20,000	IIM Indore, 3-6 May 2018
1.	Vedant Diwan, Soumay Bansal, Chetan Agarwal	MS18A007, MS18S050, MS18A005	First runners-up	BLoC Boardroom Challenge, organised by <i>The Hindu Business Line</i> , 5 September 2018
2.	Vijaya Sunder	MS15D016	Member, Editorial Advisory Board - Institute Research Award	October 2018
3.	Kavitha Balaiyan	MS14D001	First Prize, Best Research Paper Award, XXII Annual International Conference of the Society of Operations Management (SOM2018)	Paper: Simulation-based estimation for joint forecasting models in airline revenue management; 20-22 December 2018, IIM Kozhikode
4.	Jaimini Bhattacharyya	MS14D008	Best Paper Award	Doctoral Colloquium of 12th Annual ISDSI Conference for paper, Designing a revenue-sharing contract under asymmetric demand information; 27-30 December 2018, SPJIMR, Mumbai
5.	R. Shyaam Prasadh	MS14D004	Best Paper Award at the CRISIL Doctoral Symposium of India Finance Conference 2018, IIM Calcutta	Paper: Does country-level corruption distance affect cross-border acquisitions? A comparison of developed and emerging markets; 20-22 December 2018
6.	Chetan Agrawal, Diwan Vedant Anil, Soumay Bansal (first-year MBA students)	MS18A005, MS18A007, MS18A050	First prize in Scinnovatia, Simulation Challenge for Supply Chain Management, and first runner up in Rational Exuberance, the Finance Case competition	L'Attitude 13°05', Annual Business Festival 2019, Great Lakes Institute of Management, January 2019



Sl. No.	Student/Scholar	Roll No.	Prize	Other info
7.	Shubham Gupta, Mohamed Uzair Adil, Mahak Nuwal	MS18A042, MS18A021, MS18A017	First prize in Brand Warz	Dhruva 2019, the annual business festival of IIM Trichy, January 2019
8.	Ayush Chaudhary (MS scholar)	MS17S005	Best Paper Award; paper: What works better for BoP and ToP consumers? Findings of Bruzzone and Frame by Frame Test on Advertisement Retention	3 rd International Conference on Evidence Based Management, Birla Institute of Technology and Science, Pilani, 1-2 February 2019
9.	Martina Dubey, Smriti Vohra (first-year MBA students)	MS18A018, MS19A045	First position in CSR Case Study Challenge	NMIMS Mumbai, 3 March 2019
10.	Krishna Mohan TV	MS13D014	Best Paper Award in Operations Track, Industrial and Management Engineering Doctoral Colloquium	IIT Kanpur, 7-8 April 2018

4.11.3. Faculty and Their Activities

Faculty

Name and Qualifications	Major Areas of Specialisation
Professors	
Prakash Sai L (Head) (up to May 2019) B.Tech, M. Tech, Ph. D.	Strategic management, IT outsourcing and IT strategic planning business models, technology management, entrepreneurship
Arun Kumar G (Head) (wef May 2019), M. Com., Ph. D.	Market microstructure, IPOs, mergers and acquisitions, joint ventures and multinational business
Ganesh L S, B.E.(Hons.), M. Tech, Ph. D	Systems thinking and applications, project management, technology management, data and decision analysis, forecasting
Kamalanabhan T J, M.A., M. Phil., Ph. D.	Organisational behaviour, human resource management and training and development
Madhumathi R, M. Com., Ph. D.	Financial management and accounting, forex research, bank management, capital market studies
Rajendran C, B.E. (Hons), M.E., Ph. D	Operations management, production and materials management, supply chain management, scheduling
Srinivasan G, B.E. (Hons), M.S., Ph. D.	Fundamentals of operations research, advanced operations research, operations management, supply chain management, manufacturing systems management, O. R. applications, services operations management
R.P.Sundarraaj, B.E. (Hons), M.S. (USA), Ph.D. (USA)	Information systems, supply chain management, e-Business, computational optimization, decision support system
Thenmozhi M, M. Com., M. Phil, Ph. D.	Financial management, strategic management, computational finance
Thillai Rajan A, B.E., M.Sc., Fellow, IIM Bangalore	Venture capital and private, equity project and infrastructure finance, public-private participation, corporate finance
Rahul R. Marathe, B.E., M.S. (USA), Ph.D.	Simulation, industrial engineering, TQM, operations research, operations management
Saji K. Mathew, B. Tech., Ph. D.	Management information systems, IT strategy, data mining and business intelligence, IT services and outsourcing, information systems development
Usha Mohan, M. Sc., M. Phil., Ph. D.	Quantitative models in operations management, probability and statistics, combinatorial optimisation
Associate Professors	
Amit R K, M. Tech., Ph. D	Game theory, operations research, decision theory, natural resources management
Lata Dyaram, M.A., Ph. D (USA)	Leadership development, corporate sustainability, cognition in organisations, organisational behaviour, organisational development, industrial and organisation psychology
Richa Agrawal, B.A. (Econ), MBA, Ph. D.	Customer relationship marketing, consumer behaviour and insight advantage



Name and Qualifications	Major Areas of Specialisation
Rupashree Baral, B.Sc., M.A. (IR & PM), Ph. D.	Strategic human resources management, organisational behaviour, work-life balance, employee engagement, diversity and inclusiveness, career exit and re-entry of women
Assistant Professors	
Nandan Sudarsanam, M.S., Ph. D.	Experimentation, data mining, applied statistics, algorithmic and heuristic approaches to problem solving
Nargis Pervin, M.Sc., M.Tech., Ph.D	Social network mining, recommender systems, mobile app analytics
V. Vijayalakshmi, M.Sc., Ph.D	Positive organisational behaviour: happiness and performance, mindfulness, discovering calling, humor in the workplace, workplace emotions, creativity and innovative capability of firms, knowledge management, unlearning, Indian wisdom and management, innovative teaching and learning practices, integral holistic education, women empowerment through entrepreneurship
Varisha Rehman, B. Com (Hons), MBA, Ph. D	Marketing management and research, advertising and publicity, experiential marketing
Upendra Kumar Maurya (passed away on 2 March 2019), B. Tech., Fellow XIMB, XUB	Brand management, entrepreneurship and marketing interface, identity issues in organisations
Vaibhav Chawla, B.Tech (Hons.), Fellow, IIM Kozhikode	Mindfulness and sales call reluctance, spirituality in sales organisations, salesperson performance
MHRD IPR Chair Professor	
Feroz Ali Khader, B.A., LL.M., S.J.D., Ph. D.	Patent law and policy, intellectual property law, international trade law, law and technology
Ajit Singhvi Chair Professor	
C. Bhaktavatsala Rao	Business leadership and corporate governance, corporate strategy, business development and global alliances, manufacturing, R&D and marketing operations, mentoring and coaching
Professor of Practice	
R. Sridhar	

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

Sl. No.	Coordinator(s)	Title	Period
Conference			
1.	Dr. R. P. Sundarraj	Conference on Design Science Research in Information Systems and Technology	ICSR, IIT Madras, 3-6 June 2018
Workshops			
1.	Dr. Richa Agrawal	Workshop on Theory Development for Model Specification	4-8 April 2018
2.	Dr. M. Thenmozhi and Dr. T. J. Kamalanabhan	Project Leadership and Managerial Development Program (L&T Program)	16-25 April 2018
3.	Dr. M. Thenmozhi and Dr. T.J. Kamalanabhan	Project Leadership and Managerial Development Program (L&T Program)	7-16 May 2018
4.	Dr. Arshinder Kaur	Business Analytics Program through video conferencing (Delhi) to the staff of Ivory Education (P) Ltd, Delhi	May-December 2018
5.	Dr. T. J. Kamalanabhan	Executive Programme for Business Administration	12-20 and 19-27 May 2018
6.	Dr. T. J. Kamalanabhan	L&T-Project Leadership and Managerial Development Programme	17-26 September 2018
7.	Dr. T. J. Kamalanabhan and Dr. Rupashree Baral	NAV DISHA – Development Training Programme for INDANE distributors	5-6 September, 3-4 October and 30-31 October 2018
8.	Dr. Thillai Rajan	Launch of the 10 th Annual Report on the Indian Venture Capital and Private Equity industry-TIECON Chennai Conference	6 October 2018



Sl. No.	Coordinator(s)	Title	Period
9.	Dr. T. J. Kamalanabhan and Dr. Rupashree Baral	L&T-Supervisory Training Program	8-13 October 2018
10.	Dr. Lata Dyaram and Dr. L. Prakash Sai	Indian Bank Management Academy for Growth and Excellence (IMAGE)	10-12 October 2018
11.	Dr. T. J. Kamalanabhan	EPBA – Executive Programme for Business Administration	1-9 September 2018
12.	Dr. Rahul Marathe	VLM – Visionary Leadership Management	8 October-30 November 2018
13.	Dr. T. J. Kamalanabhan	EPBA – Executive Programme in Business Administration	10-18 November 2018, 24 November-2 December 2018
14.	Dr. T. J. Kamalanabhan	L&T – Dealership Training Programme	12-21 November 2018
15.	Dr. Rupashree Baral	Nav Disha – Developmental Training Program For INDANE distributors, Indian Oil Corporation Limited	29-30 November 2018, 12-13 December 2018
16.	Dr. Saji K. Mathew	One-day workshop on Information Systems Research in the Digital Era co-hosted by DoMS-IITM and University of Passau	30 November 2018
17.	Dr. Rupashree Baral	Introductory workshop on Social Network Analysis	5 December 2018
18.	Dr. T. J. Kamalanabhan	L&T – Dealership Training Program	28 January-2 February 2019
19.	Dr. Arshinder Kaur	Training on Information sharing and risk in supply chain to the industry professionals of HAL Management Academy, Bengaluru	12 March 2019

Short-term courses/workshops/seminars/symposia/conferences/trainings attended by faculty members in academic institutions and public sector undertakings

Sl. No.	Faculty Member	Title	Institution	Period
Seminar				
1.	Richa Agrawal	Seminar of the SusBerg Research Group and University Consortium	Turku School of Economics, Pori Unit, University of Turku, Finland	13 March 2019
Symposium				
1.	Dr. R. K. Amit	10 th Indo-German Frontiers of Engineering Symposium	Potsdam, Germany	24-27 May 2018
Conferences				
1.	Dr. Varisha Rehman	INFORMS Marketing Science Conference 2018 and visit to universities	Philadelphia, USA	13-16 June 2018, 18 June-5 July 2018
2.	Dr. Rahul Ratnakar Marathe	2018 INFORMS International Conference	Taipei, China	15-21 June 2018

Special lectures delivered by faculty in other institutions

Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
1.	Dr. R. K. Amit	Fermat meets Shapley: Location Science and Game Theory, IEOR Day	IIT Bombay	31 March 2019
2.	Dr. R. K. Amit	Reinventing the Bazaar: Platforms	CTO Forum: Conference on Leading with Disruptive Technologies, Hotel Westin, Chennai	12 April 2019
3.	Dr. R. K. Amit	Mechanism Design for Business	Ford GDI&A at Chennai	12 April 2019
4.	Dr. R. K. Amit	Joint Forecasting for Airline Pricing and Revenue Management	IIM Bangalore	29 June 2019



Visits abroad by faculty

Sl. No.	Faculty Member	Country Visited	Date	Purpose of Visit	Funding from
1.	Dr. C. Rajendran	Germany	9 April-20 July 2018	DAAD Visiting Professor	Sabbatical leave
2.	Dr. T. J. Kamalanabhan	Germany	4-8 June 2018	To attend the International Week at RheinAhr Campus, University of Applied Sciences Koblenz	-
3.	Dr. Saji K. Mathew	Germany	28 May-10 June 2018	Visit to University of Passau	-
4.	Dr. L. Prakash Sai	Zimbabwe	12-15 June 2018	Attend the Board of Examiners Meeting at Harare Institute of Technology	-
5.	Dr. L. S. Ganesh	Germany	21 June-17 July 2018	Visit University of Passau	-
6.	Dr. L. Prakash Sai	Mauritius	17-20 September 2018	Visit University of Mauritius	-
7.	Dr. Richa Agrawal	Singapore	26 October 2018	Meeting at Nanyang Technological Institute	IIT Madras (Project funds)
8.	Dr. C. Rajendran	Germany	9-22 January 2019	Research stay at University of Passau, Germany	Germany
9.	Dr. Richa Agrawal	Finland	7-18 March 2019	Visit the School of Economics, University of Turku, and Meeting at Aalto Design Factory and Aalto University, Helsinki	IIT Madras (Project funds)

Honours and awards obtained by faculty

Sl. No.	Faculty Member	Award	Awarded by	Awarded for	Date of Award
i. Honours					
1.	Prof. C. Rajendran	Elected as Fellow	Indian National Academy of Engineering (INAE)	Research publications	September 2018
2.	Dr. Thillai Rajan	Associate of the Mosavar-Rahmani Centre for Business Government, Harvard Kennedy School, USA	Re-appointed for the year 2019	Honours	February 2019
3.	Dr. (Mrs.) M. Thenmozhi, Director, NISM	Listed in India's Top 100 Women in Finance 2019	AIWMI	India's Top 100 Women in Finance	March 2019
ii. Award					
1.	Dr. Lata Dyaram and Akansha Jaiswal (DoMS alumni)	Best Paper Award for paper, Fault lines: when diversity types interact	International Conference 2019 on HRD and MSME Development by Entrepreneurship Development Institute of India, Gandhinagar	Best Paper	24-25 January 2019

Fellowships of academies and professional societies

Sl. No.	Faculty Member	Year of Admission
1.	Prof. C Rajendran	Elected as Fellow of the INAE 2018
2.	Anik Mukherjee, MS13D213	Under 2019 Fulbright-Nehru Doctoral Research Fellowship, visit University of South Florida for nine months from 1 October 2019.
3.	Devika A, MS16D023	Under 2019 Fulbright-Nehru Doctoral Research Fellowship, as a researcher visit Emory University, Atlanta, GA for nine months from 12 August 2019.

4.11.4. Research and Consultancy

Sponsored research projects (ongoing and new)

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
1.	Exploring emerging business models in fruit and vegetable supply chains	March 2018-March 2019	ICSR research fund	6	Dr. Usha Mohan
2.	Analyzing infrastructure capacity creation through development of an intelligent database for infrastructure in India (IDH)	March 2018-February 2019	ICSR research fund	10	Dr. A. Thillairajan, Dr. Ashwin Mahalingam, CE
3.	Corporate social responsibility project	May 2018-May 2019	CSR-Sub Project	10	Dr. Nandan Sudarsanam
4.	Shapley value based ambulance repositioning using spatio-temporal data	Two years from March 2019	NRDMS by DST	16.85	Dr. R. K. Amit
5.	Human-non-human relationships: an exploration of virtual home assistants	April 2019- April 2020	IC&SR	7.8	Richa Agrawal

Exchange programme with other universities including institutions/universities under MoU

1.	Bobin Cherian Jos MS15D011 Guide: Dr. C. Rajendran	Joint Doctoral Programme, April 2018-June 2019	University of Passau, Germany
2.	Sharon Christina MS15D200	Internship at Multi-Commodity Exchange (MCX)	Mumbai, India, 14 May-10 August 2018
3.	Shilpi Saxena MS15D027 Guide: Dr. Vaibhav Chawla	Erasmus Mundus Exchange Programme	Turku School of Economics, Pori Unit, University of Turku, Finland, 2 Feb -30 April 2019

Faculty members' participation with other institution under MoU

Sl. No.	Faculty Member	Participation details	University/Institution which has MoU
1.	Dr. Richa Agrawal	Erasmus+ International Credit Mobility	Turku School of Economics, Pori Unit, University of Turku, Finland, 7-13 March 2019
2.	Dr. Richa Agrawal	Aalto Design Factory	Aalto University, Helsinki, Finland, 14-15 March 2019

Distinguished visitors to the department

Sl. No.	Visitor and Designation	Date of Visit	Purpose of Visit
1.	David Rajan, CEO, Ross & Mount India	19 April 2018	Talk: Management of technology and upgradation
2.	Srikanth V, VP, Matrimony.com Ltd.	26 April 2018	Talk: Product leadership
3.	Dev Gadhvi, Founder and CEO of Passionpreneur Mastermind	6 September 2018	Talk: How to quit 9 to 5 race and build business around passion
4.	Kappu Jaykumar, Director of Product Management, Walmart eCommerce	11 September 2018	Talk: Achieving business excellence-the systems thinking way
5.	Manikandan, Supplier Quality Head, Rolls Royce, India	1 October 2018	Talk: Achieving business excellence-the systems thinking way
6.	Raghu Sudhakar, alumnus of DoMS IIT M (Batch of 2006-8), Senior Manager, Corporate Strategy at Cognizant	12 October 2018	Interactive session with MBA students
7.	Gaurav Sangtani, VP Goldman Sachs, leader of the Legal Entities Controller team for Investment Management Entities	20 October 2018	Talk: Blockchain in financial services



Sl. No.	Visitor and Designation	Date of Visit	Purpose of Visit
8.	Arvind Balaji, JMD Lucas TVS	31 October 2018	Talk: Sprinting towards creative disruption
9.	Officials of Crisil	11 October 2018	Demo on Crisil research
10.	Prof. Neeru and Prof. Jitender Madaan, IIT Delhi	12 October	Interactive session with research scholars
11.	Ms. Jayanthi Anilkumar, Head HR-Banking Operations, Standard Chartered Global Business Services	15 November 2018	Talk: My journey at Standard Chartered
12.	Mr. M Ravi, HR Business Partner, Oracle	20 November 2018	Talk: Talent management and innovation
13.	Dr. Vidyasagar Potdar, Senior Research Fellow, School of Management, Curtin University and Director of Anti-Spam Research Lab and Co-Director of Wireless Sensor Network Lab, School of Information Systems	28 November 2018	Interactive session with students and scholars
14.	Prof. Balasingham Balachandran, Professor, La Trobe University, Australia	December 2018	Delivered a talk and had discussions with research scholars
15.	Prof. Gita V. Johar, Columbia University, New York	4 January 2019	Talk: Combating fake news: a consumer psychology perspective
16.	Prof. Gita Johar, Columbia University, New York	January 2019	Interaction with scholars
17.	Krishnakumar Sankaranarayanan, Executive Director, PwC India	31 January 2019	Talk: Aligning business strategy with innovation strategy
18.	Mr. Arun Kaliannan, Executive Director, Vetri Motors Private Limited and channel partner of Tata Motors	7 February 2019	Talk: Franchise business
19.	Mr. C. K. Kumaravel, CEO and Co-founder, Naturals Salon & Spa	14 February 2019	Talk: The Naturals' story and way forward
20.	Mr. Ananth Jagannathan, Consulting Practice Director, Oracle	21 February 2019	Talk: Life of a consultant-manager of all trades
21.	Dr. Wayne Fallon, Associate Dean International, School of Business, University of Western Sydney, Australia	22 February 2019	Research collaboration and exchange programme between two institutions
22.	Mr. Sujith Sudhakaran, Senior Director-Brand Marketing, Myntra	28 February 2019	Talk: The changing face of marketing
23.	Prof. T. J. Rao, formerly of Indian Statistical Institute and National Sample Survey Organization (NSSO)	12 March 2019	Talk: Sample survey techniques: what to do and what not to do
24.	Prof. T. Parthasarathy, Chennai Mathematical Institute and Indian Statistical Institute, Chennai Centre	8 March 2019	Professor T. R. Natesan Endowment Lecture on A short survey on Game Theory
25.	Prof. Lakshman Krishnamuthi, A. Montgomery Ward Professor of Marketing, Kellogg School of Management, North Western University, USA	22 March 2019 3pm	Delivered a talk as a part of Guru Speak lecture series of this year: An empirical investigation of ad zapping using a large-scale dataset

4.11.5. Other Activities of the Department

Activities initiated



Marathon: Life goes on - Organ Donation



Teaching Innovator Award



Dr. P.C. Narayan, Ph. D. alumnus of DoMS; presently Professor at IIM Bangalore; receiving The Teaching Innovator Award from Shri Prakash Javadekar, Minister for HRD on 4 January 2019. Guide: Prof. Thenmozhi



4.12. Department of Mathematics

4.12.1. Introduction

The Department of Mathematics was established in 1959 along with the institute. The department offers M.Sc. in Mathematics, M.Tech in Industrial Mathematics and Scientific

Computing (IMSC) and Ph.D. programmes. In addition, the department has taken the responsibility of teaching mathematics courses to B.Tech, M.Tech (other than IMSC), M.Sc. and Ph.D. students of the institute.

The major research areas of the department are

1. Algebraic combinatorics	26. Graph theory
2. Algebraic geometry	27. Harmonic analysis
3. Algebraic topology	28. Inverse and ill-posed problems
4. Applied probability	29. Linear algebra
5. Approximation theory	30. Low-dimensional topology
6. Category theory	31. Mathematical modeling
7. Combinatorial optimisation	32. Mathematical study of ferromagnetic networks
8. Combinatorics	33. Nonlinear analysis
9. Combinatorics of words	34. Nonlinear analysis of functional differential equations
10. Commutative algebra	35. Nonlinear differential equations
11. Complex analysis	36. Number theory
12. Conformal geometry	37. Operator algebras
13. Contact and symplectic topology	38. Operator equations
14. Convective heat and mass transfer	39. Operator theory
15. Computational fluid dynamics	40. Optimisation
16. Computational number theory	41. Partial differential equations
17. Cryptology	42. PDE numerics
18. Differential and integral equations	43. Solid mechanics
19. Differential topology	44. Special functions
20. Fixed point theory	45. Systems and control theory
21. Fluid mechanics	46. Theory of codes
22. Functional analysis	47. Theory of computation
23. Fractals	48. Theory of wavelets
24. Game theory	49. Time frequency analysis
25. Graph algorithms	50. Wave structure interactions

4.12.2. Academic programmes

4.12.2.1. Students on roll as of September 2018+ Ph.D. admission in January 2019

Programme	Number of Students
M.Sc.	91
M.Tech.	38
Ph.D.	102
Total	231

4.12.2.2. Student/scholar who attended conferences/seminars and symposia abroad/India

Sl. No.	Scholar	Roll No.	Conference/Seminar/Symposium/Workshop and Venue	Date	Financial Assistant
India					
1	Rohini S	MA17D017	International Conference on Recent Trends in Graph Theory and Combinatorics 2018, CUSAT Kerala	26-29 April 2018	IIT Madras
2	Suchismita Mishra	MA15D008			
3	Soumitra Dey	MA15D020	Visiting Professor his co-guide Prof. Hong Kun Xu, Distinguished Professor, Hangzhou Dianzi University, China	1 April-30 June 2018	IIT Madras
4	Subhajit Chanda	MA15D022	Advanced Instructional School on Projective Modules, IIT Bombay	21 May-9 June 2018	IIT Madras
5	Subhasis Panda	MA15D028	Advanced Instructional School on Algebraic Number Theory	14 May-20 June 2018	
6	A. Selvakumar	MA15D010	Workshop on Symplectic, Embedding, Systolic Inequalities and Celestial Mechanics in CIMPA Research School, Daejeon, South Korea	11-20 June 2018	IIT Madras
7	Sushmita Mishra	MA15D008	NCM Workshop on Combinatorial Commutative Algebra, IIT Bombay	18-23 June 2018	IIT Madras
8	Rohini S	MA17D017			
9	Mohan Kumar Mallick		On a research collaboration on Nonlinear Elliptic Boundary Value Problems, IIT Palakkad	21 June-15 July 2018	IIT Madras
10	Subhajit Chanda	MA15D022	Annual Foundation Schools–III at KSOM, Kozhikode	16-28 July 2018	IIT Madras
11	Md. Hasan Ali Biswas	MA17D011			
12	Joji Benny	MA16D025	A workshop on Advanced Instructional School in Differential Topology, NEHU, Shillong	1-25 July 2018	IIT Madras
13	Dr. J. V. Ramana Reddy		Word Congress on Computational Mechanics 2018, New York, USA	20-31 July 2018	IIT Madras
15	Samprita Das Roy	MA14D016	Chemnitz Symposium on Inverse Problems 2018, Germany	27 September 2018	IIT Madras
16	Ayushi Singh Sengar	MA15D201	Course on Introduction to Stochastic Calculus, IIT Indore	15 September 2018	IIT Madras
17	Koushik Brahma	MA18D002	Mathematics In-house Symposium, IC&SR Building (Auditorium Hall)	6 October 2018	IIT Madras
18	Nirjan Biswas	MA15D017	Mathematics In-house Symposium, IC&SR Building (Auditorium Hall); paper: Embedding theorems on unbounded domain	6 October 2018	IIT Madras
19	Mohammad Atif	MA17D005	Mathematics In-house Symposium, IC&SR Building (Auditorium Hall)	6 October 2018	IIT Madras
20	Repana Devendra	MA16D020	Mathematics In-house Symposium, IC&SR Building (Auditorium Hall)	6 October 2018	IIT Madras
21	Kousik Dhara	MA14D013	International Conference on Banach Algebras, Harmonic Analysis, and Operator Theory, Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar 388120, Gujarat; paper: The continuity of $(n, \hat{\mu})$ -pseudospectrum	20 November 2018	
22	Sangita Jha	MA14D017	International Conference on Recent Advances in Pure and Applied Mathematics, Delhi Technological University; paper: Fractal functions with variable scaling	23 October 2018	IIT Madras
23	Sushmitha	MA16D007	Lab visit to Indian Statistical Institute, Hyderabad	5 November 2018	IIT Madras



Sl. No.	Scholar	Roll No.	Conference/Seminar/Symposium/Workshop and Venue	Date	Financial Assistant
24	Ranjeet Kara Dharsanda		International Conference on Exploring the History of Indian Mathematics, IIT Gandhinagar, Gujarat	4-6 December 2017	IIT Madras
25	Subhajit Chanda	MA15D022	National Conference on Commutative Algebra and Algebraic Geometry, IISER Pune	5-8 December 2017	IIT Madras
26	Sushmitha P	MA16D007	International Conference on Linear Algebra and Applications, Manipal Academy of Higher Education, Karnataka	9-16 December 2017	IIT Madras
27	Arvind Kumar	MA16D012	Workshop on Grobner Bases and their Applications, IIIT, New Delhi	11-23 December 2017	IIT Madras
28	R. Vijayakumar	MA16D031	GIAN Course: Quasi Conformal Mapping and Applications, IIT Indore	11-16 December 2017	IIT Madras
29	Sarvesh Kumar		International meet on Function Spaces and inequalities, 83 rd Annual Conference of IMA, S.V. University Tirupati	12-15 December 2017	IIT Madras
30	Kuntal Som	MA15D019	Game Theory Gurukulam, Pulavanur Village, Cuddalore	15 December 2017-1 January 2018	IIT Madras
31	Arati Shashi		15 th Discussion Meeting in Harmonic Analysis, IISc Bangalore	18-22 December 2017	IIT Madras
32	Sarvesh Kumar		15 th Discussion Meeting in Harmonic Analysis, IISc Bangalore	17-22 December 2017	IIT Madras
33	Parveena Shamim A	MA17D003	Meshfree Particle Methods for Solving Fluid Dynamics Problem, NIT Calicut	18-22 December 2017	IIT Madras
34	Arati Shashi		National Conference in Analysis, CMI, Chennai	23 December 2017	IIT Madras
35	Sampa Dey	MA15D005	Workshop on Analytic Number Theory, ISI Kolkata	25-30 December 2017	IIT Madras
36	Rohini S	MA17D017	Regional Mini Workshop on Indian Women and Mathematics, CUSAT, Cochin	2 January 2018	IIT Madras
37	Debabrata De	MA15D001	Quantum Groups and Non-Commutative Geometry, NISER Bhubaneswar	14-21 January 2018	IIT Madras
38	Repana Devendra	MA16D020	International Workshop on Recent Advances in Operator Semigroups, University of Delhi, New Delhi	17-22 December 2017	IIT Madras
39	Somnath Maity	MA16D201	Conference on A Meshfree Particle Method for Solving Fluid Dynamics Problems, NIIT Calicut	18-22 December 2017	IIT Madras
40	Rahul Kumar R	MA15D015	Conference on Quantum Groups and Non-Commutative Geometry, NISER Bhubaneswar	15-19 January 2018	IIT Madras
41	Pradyut Karmakar	MA16D005			
42	Soumen Roy	MA13D025			
43	Mohan Kumar Mallick		Research collaboration on Nonlinear Elliptic Boundary Value problems with Dr. Sarath Sasi, Assistant Professor, Department of Mathematics, IIT Palakkad	22 January-5 February 2018	
44	V A Kandappan	MA16D300	An Introductory course on High-Performance Computing, IIT Kanpur	25-February-1 March 2019	
45	Selvakumar A	MA15D010	NCMW-Characteristic Classes and Cobordism, IIT Bombay	4-16 March 2019	



4.12.2.3. Students/scholars who won Institute Convocation/Institute Day Prize

Sl. No.	Student/Scholar	Roll No.	Prizes
1	Veena Sangeetha	MA13D007	Smt. Lakshmikutty Amma and Shri A. Krishnankutty Nair Prize

4.12.3. Faculty and their activities

Faculty

Name and Qualifications	Major Areas of Specialisation
Professors	
Dr. A.K.B. Chand, Ph.D. (IIT Kanpur)	Fractals, approximation theory and wavelets
Prof. Arindama Singh, Ph.D. (IIT Kanpur)	Logic, numerical analysis
Prof. S. H. Kulkarni, Ph.D. (IIT Bombay)	Functional analysis, numerical analysis
Prof. S. Ponnusamy, Ph.D. (IIT Kanpur)	Complex analysis, function spaces, special functions and conformal geometry
Prof. R. Radha, Ph.D. (IMSc Chennai)	Harmonic analysis, wavelets, time-frequency analysis
Prof. R. Rama, Ph.D. (Anna University)	Formal language and automata theory/molecular computing
Prof. Y.V.S.S. Sanyasiraju, Ph.D. (IIT Madras)	Computational fluid dynamics
Prof. Satyajit Roy, Ph.D. (IISc Bangalore)	Convective heat and mass transfer, computational fluid dynamics
Prof. K. C. Sivakumar, Ph.D. (IIT Madras)	Functional analysis, mathematical programming
Prof. Ch. Srinivasa Rao, Ph.D. (IISc Bangalore)	Nonlinear differential equations
Dr. S.R. Manam, Ph.D. (IISc Bangalore)	Applied mathematics
Prof. S. Sundar, Ph.D. (IIT Madras)	Computational fluid dynamics, numerical analysis for partial differential equations, mathematical modeling
Prof. M.Thamban Nair, Ph.D. (IIT Bombay)	Applicable functional analysis: spectral approximation, operator equations, inverse and ill-posed problems
Prof. R. Usha, Ph.D. (IIT Madras)	Fluid dynamics
Prof. P. Veeramani, Ph.D. (IIT Bombay)	Fixed point theorems and their applications to problems in optimization and best approximation, fuzzy set theory
Prof. V. Vetrivel, Ph.D. (IIT Madras)	Non-smooth optimization, fixed point theory, complementarity problems
Associate Professors	
Dr. A. V. Jayanthan, Ph.D. (IIT Bombay)	Commutative algebra and algebraic combinatorics
Dr. Kalpana Mahalingam, Ph.D. (University of South Florida, Tampa)	Theory of codes, DNA computing, combinatorics of words
Dr. Kunal Krishna Mukherjee, Ph.D. (Texas, A&M)	Operator algebras
Dr. Neelesh S. Upadhye, Ph.D. (IIT Bombay)	Probability theory and applications
Dr. A.J. Shaiju, Ph.D. (IISc, Bangalore)	Game theory, systems and control theory
Dr. Shruti Dubey, Ph.D. (IIT Kanpur)	Nonlinear analysis of functional differential equations, mathematical study of ferromagnetic systems
Dr. Sounaka Mishra, Ph.D. (ISI, Kolkata)	Discrete mathematics, approximation algorithm, combinatorial optimization
Dr. R. Balaji, Ph.D. (IIT Madras)	Linear algebra and optimization
Assistant Professors	
Dr. P. Aprameyan, Ph.D.	Analysis on symmetric spaces, representations of real Lie groups, geometric quantization
Dr. T. V. Anoop, Ph.D. (IMSc Chennai)	Linear and nonlinear partial differential equations, nonlinear functional analysis
Dr. Arijit Dey, Ph.D.	Algebraic geometry
Dr. Dipramit Majumdar Ph.D. (Brandeis University)	Algebraic number theory, p-adic aspects of modular forms and Galois representations
Dr. N. Narayanan, Ph.D. (IMSC, Chennai)	Graph Theory: graph colouring, structural and extrenal graph theory, probabilistic combinatorics, discrete mathematics
Dr. Priyanka Shukla, Ph.D (JNCASR, Bengaluru)	Fluid mechanics: hydrodynamic instability, nonlinear dynamics, numerical PDE, granular flows, pattern formation



Name and Qualifications	Major Areas of Specialisation
Dr. Ramesh Kasilingam, Ph.D (IIT Bombay)	Differential and algebraic topology and their interactions with differential geometry
Dr. Santanu Sarkar, Ph.D. (ISI, Kolkata)	Cryptology and computational number theory
Dr. Sarang S.Sane, Ph.D. (TIFR, Bombay)	Commutative algebra, homological algebra, algebraic K-theory, algebraic geometry
Dr. Sivaraman Ambikasaran, Ph.D (Stanford University)	Numerical linear algebra, fast algorithms and scientific computing
Dr. Soumen Sarkar Ph.D. (ISI, Kolkata)	Algebraic topology, geometric topology, differential geometry, convex geometry, K-theory, topological complexity, persistent homology, ring of continuous functions
Dr. Sriram Balasubramanian, Ph.D. (University of Florida)	Functional analysis
Dr. Suhas Jaykumar Pandit, Ph.D. (ISI, Bengaluru)	Geometric group theory and low-dimensional topology
Dr. Sumesh K. Ph.D (ISI, Bengaluru)	Operator algebra
Dr. V. Uma, Ph.D. (IMSC Chennai)	Topology and geometry of toric varieties and related spaces
Dr. T.E. Venkata Balaji, Ph.D. (CMI, Chennai)	Algebraic geometry and commutative algebra
INSPIRE Faculty	
Dr. J. Jaikrishnan Ph.D (IISc Bangalore)	Complex analysis
Visiting Professor	
Dr. S. Kesavan (1 February 2016-31 January 2017)	Partial differential equation-homogenization, isoperimetric inequality
Adjunct Professor	
Dr. S. Kesavan (1 February 2017 to date)	Partial differential equation- homogenization, isoperimetric inequality
Institute PDF	
Dr. Sreelakshmi	
Dr. Gunasundari	
Dr. Swarnalatha	
Dr. J.V. Ramana Reddy	
Dr. Rajiv Kumar	
Dr. Tarun Kumar Chakra	

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members

Sl. No.	Coordinator(s)	Title	Period
Short-term course			
1	Dr. Ch. Srinivasa Rao and Prof. Y.V.S.S. Sanyasiraju	AICTE-sponsored QIP short-term course on Non-linear partial differential equations: theory and numeric; 35 teachers from Andhra Pradesh, Telangana and Tamil Nadu colleges attended the course	4-12 January 2018

Short-term courses/workshops/seminars/symposia/conferences/training attended by the faculty members in academic institutions and public sector undertakings

Sl. No.	Faculty Member	Title	Institution	Period
Workshops				
1.	Prof. M. Manickam and Dr. T. E. Venkata Balaji	Workshop on Modular Theory of Elliptic Curves and Characterisation of Riemann Surfaces	Kerala School of Mathematics, Kozhikode	21 May-2 June 2018
2.	Dr. A. V. Jayanthan and Dr. Ananthnarayan Hariharan (IITB)	ATM Workshop on Combinatorial Commutative Algebra	IIT Bombay	18-23 June 2018
3.	Dr. T. E. Venkata Balaji, jointly with M. Manickam and A. K. Vijayarajan	National Annual Foundation School – III for PhD scholars, funded by National Centre for Mathematics, IIT-Bombay, TIFR Mumbai, and National Board for Higher Mathematics (NBHM)	Kerala School of Mathematics, Kozhikode	2-28 July 2018



Sl. No.	Faculty Member	Title	Institution	Period
4.	Prof. Arindama Singh	Workshop for teachers on Diagonalization (five lectures)	Central University of Tamil Nadu	18-23 December 2017
5.		Workshop for teachers on Diagonalization (five lectures)		
6.	Prof. R. Usha	AICTE-sponsored workshop on Nonlinear Partial Differential Equations; delivered four lectures on Nonlinear Conservation Laws	Department of Mathematics, IIT Madras	22-27 January 2018
7.	Prof. R. Usha and Prof. Matthew Juniper, Cambridge University, UK	GIAN course: Instability methods in hydrodynamics	Department of Mathematics, IIT Madras	18-22 December 2017
8.	Dr. T. E. Venkata Balaji	Video lectures: The geometry of the real numbers	Swayamprabha, Government of India	Lecture 1: 27 March 2019 Lecture 2: 29 March 2019

Invited talks/paper presentation at conferences/symposia/workshops

Sl. No.	Faculty	Programme	Paper/Talk/Lectures	Date
1	Prof. Arindama Singh	Training in Mathematics, Ramanujam Institute of Mathematics, University of Mathematics	Linear algebra (six lectures)	16-18 May 2018
2		Training programme in Mathematics, NISER Bhubaneswar	Linear algebra (11 lectures)	22 May-2 June 2018
3		Training in Mathematics, Ramanujam Institute of Mathematics, University of Mathematics	Linear algebra (six lectures)	16-18 May 2018
4		Training programme in Mathematics, NISER Bhubaneswar	Linear algebra (11 lectures)	22 May-2 June 2018
5	Dr. A. V. Jayanthan	International Conference on Mathematics, St. Thomas College, Thrissur, Kerala	Plenary talk	29 June 2018
6	Prof. S.R. Manam	Workshop on Differential equations and its Applications	Connections between potentials associated with water wave scattering	7 March 2019
7		Central University of Karnataka, Kalaburagi (Gulbarga)	Invited lecture on Grid-free numerical schemes in the national-level workshop on Current Research in Mathematical Sciences (CRMS)	30 March 2019
8	Prof. Y. V. S. S. Sanyasiraju	Andhra University, Visakhapatnam	Invited lecture: Level set and initialisation schemes for capturing moving interfaces in a grid-free environment in the International Conference on Recent Inventions and Innovations in Mathematical Sciences (ICRIIMS 2019)	1 March 2019



Visit to other institutions

Sl. No.	Faculty	Programme	Venue	Date
1		Ph.D viva voce meeting as an examiner	CIT Coimbatore	24 March 2018
		Ph.D viva voce meeting as an examiner	SRM University	6 April 2018
2		Selection Committee Meeting	IIT Tirupati	8 May 2018
3		Selection Committee Meeting	IIT Tirupati	26-27 May 2018
4		DC Meeting	SRM University	22 May 2018
5		Selection Committee Meeting	IIT Palakkad	5 June 2018
6		Selection Committee Meeting	Indian Institute of Petroleum Engineering, Visakhapatnam	18 May 2018
7	Prof. V. Vetrivel	Lectures on Multivariate Calculus	Anna University	28-29 May 2018
8		Ph.D. Viva	Veer Surendra Sai University of Technology, Sambalpur, Odisha	29 September 2018
9		Ph.D. Viva	IIT Kharagpur	23 August 2018
10		Invited talk	KIIT Bhubaneswar	24-28 September 2018
11		DC Meeting	SRM University	15-30 June 2018
12		Selection Committee Meeting	IIT Palakkad	5 June 2018
13		Faculty Development Programme	VIT Vellore	3-5 July 2018
14	Ph.D. Viva	IIT Kharagpur	7 July 2018	
15	Faculty Development Programme	KIIT Bhubaneswar	10 July 2018	
16	BoS meeting	Thiagarajar Engineering College	14 July 2018	
17	Ph.D. Viva	Mar Ephraem College of Engineering and Technologies	14 July 2018	
18	Prof. S. Sundar	Guest lecture	VIT Chennai	4 April 2018
19		BoS meeting	Mahindra E'Cole	13 April 2018
20		Ph.D. viva meeting	IIT BHU	8 May 2018
21		Institute Chair Committee Meeting	IIT Roorkee	9 May 2018
22	Selection Committee Meeting	IIT Tirupati	25-26 May 2018	
23	Dr. Shruti Dubey	DC Meeting	VIT Chennai	7 May 2018
24		DC Meeting	SRM University Chennai	27 April 2018
25	Prof. Thamban Nair	Faculty Selection Screening Committee Meeting as Chairman	IIT Palakkad	30 April 2018
26		Subject expert for faculty selection	IIT Delhi	10 May 2018
27	Dr. T. E. Venkata Balaji	Workshop on Modular Forms, Elliptic Curves and Riemann Surfaces	Kerala School of Mathematics, Kozhikode	21 May-2 June 2018
28		Ph. D viva voce examination	NIT Surathkal	31 May 2018
29		External expert member for faculty recruitment, Department of Mathematics	SRMIST, Katanukulathur, Chennai	31 May 2018
30	Prof. Y.V.S.S Sanyasiraju	External expert member for faculty recruitment, Department of Mathematics	VIT, Vellore	24 May 2018
31		Expert examiner for PhD synopsis meeting in the Department of Applied Mathematics and Computational Sciences	PSG College of Technology, Coimbatore	11 April 2018
32		External examiner for PhD viva voce examination	JNTU Ananthapur	4 April 2018



Sl. No.	Faculty	Programme	Venue	Date
33		Chief Guest for the inaugural session of the mathematical fest, Mathema	SRM, IST Ramapuram	2 April 2018
34		Indian examiner for Ph.D thesis	IISER Trivandrum	6 April 2018
35		Member Doctoral Committee Meeting	SRM Kattankulathur	9 April 2018
36	Prof. K.C. Sivakumar	Member, Board of Studies, Department of Mathematics and Computational Sciences	NIT Surathkul	11 May 2018
37		Member, Comprehensive Viva Voce Meeting	SRM Kattankulathur	23 May 2018
38		Research review committee	Department of Mathematics, Mukesh Patel School of Technology Management and Engineering Bhakti Vedant Swami Marg, JVPD Scheme, Vile Parle (West)	3 May 2018
	Dr. A.K.B. Chand			
39		DC meeting	SRM University, Chennai	27 September 2018
40		Faculty recruitment	VIT, Andhra Pradesh	8 September 2018
41	Dr. A V Jayanthan	Research collaboration	IIT Bombay	10-17 June 2018
42		PMRF (Maths) Interview	IIT Kharagpur	4-5 June 2018
43		Faculty development programme	VIT Vellore	8-10 June 2018
44		DST-SERB review meeting	New Delhi	21 July 2018
45		Advanced course meeting	Crescent University, Chennai	29 August 2018
46		Faculty recruitment	VIT Vellore	30 August 2018
47		Invited talk	AMET	19 September 2018
48		DST PAC meeting	IIT Delhi	15 September 2018
49		Invited talk	D.G. Vaishnava College, Chennai	11 September 2018
50		Ph.D. viva	Anna University	29 September 2018
51		Faculty selection	IIIT Thiruvananthapuram	13 October 2018
52		Faculty selection	NIT Bhopal	26-27 October 2018
53		Talk at IFCS	Central Lecture Theatre (CLT)	3 November 2018
54	Prof. S. Sundar	Invited talk at an international conference	SRM Easwari Engineering College, Chennai	9 November 2018
55		Faculty recruitment	IIT Roorkee	22 November 2018
56		PAC meeting	SERB, New Delhi	2-3 February 2019
57		Faculty interview	IIT Bhilai	23 February 2019
58		Invited talk at Prof. Laxmikantham Birth Anniversary	Prof. Laxmikantham Institute of Advanced Studies in Maths, Vizag	16 March 2019
59		Invited talk at National Conference on Differential Equation Modeling and Computation	IIT Patna	29 March 2019
60		Invited talk at National Conference on Mathematical Modeling and Computation	VIT Chennai	27 March 2019
61		Expert member, Preparation of Mathematics module for the teachers of the technical institutions	Academic Council for National Resource Centre for Mathematics, Department of Mathematics, NIT Warangal	20 September 2018
62	Prof. Y.V.S.S. Sanyasiraju	Local expert member, Ph. D Viva-Voce examination	SRM University, Chennai	26 September 2018
63		Expert member, Faculty selection committee	Department of Mathematics, VIT Vellore	30 September 2018



Sl. No.	Faculty	Programme	Venue	Date
64	Prof. K. C. Sivakumar	Invited talk, Workshop on Matrix Computation and Numerical Techniques in Science and Engineering (CEP–MCNTSE)	NIT Warangal	31 October 2018
65		Ph.D. viva voce	IIT Hyderabad	1 November 2018
66		Ph.D. viva voce	NIT Raipur	22 November 2018
67	Dr. T. E. Venkata Balaji	Board of Studies Meeting	VIT Chennai Campus	28 November 2018
68	Dr. Ch. Srinivasa Rao	External member for Ph.D admissions	NIT Warangal	26 October 2018
69	Dr. A. K. B. Chand	Invited talk: Smooth zipper fractal interpolation functions, International Conference on Recent Advances in Pure and Applied Mathematics (ICRAPAM 2018)	Department of Applied Mathematics, Delhi Technological University, Delhi	23-25 October 2018
70		Invited talk: ICAM2018	IIT Kharagpur	23-25 November 2018
71			Central University of Tamil Nadu	18-23 December 2017
72	Prof. Arindama Singh	Workshop for Teachers on diagonalization (five lectures)		
73		Incompleteness phenomena in arithmetic	CRTAM, National conference, Bhawanipur Educational Society, Kolkata	14 September 2018
74	Prof. R. Usha	AICTE-sponsored workshop on Nonlinear partial differential equations; delivered four lectures on Nonlinear Conservation Laws	Department of Mathematics, IIT Madras	22-27 January 2018
75	Prof. R. Usha and Prof. Matthew Juniper, Cambridge University, UK	GIAN course: Instability Methods in Hydrodynamics,	Department of Mathematics, IIT Madras	18-22 December 2017
76		External expert member, Board of Studies for PG in Mathematics	NIT Puducherry	16 March 2019
77		External expert member, Board of Studies in Mathematics	SRMIST, Chennai	13 February 2019
78	Prof. Y.V.S.S. Sanyasiraju	External expert member, faculty recruitment	VIT Vellore	24 February 2019
79		External expert member, DC committee meeting for two PhD research scholars	VIT Andhra Pradesh, Amaravathi	23 February 2019
80	Prof. Thamban Nair	Faculty Review Committee meeting	IIT Jammu	19-20 February 2019
81		Research Review Committee,	Mukesh Patel School of Technology Management and Engineering, Mumbai	16 February 2019
82	Prof. A.K.B. Chand	Resource Person for UGC-DRS Programme	Utkal University, Bhubaneswar,	28 February-1 March 2019
83		External Examiner for Ph.D. Thesis	SVNIT, Surat, Gujarat	24-25 March 2019



Visits abroad by faculty

Sl. No.	Faculty	Country visited	Date	Purpose of visit	Funding
1	Prof. S. Sundar	Germany	1-15 July 2018	International Workshop on Mathematical Modeling of Complex Systems - Internationalization and Double Degree at Universitat Koblenz Landau	IIT Madras
2	Dr. Soumen Sarkar	Moscow, Russia	24 May-1 June 2018	International conference on Algebraic Topology, Combinatorics and Mathematical Physics and seminar on Toric Topology and Homotopy Theory	IIT Madras
3		USA	17-20 July 2018	33 rd Summer Conference on Topology and its Application at Western Kentucky University, Kentucky	IIT Madras
4	Prof. V. Vetrivel		15-30 June 2018	Joint research work at Hangzhou Dianzi University, Hangzhou	IIT Madras
5	Dr. A.K.B. Chand	Rio de Janeiro, Brazil	1-9 August 2018	Presented a paper: Zipper fractal interpolation functions at International Congress of Mathematicians	IIT Madras
6	Prof. Thamban Nair	Berlin, Germany	17-24 September 2018	Weierstrass Institute for Applied Analysis and Stochastics	IIT Madras
7		Germany	24-28 September 2018	Visit Chemnitz University of Technology, Chemnitz	IIT Madras
8	Dr. V. Uma	Lyon, France	29 October-2 November 2018	Conference on Algebraic Groups: Geometry, Actions and Structure	IIT Madras
9	Dr. A. V. Jayanthan	New Orleans, USA	1 November-15 December 2018	Visiting the Department of Mathematics, Tulane University for research collaboration	IIT Madras

Honours, awards and positions obtained by faculty

Sl. No.	Faculty	Award	Awarded by	Date of award
Awards				
1	Dr. A. K. B. Chand	Open Arm Travel Grant for ICM-2018 to visit Brazil	International Mathematical Union	1-9 August 2018
2	Prof. S. Sundar	DAAD Research Ambassador Award	German Embassy, New Delhi	21 September 2018
		Elected as DAAD Research Ambassador		2018-22
3	Prof. Satyajit Roy	Elected as Fellow of National Academy of Sciences 2018		2018
4	Prof. S. Sundar	Nominated as DST-SERB PAC (Mathematical Sciences) Member		2018-21
5	Prof. S. Ponnusamy			
6	Prof. V. Vetrivel	Nominated as DST-SERB NPDF and ECRA Committee Member		2018-21
7	Prof. R. Rama	Nominated as Institute Chair Professor		1 May 2018
8	Prof. R. Usha	Appointed as Professor Emeritus for a period of three years		1 July 2018
9	Prof. S.H. Kulkarni	Re-employed as Professor Emeritus for a period of three years		1 August 2018-30 June 2019

4.12.4. Other Activities of the Department

Seminar talks

Sl. No.	Faculty	Title	Date
1	Dr. N. Narayanan, Department of Mathematics, IIT Madras	Combinatorial Nullstellensatz and applications	19 April 2018
2	Dr. Manasi S. Kulkarni, Post-Doctoral Fellow, Department of Mathematics, IIT Madras	DNA computing inspired combinatorics on words	12 April 2018
3	Dr. Sarang S. Sane, Department of Mathematics, IIT Madras	Linear algebra over rings: unimodular rows and completability	5 April 2018



Sl. No.	Faculty	Title	Date
4	Dr. Srihari Sridharan, IISER, Thiruvananthapuram	Random dynamics generated by finitely many rational maps	5 July 2018
5	Prof. Sudhir R. Ghorpade, Department of Mathematics, IIT Bombay	A finite field Nullstellensatz and the number of zeros of polynomials over finite fields	2 August 2018
6	Dr. Sumit Kumar Pandey, Department of Computer Science, Ashoka University, Sonapat, Haryana	Recursive MDS diffusion layers	9 August 2018
7	Dr. Parameswaran Sankaran, Department of Mathematics, Institute of Mathematical Sciences, Chennai	Quasi-isometry and rigidity	16 August 2018
8	Dr. Jaikrishnan Janardhanan Department of Mathematics, IIT Madras	Hyperbolicity in complex analysis	23 August 2018
9	Prof. Amritanshu Prasad, The Institute of Mathematical Sciences, Chennai	Greene's Theorem for Timed Words	30 August 2018
10	Dr. Sujata Ghosh, Department of Computer Science, Indian Statistical Institute, Chennai	Games and logic: an interplay	6 September 2018
11	Dr. N. Narayanan, Department of Mathematics, IIT Madras	Combinatorial Nullstellensatz and applications	19 April 2018
12	Dr. Manasi S. Kulkarni, Post-doctoral Fellow, Department of Mathematics, IIT Madras	DNA computing inspired combinatorics on words	12 April 2018
13	Dr. P. Aprameyan, Department of Mathematics, IIT Madras	Helgason's conjecture for Riemannian symmetric spaces	20 September 2018
14	Dr. Anant R. Shastri, Department of Mathematics, IIT Bombay	On product norms	27 September 2018
15	Dr. Mathew C. Francis, Department of Computer Science, ISI Chennai	On the Second Neighbourhood Conjecture	4 October 2018
16	Dr. Eagambaram Narayanan, Formerly Deputy Director General, Indian Statistical Service, Gol	Generalized inverses of matrices by inversion of complemented matrix and its application to generalized linear model	11 October 2018
17	Dr. Jongbaek Song, Department of Mathematical Sciences, Korea Advanced Institute of Science and Technology	Equivariant cohomology of torus orbifolds	18 October 2018
18	Prof. Hema Srinivasan, Department of Mathematics, University of Missouri, USA	Unimodality of Hilbert functions of graded Artin algebras	25 October 2018
19	Dr. Prabha Mandayam, Department of Physics, IIT Madras	Mutually unbiased bases in finite dimensional Hilbert spaces	1 November 2018
20	Dr. Tanmoy Paul, Department of Mathematics, IIT Hyderabad	Some recent developments of proximality in Banach spaces	8 November 2018
21	Dr. Dhruv Ranganathan, Department of Pure Mathematics and Mathematical Statistics, University of Cambridge	Combinatorial methods in algebraic geometry	15 November 2018
22	Dr. Shanta Laishram, Theoretical Statistics and Mathematics Unit, ISI Delhi	On a conjecture of Erdos on squares in arithmetic progression	22 November 2018
23	Dr. Shashank Singh, IISER Bhopal	Discrete logarithm problem and its applications in cryptography	29 November 2018
24	Dr. Gopalan Nair, The University of Western Australia, Perth, Australia	Ballot Theorem, generalisations and combinatorial analysis of $M/M/m/1$ Queues	4 December 2017
25	Dr. Kamalakshya Mahatab, Department of Mathematical Sciences, Norwegian University of Science and Technology (NTNU), Trondheim, Norway	Extreme values of the Riemann Zeta function on the 1-Line	7 December 2017
26	Prof. Ratnasingham Shivaji, W. L. Giles Distinguished Professor Emeritus of Mathematics, Mississippi State University, H. Barton Excellence Professor and Head, Department of Mathematics and Statistics, The University of North Carolina, Greensboro, USA	Uniqueness results for semipositone problems	12 December 2017



Sl. No.	Faculty	Title	Date
27	Dr Hira L. Koul, Department of Statistics and Probability, Michigan State University, USA	Minimum distance model checking in Berkson measurement error models with validation data	20 December 2017
28	Dr. Sudarshan Tiwari, AG Technomathematik, TU Kaiserslautern, Germany	Modelling and simulations of interacting particle systems	1 January 2018
29	Dr. Lawrence Grammont, University of Lyon, Institut Camille Jordan (ICJ) St-Etienne, France	Correspondence between Bayesian estimation and optimal constrained interpolation	17 January 2018
30	Professor M. Manickam, Director, Kerala School of Mathematics	On Hecke Theory	18 January 2018
31	Prof. H. G. Feichtinger, Faculty of Mathematics, University of Vienna Austria	The Kernel Theorem for the Banach Gelfand Triple (S_0, L_2, S_0') and applications	23 January 2018
32	Professor K. Srinivas Reddy, Department of Mechanical Engineering, IIT Madras	Optimization of energy systems for sustainable development	25 January 2018
33	Prof. Harald Upmeyer, Philipps Universität Marburg, Germany, and Infosys Visiting Professor at Indian Institute of Science, Bengaluru	Quantization of symmetric spaces and non-commutative Toeplitz C^* -algebras	7 February 2019
34	Dr. Sourav Sen Gupta, Nanyang Technological University	What exactly are machines learning?	14 February 2019
35	Dr. Anke Kalauch, Institute for Analysis, Department of Mathematics, Technical University of Dresden, Germany	Partially ordered vector spaces: embedding techniques and structure preserving operators	21 February 2019
36	Dr. Chester Dominic Rebeiro, CSE, IIT Madras	Side channel analysis on cryptographic ciphers: the case of fault-injection attacks	7 March 2019
37	Dr. Prem Laxman Das, SETS (Society for Electronic Transaction and Security)	Higher degree multivariate systems and their applications to cryptography	14 March 2019
38	Dr. Sartaj Ul Hasan, IIT Jammu	Enumeration of certain recurrent sequences over finite fields	21 March 2019
39	Dr. Mrinal Nandi, Department of Statistics, West Bengal State University	Selection of events under fault detection in wireless sensor network using model selection method	28 March 2019

4.12.5. Research and Consultancy

RBIC projects (ongoing and new)

Sl. No.	Faculty	Title	Industry
1	Vetrivel V	Set valued optimization: optimality conditions and algorithms	Matrics
2	Arya Kumar Bedabrata C	Theory of zipper fractal interpolation and approximation	Matrics
3	Kunal Krishna Mukherjee	Non-commutative Ergodic Theory via joinings	Matrics
4	Balaji R	Elliptic matrices	Matrics
5	Arijit Dey	Moduli of sheaves over projective varieties	Matrics
6	Ponnusamy S	On harmonic and quasi conformal mappings	Matrics
7	Shaiju A J	Evolutionary stability in asymmetric games with continuous strategy space	Matrics

4.12.5.2. Exchange programme with other universities, including institutions/universities under MoU

A delegation of 12 members, including the President of the Université Côte d'Azur (UCA), France, Prof. Jean-Marc Gambaudo and other Program Directors of the research and excellence programmes offered by the university visited the department on 18 January 2018. The delegation met the faculty members to discuss potential synergies along the

lines of the EUR projects, Ecoles Universitaires de Recherche programmes, which cover all the fields of expertise that university offers. These include

1. INnovative Concepts in Science and Engineering (INCISE)
2. UCA Next-Generation Life Scientists
3. Digital Systems for Humans
4. ELMI: Economics, Law and Management of Innovation



4.13. Department of Mechanical Engineering

4.13.1. Introduction

The Department of Mechanical Engineering was established in the year 1959. It offers Ph.D., M.S., M.Tech., B.Tech. and Dual Degree programmes. The department has excellent facilities to carry out state-of-the-art research in three major disciplines of Mechanical Engineering, namely, Thermal Engineering, Mechanical Design and Manufacturing Engineering.

The Thermal Engineering stream comprises five laboratories, namely, Heat Transfer and Thermal Power, Turbo Machines,

IC Engines, Refrigeration and Air Conditioning and Thermodynamics and Combustion.

The Design stream consists of Machine Design Section, Machine Dynamics Laboratory, NDE Laboratory, Rehabilitation Research and Device Development Laboratory. The Manufacturing Engineering stream consists of the Machine Tools Laboratory, Metrology Laboratory, Automation Laboratory, Sheet Metal Research Centre and Precision Engineering Laboratory.

4.13.2. Academic Programmes

New courses introduced

Sl. No.	Course No.	Title
1.	ID5030	Machine Learning for Engineering and Science Applications
2.	ME6327 (GIAN)	Computational Musculoskeletal Biomechanics
3.	ME5525	Engineering Design with Polymers
4.	ME5110	Inverse Methods in Heat Transfer
5.	ME 5012	Metal Forming Analysis and Tool Design
6.	ME5129	Principles of Thermal Energy Conversion
7.	ME6127	Energy and Environment
8.	ME6148	Renewable Energy Technology
9.	ME6150	Advanced Energy Conversion

Students on roll as of September 2018+M.S. and Ph.D admission in January 2019

Programme	Year I	Year II	Year III	Year IV	Year V and Others	Total
B.Tech.	88	83	76	78	28	353
Dual Degree	81	78	77	83	91	410
M.Tech.	90	128	17	-	-	235
M.S.	49	48	26	19	2	144
Ph.D.	54	45	52	81	153	385
Total	362	382	248	261	274	1527

Student/scholar who attended conference/seminar/symposium/workshop abroad/India

Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue	Financial Assistance from
Abroad					
1.	Kunal Tiwari	ME15D420	14 th International Conference on High Speed Machining 2018	17-18 April 2019, San Sebastián, Spain	IIT Madras
2.	Harish A	ME13D026	XI International Conference on Computational Heat, Mass and Momentum Transfer (ICCHMT 2018)	21-24 May 2018, Cracow, Poland	
3.	Akhil Dass D	ME14D400	ICCHMT 2018	21-24 May 2018, Cracow, Poland	
4.	Manuel	ME14D027	Fatigue 2018, 12th International Fatigue Congress	27 May-1 June 2018, Poitiers, France	



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue	Financial Assistance from
5.	Srikanth	ME13D054	Engineering Mechanics Institute Conference 2018	2-5 June 2018, Massachusetts Institute of Technology, Cambridge, MA, USA	IIT Madras
6.	Alankrita Singh	ME15D424	ASME Turbo Expo	11-15 June 2018, Oslo, Norway	
7.	Dwaraka R	ME16S018	SME-NAMRC 46: The 46 th North American Manufacturing Research Conference (NAMRC 46)	18-22 June 2018, Texas A&M University, College Station, Texas, USA	
8.	Harikrishnan U	ME16S015	NAMRC 46	18-22 June 2018, Texas A&M University College Station, Texas	
9.	Uma Shankar	ME13D055	NAMRC 46	18-22 June 2018, Texas A&M University College Station, Texas	
10.	Namrata	ME16S022	NAMRC 46	18-22 June 2018, Texas A&M University College Station, Texas	
11.	Kalpana	ME15D057	NAMRC 46	18-22 June 2018, Texas A&M University College Station, Texas	
12.	Renil Thomas K	ME13D212	14 th Quantitative Infrared Thermography Conference	25-29 June 2018, Berlin, Germany	
13.	Tirthankar Moulick	ME15S043	International Conference on Experimental Fluid Mechanics (ICEFM 2018)	1-5 July 2018, Munich, Germany	
14.	Behera	ME13D216	International Conference on Processing & Manufacturing of Advanced Materials Processing, Fabrication	8-13 July 2018, Paris, France	
15.	Balaramakrishnan T M	ME15D410	8 th World Congress of Biomechanics	8-12 July 2018, Dublin, Ireland	
16.	Gurubalan A	ME14D066	17 th International Refrigeration and Air Conditioning Conference	9-12 July 2018, West Lafayette, Indiana, USA	
17.	Arjun Jayakumar	ME15D002	17 th International Refrigeration and Air Conditioning Conference	9-12 July 2018, Purdue, West Lafayette, IN, USA	
18.	Manjeet Keshav	ME15D416	IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM 2018)	9-12 July 2018, Auckland, New Zealand	
19.	Renjith P	ME15S103	45 th Annual Review of Progress in Quantitative Nondestructive Evaluation	15-19 July 2018, Burlington, Vermont, USA	
20.	Kuchibhatla Sai Aditya Raman	ME16S050	45 th Annual Review of Progress in Quantitative Nondestructive Evaluation	15-19 July 2018, Davis Center in Burlington, Vermont	
21.	Geo Davis	ME14D061	45 th Annual Review of Progress in Quantitative Nondestructive Evaluation	15-19 July 2018, Davis Center in Burlington, VT, USA	
22.	Patel Ujas Pankajkumar	ME16S043	International Conference on Liquid Atomization and Spray System	20-28 July 2018, The University Of Illinois	



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue	Financial Assistance from
23.	Shaima Magdaline Dsouza	ME16D002	13 th World Congress on Computational Mechanics/2 nd Pan American Congress on Computational Mechanic	22-27 July 2018, New York City, USA	IIT Madras
24.	Jansari Chintankumar Vipulbhai	ME16S012	13 th World Congress on Computational Mechanics/2 nd Pan American Congress on Computational Mechanics	22-27 July 2018, New York City, USA	
25.	Abhijeet Kumar	ME15D408	14 th International Conference on Liquid Atomization and Spray Systems	22-26 July 2018, University of Illinois, Chicago, USA	
26.	Anandteerth	ME13D220	14 th International Conference on Liquid Atomization and Spray Systems	22-26 July 2018, University of Illinois, Chicago, USA	
27.	Shirin	ME15D046	14 th International Conference on Liquid Atomization and Spray Systems	22-26 July 2018, University of Illinois, Chicago, USA	
28.	Desh Deepak Dixit	ME16S011	16 th International Heat Transfer Conference (IHTC-16)	10-15 August 2018, China National Convention Center, Beijing, China	
29.	Marri Girish Kumar	ME16D408	16 th International Heat Transfer Conference (IHTC-16)	10-15 August 2018, China National Convention Center, Beijing, China	
30.	Somasree Roychowdhury	ME12D071	16 th International Heat Transfer Conference (IHTC-16)	10-15 August 2018, Beijing, China	
31.	Nanthini R	ME15D413	Asian Congress on Gas Turbines (ACGT-2018)	22-24 August 2018, Japan	
32.	Mallikarjunarao P	ME15D015	ACGT 2018	22-24 August 2018, Aiina Center, Morioka, Iwate, Japan	
33.	Mulay Sujit Murlidhar	ME14D029	13 th Asia-Pacific Conference on Materials Processing (APCMP2018)	23-27 August 2018, University of New South Wales (UNSW), Sydney, Australia	
34.	Akshit Choudhary	ME13D211	APCMP 2018	23-27 August 2018, UNSW, Sydney, Australia	
35.	Vineet Paliwal	ME14D205	APCMP 2018	23-27 August 2018, UNSW Sydney, Australia	
36.	Shiv Kumar Sharma	ME15D013	APCMP 2018	23-27 August 2018, UNSW Sydney, Australia	
37.	Bedamati Nayak	ME15D051	APCMP 2018	23-27 August 2018, UNSW Sydney, Australia	
38.	Prithviraj Mukhopadhyay	ME14D090	APCMP 2018	23-27 August 2018, UNSW Sydney, Australia	
39.	Anureka	ME14D413	47 th International Congress and Exposition on Noise Control Engineering	26-29 August 2018, Chicago, Illinois, USA	



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue	Financial Assistance from
40.	Chaitanya S K	ME16S037	47 th International Congress and Exposition on Noise Control Engineering	26-29 August 2018, Chicago, Illinois, USA	IIT Madras
41.	Harinath Reddy N	ME16D018	47 th International Congress and Exposition on Noise Control Engineering	26-29 August 2018, Chicago, Illinois, USA	
42.	Kabilan B	ME15D200	47 th International Congress and Exposition on Noise Control Engineering	26-29 August 2018, Chicago, Illinois, USA	
43.	Mohammad Ayub Ansari	ME16S052	19 th International Conference on Advanced Batteries, Accumulators and Fuel Cells (ABAF 19 th)	26-29 August 2018, Brno University of Technology, Antonínská 1, Brno, Czech Republic	
44.	Kunal Kumar	ME16S002	45 th Leeds–Lyon Symposium on Tribology	4-7 September 2018, Leeds Trinity University, Leeds, UK	
45.	Vivek Kashyap	ME15D207	45 th Leeds–Lyon Symposium on Tribology	4-7 September 2018, Leeds Trinity University, Leeds, UK	
46.	Parul Mishra	ME14D088	45 th Leeds–Lyon Symposium on Tribology	4-7 September 2018, Leeds Trinity University, Leeds, UK	
47.	Ajinkya Avinash Baxy	ME13D208	International Conference of Vibration Engineering and Technology of Machinery	9-13 September 2018, Lisbon, Portugal	
48.	Ankit Ashokrao Raut	ME15D423	International Powertrains, Fuels and Lubricants Meeting	16-20 September 2018, Kongresshaus Stadthalle, Heidelberg, Germany	
49.	Sachin Kumar Gupta	ME15D062	SAE International, Powertrains, Fuels and Lubrication Meeting	16-20 September 2018, Heidelberg, Germany	
50.	Abhijeet Dhal	ME12D207	5 th International Conference on New Forming Technology	18-21 September 2018, Bremen, Germany	
51.	Chirag Alreja	ME15D206	Conference–World Congress on Micro and Nano Manufacturing	18-20 September 2018, Portoroz, Slovenia	
52.	Santhosh Kumar S	ME14D043	4 th International Conference on BioTribology	26-29 September 2018, Hyatt Regency Montreal, Montreal, Canada	
53.	Naveen Raj R	ME15D214	The World Thematic Conference – Biomedical Engineering and Computational Intelligence	30-31 October 2018, Holiday Inn, London, England	
54.	Gaurav Anil Shinde	ME15S078	Small Engine Technology Conference (SETC) 2018	6-8 November 2018, Dusseldorf, Germany	
55.	Jubin V Jose	ME15D054	SETC 2018	6-8 November 2018, Dusseldorf, Germany	
56.	Sk Rameez Iqbal	ME15D402	MicroTAS 2018 International Conference	11-15 November 2018, Kaohsiung, Taiwan	



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue	Financial Assistance from	
57.	Aaditya Chandel	ME15D001	71 st Annual Meeting of the APS Division of Fluid Dynamics (APS-DFD 2018)	18-20 November 2018, Atlanta, USA	IIT Madras	
58.	Regulagadda Kartik	ME14D410	APS-DFD 2018	18-20 November 2018, Atlanta, USA		
59.	Krishna Raja D	ME14D021	APS-DFD 2018	18-20 November 2018, Atlanta, Georgia		
60.	Sonal Shandilya	ME17S042	International Conference on Recent Advances in Fluid and Thermal Sciences 2018	4-8 December 2018, Dubai		
61.	Chinta Phani Rama Sandeep	ME14D201	99 th AMS Annual Meeting	6-10 January 2019, Phoenix, Arizona, USA		
62.	Saurabh Sanjay Sadafale	ME15S081	SAE 2019 International Powertrain, Fuels and Lubricants Meeting	22-24 January 2019, San Antonio, Texas, United States		
63.	Punithan C	ME16S025	3R International Scientific Conference on Material Cycles and Waste Management	26 February-2 March 2019, Bangkok, Thailand		
64.	Debadatta Sethy	ME15D044	SPIE Smart Structures + Nondestructive Evaluation 2019	3-7 March 2019, Denver, Colorado, United States		
65.	Sheri Prashanth Reddy	ME16S200	SPIE Smart Structures + Nondestructive Evaluation 2019	3-7 March 2019, Denver, Colorado, United States		
66.	Sayantana Ghosh	ME16S046	SPIE Smart Structures + Nondestructive Evaluation 2019	3-7 March 2019, Denver, Colorado, United States		
67.	Gurdev Singh	ME13D219	6 th International Conference on Multifunctional, Hybrid and Nanomaterials	11-15 March 2019, Meliá Sitges, Sitges, Spain		
68.	Edwin Joseph	ME16D404	5 th International Conference on Polymer Chemistry	18-19 March 2019, Amsterdam, Netherlands		IIT Madras
69.	Jagadeesh G	ME15S097	SME-NAMRC 46: The 46 th North American Manufacturing Research Conference	18-22 June 2018, Texas A&M University, College Station, Texas, USA		
70.	Sandeep Guguloth	ME15S063	1 st Conference on Progress in Clinical Motor Control I: Neurorehabilitation	23-25 July 2018, Pennsylvania State University, USA		
71.	Aravind N	ME17D600	Asian Conference on Mechanism and Machine Science (Asian MMS 2018)	17-20 December 2018, IISc Bangalore	DBT project	

Students/scholars who won outside prizes and awards

Sl. No.	Student/Scholar	Roll No.	Prize	Prize awarded by
1.	Sonal Shandilya	ME17S042	Best Paper Award (2 nd position)	International Conference on Recent Advances in Fluid and Thermal Sciences (iCRAFT-2018), Dubai
2.	SR Sandeep Kumar	ME12D208	First Prize under the Short Presentation Category	Indian Society of NDT's Annual Conference and Exhibition, NDE 2018, Mumbai
3.	V. Lekshmi Mohan	CE15D056	Breakthrough Research in Indoor Environment	Asian Conference on Indoor Environmental Quality
4.	Alankrita Singh	ME15D424	Best Poster Award	International Conference on Recent Innovations and Developments in Mechanical Engineering (ICRIDME 2018)
5.	Sreeraj K	ME15D018	Best Poster Presentation	

Students/scholars who won Institute Convocation/Institute Day Prize

Sl. No.	Student/Scholar	Roll No.	Prize	Donor
1.	Talati Parth Ajitbhai	ME14B068	Dr. Shankar Dayal Sharma Prize and Vaidy Krishnan Memorial Prize	Vaidy Krishnan
2.	Somayajulu Dhulipala	ME14B062	Banco Foundation Prize	Government of India
3.	Vaibhav Vinay Tipnis	ME14B069	Sivasailam Merit Prize	Sivasailam Family
4.	Adla Amshith Reddy	ME13B076	Prof. G V N Rayudu Memorial Prize	Prof. G V N Rayudu
5.	Debotosh Poddar	ME16M092	Prof. B Sengupto Prize and Dr. S Vaidyanathan Memorial Prize	Endowment Fund
6.	Avilash Jain	ME16M101	Mico-Bosch Prize	Mico-Bosch
7.	Ajanto Joseph	ME16M005	S Anantharamakrishnan Merit Prize	Endowment Fund
8.	Prathap Kumar A M	ME16M011	Prof. Ramamohana Rao Memorial Prize	Prof. Ramamohana Rao
9.	Parulekar Kedar Vinayak	ME16M060		

4.13.3. Faculty and their activities

Faculty

Name and Qualifications	Major Areas of Specialisation
Professors	
Dr. Ramesh Babu N. (Head)	Manufacturing engineering—advanced machining processes, process modeling, precision machine tool development
Dr. Arunn Narasimhan	Heat transfer and fluid flow in biological systems, heat transfer and fluid flow in porous medium, phase change materials, convection heat transfer, fluid mechanics
Dr. Babu Viswanathan	CFD, high-speed reacting flows, high-performance computing
Dr. Chakravarthy Balaji	Fundamental heat transfer, optimisation of thermal systems, inverse problems in heat transfer, satellite meteorology, numerical weather prediction
Dr. Chandramouli P	Nonlinear dynamics, acoustics and noise control
Dr. Dhiman Chatterjee	Fluid mechanics, turbomachines, cavitation
Dr. Gnanamoorthy R	Advanced materials and product design, design with polymer and nanocomposites, machine element and special purpose test machine design, damage tolerant and tribo design, behaviour of implant materials, surface engineering
Dr. Krishnan Balasubramaniam	Nondestructive evaluation, materials characterisation, online measurements
Dr. Krishna Kannan	Continuum mechanics, thermodynamics, constitutive modelling of polymeric materials
Dr. Mani A	Refrigeration, desalination, solar energy
Dr. Maiya M P	Sorption technology, metal hydride systems, hybrid air conditioning
Dr. Mallikarjuna J M	In-cylinder flow studies in engines, HCCI and GDI engines, alternate fuels
Dr. Prasad B.V.S.S.S.	Blade cooling, thermal hydraulics, computational fluid dynamics (CFD)
Dr. Raghavan V	Combustion modeling, droplet combustion, laminar flames
Dr. Raghu Prakash V	Fatigue and fracture mechanics, random load life prediction, product design
Dr. Raju Sethuraman	Computational solid mechanics, fatigue and fracture of materials
Dr. Ramesh A.	IC engine combustion and emissions, electronic engine management, alternative fuels
Dr. Sarit Kumar Das	Heat exchangers, two-phase flow, nanofluids, jet oscillations, nuclear heat transfer
Dr. Samuel G. L.	Machining, metrology and computer-aided inspection, micromachining
Dr. Seshadri Sekhar A	Rotor dynamics, condition monitoring, tribology
Dr. Shaligram Tiwari	Thermocapillary convection, heat and mass transfer
Dr. Shankar Krishnapillai	Structural vibrations, design optimization, system identification
Dr. Srinivasa Reddy K.	Renewable energies, solar energy, energy conservation, energy environment, heat transfer in two-phase systems
Dr. Srinivasan K	Jet flow and noise, active and passive flow control, measurement and instrumentation
Dr. Sujatha C	Vehicle dynamics, machinery diagnostics, signal analysis
Dr. Sundararajan T	Droplet combustion, supersonic reacting jet flows, CFD
Dr. Sujatha Srinivasan	Biomechanics, mechanisms, assistive devices
Dr. Shamit Bakshi	CFD in IC engines, liquid atomization and spray systems, fuel nozzle modeling
Dr. Venkatrathnam G	Refrigerant mixtures, new processes that work with refrigerant mixtures, improvement of performance of vapour compression refrigerators



Name and Qualifications	Major Areas of Specialisation
Associate Professors	
Dr. Anand T N C	CFD simulations of IC engines processes, laser-based diagnostics of sprays and combustion
Dr. Abhijit Sarkar	Vibration, acoustics, computational methods
Dr. Amitava Ghosh	Machining and grinding of advantage materials, development of abrasives
Dr. Arvind Pattamatta	Micro/nano scale energy transport, computational heat transfer, mesoscopic modeling, phase change heat transfer, turbulence modeling
Dr. Ashis Kumar Sen	Microfluidics, microsystems, thermofluids
Dr. Balaji Srinivasan	Fluid dynamics, turbulence in compressible and hypersonic flows, computation of rarefied flows, numerical analysis and high performance computing
Dr. Manivannan P V	Robotics, automotive control system, autonomous vehicles, instrumentation and controls, mechatronic system design, microprocessor
Dr. Narasimhan Swaminathan	Computational materials science and mechanics, radiation damage in materials, multiscale modeling of complex phenomenon in nuclear and fuel cell materials, finite element method, continuum mechanics, multiscale modeling, radiation damage in materials, computational materials science
Dr. Parag Ravindran	Viscoelastic fluids constitutive modeling
Dr. Prabhu Rajagopal	Ultrasonic waves for nondestructive evaluation, health monitoring and process control, computational methods for modelling elastic wave phenomena
Dr. Ratna Kumar Annabattula	Finite element analysis, granular mechanics, buckle-driven de-lamination, fusion materials, mechanics of micro-systems
Dr. Sathyan Subbiah	Novel applications of machining, diamond turning, layered material exfoliation, surface texturing
Dr. Somashekhar S Hiremath	Micromachining, mechatronic system design, oil hydraulics, system simulation and modeling, finite element method (FEM)
Dr. Sushanta Kumar Panigrahi	Friction stir processing and welding, superplasticity, advanced metal forming techniques for producing bulk nanostructured/UFG metals and alloys, thermo-mechanical processing of light-weight structural metallic materials
Dr. Sundararajan Natarajan	Computational mechanics, moving boundary problems, composite mechanics
Assistant Professors	
Dr. Anand K	Low-temperature combustion engines, surrogate modelling of automotive fuels, engine emission reduction through fuel modifications
Dr. Anil Kumar Meena	Casting processes, cast irons and steels manufacturing, microstructure and properties of ADI, dry and near-dry machining process
Dr. Arunachalam N	Sustainable manufacturing, diagnostics, prognostics and health management of machine tools, smart machine tools
Dr. Hariharan K	Sheet metal forming, plasticity, fatigue and mechanical behaviour of materials
Dr. Kameswararao Anupidi	Fluid mechanics, computational fluid dynamics, biofluid dynamics, turbulence modelling
Dr. Krithika Narayanaswamy	Thermodynamics, combustion concepts and applications, numerical methods for thermal engineering
Dr. Manoj Pandey	Finite element analysis, dynamics and MEMS
Dr. Mayank Mittal	IC engines, optical diagnostics, fluid mechanics
Dr. Pallab Sinha Mahapatra	Surface engineering and wettability patterning, open surface microfluidics, multiphase flow, single and multiphase heat transfer
Dr. Piyush Shakya	Condition monitoring, fault diagnosis and prognosis
Dr. Ramkumar Penchaliah	Tribology, engine tribology, coatings, bio-implants, condition monitoring, WTG bearing failures, wear modelling and nanolubrication
Dr. Ravikiran Sangras	Experimental fluid mechanics, combustion, turbulent flows
Dr. Sateesh Gedupudi	Heat exchangers, two-phase flow, nanofluids, jet oscillations, nuclear heat transfer
Dr. Shyama Prasad Das	Unsteady hydro and aerodynamics, turbomachines, interfacial hydrodynamics and transport
Dr. Sivasrinivasu Devadula	Manufacturing engineering
Dr. Soundarapandian S	Additive manufacturing, computational modeling and simulation
Dr. Sourav Ratshit	Laser processing
Dr. Srikrishna Sahu	Spray dynamics, two-phase flows, optical diagnostics
Dr. Varunkumar S	Thermo-chemical conversion of biomass and coal for energy and fuels and modeling instability in solid rocket motors



Name and Qualifications	Major Areas of Specialisation
Dr. Vishal V R Nandigana	Microfluidics and nanofluidics, nano manufacturing, battery synthesis, MEMS, NEMS
Dr. Vishwanath K	Turbomachinery noise
Emeritus Professor/Visiting Faculty	
Dr. M.S. Shunmugam (Emeritus Professor)	Metrology, manufacturing—gear, BTA machining, reaming, centreless grinding, EDM and friction welding, manufacturing automation and robotics, computer application in manufacturing—process planning, inspection planning, quality control

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members

Sl. No.	Coordinator(s)	Title	Period
Conferences			
1.	Dr. M. P. Maiya	5 th National Conference on Refrigeration and Air Conditioning (NCRAC 2018)	24-26 May 2018
2.	Dr. Gnanamoorthy R	Indo-Japan Bilateral Symposium on Futuristic Materials and Manufacturing	16-17 July 2018
3.	Dr. Raghu Prakash and Dr. G. Shashikala (IGCAR)	2 nd Quadrennial International Conference on Structural Integrity (ICONS 2018)	14-17 December 2018
4.	Dr. P. V. Varde (BARC) and Prof. Raghu V Prakash (IITM)	4 th International Conference on Reliability, Safety and Hazard, ICRESH-2019	11-13 January 2019
5.	Dr. K. Hariharan, Dr. Anand Kanjarla and Dr. Sushanta Panigrahi	SMF 2018: Conference on Sheet Metal Forming	6-7 December 2018
Seminar			
1.	Dr. M. P. Maiya	3 rd National Seminar on Refrigeration – REFCON 2018	10 November 2018
Symposia			
1.	Dr. Gnanamoorthy R	Indo-Japan Bilateral Symposium on Futuristic Materials and Manufacturing	16-17 July 2018
2.	Dr. Ratna Kumar Annabattula, Dr. Sundararajan Natarjan, Dr. Narasimhan Swaminathan	Computational Materials Science and Mechanics of Energy Materials	22-27 July 2018
Workshops			
1.	Prof. Devdas Menon, Dr. Parag Ravindran	SAHGE 2018	4-8 June 2018
2.	Dr. Gnanamoorthy R	One-day workshop	18 July 2018
3.	Dr. M. P. Maiya	Efficiency Enhancement in the Operations and Manufacturing Process of Automobile and Allied Industries	1 August 2018
4.	Dr. M. P. Maiya	Workshop and training programme on Natural/ CO ₂ Refrigeration Systems for Supermarket and Other Applications	5-6 October 2018
5.	Dr. Ratna Kumar Annabattula	International Workshop on Mechanics of Energy Materials (IWMEM-2018)	19-22 November 2018
6.	Dr. Narasimhan Swaminathan		
7.	Dr. Sujatha Chandramohan	Workshop/programme on Gender/diversity awareness	14 December 2018
8.		Technologies for Solar Driven Fuel Generation	2 November 2018
9.		Solar Powered Net-Zero Energy Built Environment for Eco-Cities	13 December 2018
10.		Knowledge Transfer on the Sustainability of Innovative Wastewater Treatment Technologies to India	3-4 April 2018
11.		Knowledge Transfer on the Sustainable of Innovative Water Quality Monitoring Technologies to India: Circular Economy, Graphene-related Technologies	15 March 2019
12.	Dr. K. S. Reddy	Knowledge Transfer on the Sustainable of Innovative Water Quality Monitoring Technologies to India: Circular Economy, Graphene-related Technologies	6 March 2019
13.		Knowledge Transfer on the Sustainable of Innovative Water Quality Monitoring Technologies to India: Circular Economy, Graphene-related Technologies	8 March 2019



Sl. No.	Coordinator(s)	Title	Period
Short-term Courses			
1.	Dr. Ramkumar P	Condition Monitoring For Railway Engineers	6-8 August 2018
2.	Dr. Sujatha Srinivasan	GIAN: Computational Musculoskeletal Biomechanics	1-10 September 2018
3.	Dr. Shyama Prasad Das	Advances in Experimental and Computational Fluid Mechanics	29 October-3 November 2018
4.	Dr. M. P. Maiya	QIP short-term training programme on Human Comfort and Indoor Air Quality	20-25 November 2018
5.	Dr. Somashekhar S Hiremath	One-week AICTE-sponsored short-term course (STC) on Advanced Mechanical Micromachining Techniques for Miniaturization of Products and Processes	14-19 January 2019
6.	Dr. Vishal V. R. Nandigana	Nano-fluidics: Theory and Applications	28 January-2 February 2019

Short-term courses/workshops/seminars/symposia/conferences/training attended by the faculty members in academic institutions and public sector undertakings

Sl. No.	Faculty Member	Title	Institution	Period
Workshops				
1.	Dr. M. P. Maiya	Two-day international workshop	ICSR Auditorium, IIT Madras	12-13 March 2018
2.	Dr. Shyama Prasad Das	AICTE-sponsored workshop on Introduction to Hydrodynamic Instability	IIT Madras, India	26-31 March 2018
3.	Dr. Sourav Rakshit	IITM-Michigan Workshop	Michigan State University, USA	20-23 May 2018
4.		FDP on Design of Machine Elements Topic: Design of Leaf and Special Springs	College of Engineering Guindy, Anna University, Chennai, India	25-31 May 2018
5.	Dr. P Ramkumar	FDP on Tribology of Materials and Manufacturing 2018, topic: Latest Development in Engine Tribology	SRM University, Chennai, India	11-16 June 2018
6.	Prof. M. P. Maiya	Efficiency Enhancement in the Operations and Manufacturing Process of Automobile and Allied Industries	Hotel Taj, MG Road, Bengaluru	1 August 2018
7.	Dr. Sushanta Kumar Panigrahi	Servo Auto Ancillary Meet 2018	Chennai, India	11 September 2018
8.		Fundamentals and Applications of CO ₂ Refrigeration and Heat Pump Technology	Anna University, Chennai, India	5 October 2018
9.	Dr. M. P. Maiya Dr. M. P. Maiya	Refrigeration for Rural Economy		10 November 2018
10.	Dr. Ratna Kumar Annabattula	Effect of Large Deformations on the Chemo-Mechanics of Li-ion Anode Materials	IC&SR Auditorium, IIT Madras, Chennai, India	19-22 November 2018
11.	Dr. Sujatha Srinivasan	Digital Transformation and 3D Printing for Transtibial Socket Designing	Bengaluru, India.	22 November 2018
12.	Dr. Narasimhan Swaminathan	Artificial Intelligence with Applications to Materials Science	Hyderabad, India	20 December 2018
13.	Dr. Raghu V. Prakash	ICRESH-2019	IIT Madras, Chennai, India	10 January 2019
14.	Dr. P. Ramkumar	Tribomeet 2019	Adhi Engineering College, Kanchipuram	25 January 2019
15.		Recent Developments in CO ₂ -based Refrigeration System	Guwahati, India	16 February 2019
16.	Dr. M. P. Maiya	Air Conditioning and Refrigeration Exhibition India 2019 (ACREX India 2109)	Bombay Exhibition Centre, Mumbai, India	28 February 2018



Sl. No.	Faculty Member	Title	Institution	Period
Seminar				
1.	Dr. N Ramesh Babu	Plenary speaker and panellist	Technology Show – Rockwell Automation on the Move, Bengaluru, India	22 January 2019
2.		Countering Thermal Behavior of Machines	International Seminar on Machining Technologies 2019, IMTEX 2019, Bengaluru, India	23 January 2019
Symposia				
1.	Dr. Parag Ravindran	A Model for the Mechanical Response of Aorta Subject to Oxidation	IIT Madras, India	25 January 2019
2.	Dr. Dhiman Chatterjee	10 th International Symposium on Cavitation (CAV2018)	Johns Hopkins University, Baltimore, USA	14-16 May 2018
Conferences				
1.	Prof. Mani A.	International Conference on Desalination, InDACon 2018	National Institute of Technology Trichy, India	12-20 April 2018
2.	Dr. P. V. Manivannan	World Congress on Mechanical and Mechatronics Engineering	Dubai	16-17 April 2018
3.	Dr. Ratna Kumar Annabattula	Nuclear Fusion Program Vision Meeting	Ahmedabad, India	26-28 April 2018
4.	Dr. Anil Meena	ESAFORM 2018	Palermo, Italy	23-25 April 2018
5.	Dr. Ratna Kumar Annabattula	Inspiration for Mechanics of Cellular Materials and Biomechanics	Groningen, The Netherlands	22-23 May 2018
6.	Dr. S Soundarapandian	NAMRC 46	College Station, TX, USA	18-22 June 2018
7.	Dr. Sundararajan Natarajan	SWAYAM2018	Goa, India	4-6 July 2018
8.		World Computational Mechanics Congress 2018	NY, USA	22-28 July 2018
9.	Prof. M. P. Maiya	17 th International Refrigeration and Air Conditioning Conference	Purdue University, West Lafayette, Indiana, USA	9-12 July 2018
10.	Dr. Sujatha Srinivasan	ICRAAESCCT-18	Narsapur (Medak), Greater Hyderabad, Telangana	12 July 2018
11.	Dr. Gnanamoorthy R	Indo-Japan Bilateral Symposium on Futuristic Materials and Manufacturing	IIT Madras, India	16-17 July 2018
12.	Dr. Ratna Kumar Annabattula	SICE 2018	Hyderabad, India	25-27 July 2018
13.	Dr. Abhijit Sarkar	Internoise 2018	Chicago, USA	26-29 August 2018
14.	Dr. Hariharan	NUMISHEET 2018	Japan	30 July-3 August 2018
15.	Prof. C. Balaji	International Heat Transfer Conference	Beijing, China	9-14 August 2018
16.	Dr. P. Ramkumar	Session Chair, 45 th Leeds–Lyon Tribology Symposium	Leeds, UK	4-7 September 2018
17.		Session Chair, SAE Conference ADMMS'18	MIT, Chennai, India	21-22 July 2018
18.	Dr. Piyush Shakya	ISMA	Leuven, Belgium	17-19 September 2018
19.		VETOMAC	Lisbon, Portugal	10-13 September 2018
20.	Dr. A. Ramesh	FISITA World Automotive Conference	Chennai, India	2-5 October 2018



Sl. No.	Faculty Member	Title	Institution	Period
21.	Dr. Gnanamoorthy R	7 th International GIGAKU Conference	Nagaoka, Japan	5 October 2018
22.	Dr. Narasimhan Swaminathan	SES 2018	Spain	10-12 October 2018
23.		Prospects of CO ₂ Refrigeration	Sarabhai Auditorium, IGCAR, Kalpakkam, Chennai, India	15-16 November 2018
24.	Dr. M.P. Maiya	3 rd Indian International Conference on Air Quality Management (IICAQM 2008)	IIT Madras, Chennai, India	6-7 December 2018
25.	Dr. Gnanamoorthy R	5 th Asian Symposium on Materials and Processing	Bangkok, Thailand	7-8 December 2018
26.	Dr. Pallab Sinha Mahapatra	7 th International and 45 th National Conference on Fluid Mechanics and Fluid Power (FMFP)	IIT Bombay, Mumbai, India	10-12 December 2018
27.	Dr. GL Samuel	7 th International and 28 th All India Manufacturing Technology, Design and Research Conference (AIMTDR 2018)	Anna University, Chennai	13-15 December 2018
28.	Dr. Sourav Rakshit	Asian Mechanism and Machine Science 2018	IISc Bangalore, India	17-19 December 2018
29.		Asian Mechanism and Machine Science 2018	IISc Bangalore, India	17-19 December 2018
30.	Dr. Sujatha Srinivasan	IAAT-NC 2018	Bhubaneswar, India	21-22 December 2018
31.	Dr. Ratna Kumar Annabattula	Second International Conference on Structural Integrity (ICONS 2018)	IIT Madras, Chennai, India	14-17 December 2018
32.	Dr. Raghu V Prakash	International Conference on Reliability, Safety and Hazard	IIT Madras, Chennai, India	11-13 January 2019
33.	Dr. K. Hariharan	Komplastech 2019	Zakopane, Poland	13-16 January 2019
34.		Asian Conference on Indoor Environmental Quality (ACIEQ)	Indian Aviation Academy, New Delhi, India	1-2 February 2019
35.	Dr. M. P. Maiya	Urjavarán	Indian Society of Heating, Refrigerating and Air Conditioning Engineers, Guwahati, India	16 February 2019
36.	Dr. Somashekhar S Hiremath	3 rd International Conference on Direct Digital Manufacturing and Polymers	Karnatak University, Dharwad, Karnataka, India	20-23 February 2019
37.	Dr. Dhiman Chatterjee	3 rd International Conference on Renewable Energies Offshore (RENEW 2018)	Técnico Lisboa, Lisbon, Portugal	8-10 October 2018
Short-term Courses				
1.	Dr. Ramkumar P.	Advanced Mechanical Surface Characterisation	Anton Paar, Gurgaon, India	15-16 May 2018
2.	Dr. T. N. C. Anand	Advances in Experimental and Computational Fluid Mechanics	Chennai, India	29 October-3 November 2018
3.	Dr. M. P. Maiya	QIP short-term training programme on Human Comfort and Indoor Air Quality	Visvesvaraya Seminar Hall, Department of Civil Engineering, IIT Madras	20-25 November 2018



Special lectures delivered by the faculty in other Institutions

Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
1.		Thermally activated building systems for enhanced energy efficiency, 2018 Sustainable Buildings R&D Summit on Innovations for the Built Environment	NIMHANS Convention Centre	8-9 March 2018
2.		Advanced CO ₂ refrigeration systems, low-temperature programme for students	ASHRAE Chennai Chapter, IITM	10 March 2018
3.	Dr. M. P. Maiya	Developments in CO ₂ refrigeration technology, a lecture at the one-week workshop on Heating, Ventilation, Air Conditioning & Refrigeration (HVAC&R)	Department of Mechanical Engineering, Zakir Husain College of Engineering & Technology, Aligarh Muslim University	25 March 2018
4.		Advances in CO ₂ refrigeration	Department of Mechanical Engineering, National Institute of Technology	24-26 May 2018
5.		CO ₂ refrigeration – why, how and where?	Department of Mechanical Engineering, Vignan's Foundation for Science, Technology & and Research	12 September 2018
6.		Challenges in engineering education	VIT Chennai	18 April 2018
7.			PSGiTech	5 June 2018
8.		Why is my paper not getting accepted?		
9.	Dr. C. Balaji	Bayesian computational statistics in inverse heat transfer	NIT Karnataka	9-10 July 2018
10.		Engineering education – are we running the risk of getting extinct?	IIT Ropar	28 September 2018
11.	Dr. Gnanamoorthy R	Research on Transmission elements in electric vehicles	M/s. NSK Bearings Global R&D Centre	3 October 2018
12.	Dr. P.V. Manivannan	Special guest lectures in Mechatronic systems and design	NIT Nagaland	9-13 October 2018
13.	Dr. P Ramkumar	Development of materials in aerospace applications topic: space tribology	B S Abdur Rahman Crescent Institute of Science and Technology	25 October 2018
14.		Toxicity and personal exposure assessment of fine particulate matter and VOCs at air pollution hotspots under changing climatic conditions	UFZ Helmholtz Centre for Environmental Research	8-23 December 2018
15.		Basics of human comfort, acoustics and noise	QIP short-term training programme on Human Comfort and Indoor Air Quality	20-25 November 2018
16.	Dr. M. P. Maiya	Basics of building ventilation systems	REFCOLD India	22-24 November 2018
17.		CO ₂ as refrigerant: a natural working fluid for combined cooling and heating applications		
18.		Invited talk on Methodology for IEQ standard implementation in buildings	Indian International Conference on Air Quality Management (IICAQM 2018)	6-7 December 2018
19.	Dr. C. Balaji	Why is my paper not getting accepted?	Why is my paper not getting accepted?	24 November 2018
20.	Dr. Gnanamoorthy R	Bearings for Electric Vehicles	NSK Bearing Company - Japanese Experts	23 November 2018
21.	Dr. Shaligram Tiwari	Heat transfer enhancement	SRM University	27 November 2018
22.	Dr. Abhijit Sarkar	Gear	MNM Jain Engineering College	8 December 2018



Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
23.	Dr. Ratna Kumar Annabattula	Design and development of stimuli-responsive thin film systems for soft robotics	CET, Bhubaneswar	11-12 February 2019
24.	Dr. Shamit Bakshi	Keynote talk: Drop impact onto super-hydrophobic surfaces with macro-structures	University of Stuttgart, Germany	21 September 2018
25.		4-D (Design-development-demonstration-deployment) of renewable energy technologies through 4-E (energy-exergy-environment-economic) analyses for sustainable process heat and power generation	Concordia University, Montreal, Canada	23 July 2018
26.		4-D (Design-development-demonstration-deployment) of solar energy systems for sustainable process heat and power generation	University of Michigan, Ann Arbor, USA	23 May 2018
27.		The performance, water quality and enviro-economic investigations on solar distillation treatment of reverse osmosis reject and sewage water	UK-India workshop Madras University, Chennai	15 March 2019
28.		Solar thermal power generation, FDP on recent advances in renewable energy technologies and sustainable development	SRM Institute of Science and Technology, Kattankulathur	26 November 2018
29.		Thermal energy storage systems for reliability improvement of CSP plants, International Workshop on Mechanics of Energy Materials (IWMEM-2018)	IIT Madras	19 November 2018
30.	Dr. K. S. Reddy	Integrated renewable electricity generation in smart grid micro-grid operation, Seminar on Opportunities and Challenges of Renewable Energy in Smart Grid Systems	Sathyabama Institute of Science & Technology, Chennai	31 October 2018
31.		Design-development-demonstration-deployment of concentrating solar power technologies, FDP on solar and wind energy-future technologies	JNTU Anantapur	16 November 2018
32.		CSP technologies for thermochemical production of solar fuels, FDP on solar and wind energy- future technologies	JNTU Anantapur	
33.		4-D of concentrating solar power technologies	Tathva 2018, NIT Calicut	13 October 2018
34.		Renewable energy sources	SV Engineering College for Women, Tirupati	1 September 2018
35.		Flexible and efficient renewable electricity generation and storage solutions for system integration, in NITI Aayog-IEA- ADB Southern Region workshop Agenda: Indian Power Sector: Supporting a Low-Carbon Transition	Hotel Park Hyatt, Chennai, Tamil Nadu	16 April 2018
36.		Wastewater engineering solutions for the dyeing industry, in knowledge transfer on the sustainability of innovative wastewater treatment technologies to India	Kongunadu Arts and Science College, Coimbatore	3 April 2018



Visits abroad by faculty

Sl. No.	Faculty Member	Country Visited	Date	Purpose of Visit	Funding from
1.	Dr. Gnanamoorthy R	Japan	27 March 2018	Academic and industrial collaboration	Foreign university
2.	Dr. Anil Meena	Italy	3 April 2018	Conference	Project and Cumulative Professional Development Fund (CPDA)
3.	Dr. Ratna Kumar Annabattula	The Netherlands	21 May 2018	Conference	Personal Contingency Fund (PCF)
4.	Dr. Abhijit Sarkar	Mauritius	1 June 2018	Conference	CPDA
5.	Dr. S Soundarapandian	USA	8 June 2018	Conference: NAMRC 46	CPDA
6.	Dr. Sundararajan Natarajan	USA	22 July 2018	Attend and present at a conference	CPDA and PCF
7.	Dr. Gnanamoorthy R	Japan	29 July 2018	Collaborative research	Japanese University
8.	Dr. Abhijit Sarkar	USA	24 August 2018	Attend a conference	CPDA and PCF
9.	Dr. P. Ramkumar	UK	3 September 2018	Session chair	CPDA
10.	Dr. Gnanamoorthy R	Japan	3 October 2018	Academic, research and industry collaboration	Japanese University
11.	Dr. GL Samuel	Australia	16 October 2018	Research exchange - Key technology partner with UTS Sydney, Australia	CPDA
12.	Dr. V. Raghavan	Russia	31 October 2018	Project meeting	Project
13.	Dr. Gnanamoorthy R	Thailand	7 December 2018	To deliver keynote lecture	Project
14.	Dr. M. P. Maiya	UFZ Helmholtz Centre for Environmental Research in Leipzig, Germany	8-23 December 2018	Guest Scientist	DST-DAAD Joint project
15.		USA	18-22 June 2018	Conference	CPDA and PCF
16.		Japan	20-22 July 2018	Invited keynote speech	Organisers + CPDA
17.	Dr. S. Sathyan	USA	September 2018	IITM Alumni Meet	IC&SR
18.		Slovenia (Europe)	10-12 September 2018	Conference	CPDA and PCF
19.		USA	14-16 May 2018	CAV2018 Conference	CPDA and PCF
20.	Dr. Dhiman Chatterjee	Portugal	8-10 October 2018	RENEW2018 Conference	CPDA and PCF
21.	Dr. Shamit Bakshi	Germany	25 April 2018 till 24 July 2018	Visiting Scientist, University of Stuttgart	Alexander von Humboldt Foundation and PCF
22.		Korea, Seoul National University	24-27 July 2018	To initiate joint research in the area of development of an autonomous electric bus	CPDA
23.	Dr. P. V. Manivannan	Nanyang Technological University, Singapore	31 July-1 August 2018	To initiate joint research work in the area of wireless communication system and antenna for capsule robot to investigating gastrointestinal system	CPDA

Honours and awards obtained by faculty

Sl. No.	Faculty Member	Award	Awarded by	Awarded for	Date of award
Honours/Awards					
1.	Dr. Vishal Nandigana	Best Citizens of India Award	Best Citizen Publishing House	Recent invention of Nandigana Number in the field of micro/nanofluidics	28 April 2018



Sl. No.	Faculty Member	Award	Awarded by	Awarded for	Date of award
2.	Dr. Anand	Young Faculty Recognition Awards (YFRA)	IIT Madras	Teaching and research	5 September 2018
3.	Dr. Amitava Ghosh	YFRA	IIT Madras	Teaching and research	5 September 2018
4.	Dr. Sujatha Srinivasan	IITMAA Award for Faculty Making Social Impact	IIT Madras Alumni Association	Social impact	29 September 2018
5.	Dr. Sushanta Kumar Panigrahi	Emerging Professional Achievement Award 2018	ASM International	Significant contribution in research	6 October 2018
5.	Dr. Chandramouli P	M S Narayanan Memorial Award	Acoustical Society of India	Contributions in vibro-acoustics	14 November 2018
6.	Dr. Ashis Kumar Sen	Swarnajayanti Fellowship Award	Department of Science and Technology	Researching on microfluid phenomena	3 December 2018
7.		Institute Research & Development Award	Mid-Career Level	For excellence in Research and Development	2018
8.		Member	IIT Tirupati	Board of Governors (BoG)	2018-2021
9.		Visitor's Nominee	NITs and CFI	Faculty selection	2018-2021
10.		Member, Bureau of Indian Standards (BIS)	Sub Committee MED 04:1	Solar Thermal Energy	2018
11.		Expert Group member	DG, CSIR	FTTs and FTCs for funding	2018
12.		Honorary Professor	University of Exeter, UK	Clean Technologies	Till 2021
13.	Dr. K S Reddy	Expert Committee member	Science for Equity, Empowerment Development (SEED) Division	Science and Technology for Women	2015-2018
14.		Member, Research Sub-Committee	The Institute of Road Transport (IRT)	Mechanical and Bus System Management	2018-2021
15.		Associate Editor	IET	IET Renewable Power Generation	
16.		Member, Expert Committee	Anna University	Selection of Renewable Energy Chair	2018-2019

Fellowships of academies and professional societies

Sl. No.	Faculty Member	Year of Admission
ASM		
1.	Dr. Sushanta Kumar Panigrahi	2018
Others		
Key Technology Partner (KTP) Visiting Fellow		
1.	Dr. G L Samuel	2018

Journal Editorial Boards

Sl. No.	Faculty Member	Position (Editor/Member)	Journal Name
1.	Dr. K S Reddy	Associate Editor	<i>IET Renewable Power Generation</i> (2018-2020)

Design and Development Activities

Brief and specific details of process/instruments/equipment/software designed and developed

Sl. No.	Faculty Member	Details
1.		Designed and developed a five axis magnetic field assisted fluid jet polishing machine for nano-surface generation on optical, metallic and CFRP composites
2.	Dr. N. Arunachalam	Internet of Things enabled intelligent grinding wheel
3.		Development of Internet of Things enabled sensor integrated grinding wheel for constant temperature grinding
4.	Dr. Shyama Prasad Das	Sloshing test rig for cryogenic fluids as a part of project

New facilities added or major equipment procured

Sl. No.	Equipment	Value (Rs. in lakh)
1.	Conditioning unit for engine intake air	7.00
2.	Quantle, Q-smart single pulsed laser, 532 nm, 355 nm, 266 nm	25.00
3.	miniLDV	--
4.	AMS Super Winner vertical machining centre	30
5.	GDI engine with open ECU	45
6.	Tactilus contact pressure measurement system	24

Patents

Patents filed

Sl. No.	Faculty Member	Topic of Patent
1.	Dr. Sujatha Srinivasan	Sujatha Srinivasan (with Gunjanbhai Patel (ME14S207)): Methods and apparatus for measuring spatiotemporal parameters for gait and movement analysis, application no.201841006227, final application filed in February 2019. Patent application for Safe clip-on attachment to convert wheelchair into an outdoor vehicle under no.201841027569 dated 23 July 2018 (G2402); Design registration for wheelchair in class 12-12 under no. 307976 dated 24 July 2018
2.	Dr. N Arunachalam	Development of Internet of Things enabled sensor integrated grinding wheel for constant temperature grinding
3.	Dr. B.V.S.S.S. Prasad	A jet impingement cooling system with improved showerhead arrangement for gas turbine blades
4.	Dr. GL Samuel	Method and setup for wire electric discharge double helix turning (Application No: 201841047112)
5.	Dr. K. Anand	A flexible low-temperature combustion engine, high pressure injection in heated anti chamber (HPIHAC)
6.		A homogeneous mixture generation technique for HCCI engines
7.	Dr. A Ramesh	Method and system for cold starting a compression ignition engine—Mithun Santhosh, A. Ramesh and M/s Mahindra and Mahindra, filed by Mahindra and Mahindra
8.	Dr. N Ramesh Babu	Hydrostatic bearing film thickness controller using a cylindrical tube diaphragm—Sudhanva Bhat, K Ramanan, Vishal P, P Pradeep Kumar, Dr. Sathyan S and Dr. N Ramesh Babu
9.	Dr. S. Sathyan & Dr. N Ramesh Babu	Flow regulator to control the hydrostatic bearing film thickness using a circular flat membrane—Vishal P, K Ramanan, P Pradeep Kumar, Dr. Sathyan S and Dr. N Ramesh Babu
10.	Dr. S. Sathyan	Method to develop 3D objects using 2D profile by sheet cladding (File No 1753)
11.	Dr. S. Sathyan	Transit food storage device with multi-layer energy storage insulation (File No 1716)
12.	Dr. S. Sathyan	Implementation of power control system for effective cutting of the EPS material in CNC hot wire machine (File No 1705)
13.	Dr. S. Sathyan	Method of 3d shape fabrication in 2-axis CNC machine (File No 1687)
14.		A photovoltaic solar panel within built micro concentrator, 2019
15.	Dr. K S Reddy	A solar photovoltaic- thermal panel, 2019
16.		A solar photovoltaic panel with integrated heat recovery jacket, 2019

Patents awarded

Sl. No.	Faculty Member	Topic of Patent
1.	Dr. Balaji Srinivasan	Twin/multiple rotor vertical axis wind turbine
2.	Prof. A. Ramesh	Method and system for cold starting a compression ignition engine at Indian Patent Office, Chennai, filed along with Mahindra & Mahindra Limited
3.	Dr. N. Arunachalam	Highly adhesive CVD grown boron doped diamond graded layer on WC-CO
4.	Dr. P. Ramkumar	Dynamic load sliding contact tribometer and method to simulate wear therewith



4.13.4. Research and Consultancy

Sponsored research projects and industrial consultancy projects (ongoing and new)

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
1.	Design development and testing of a vision based calibration algorithm for self-calibration	20 April 2018-19 April 2020	Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam	42.834	Dr. P. V. Manivannan
2.	Combustion modeling of coal tar oil burner in induration furnace	30 April 2018-31 August 2019	Tata Steel	13.275	Dr. V. Raghavan
3.	Mass-based hygroscopicity of ambient aerosols under contrasting environment over Eastern Coast of India	23 March 2018-22 March 2023	DST	93.60	Dr. Balaji C, Sachin. S. Gunthe
4.	Dynamic downscaling to study climate change impacts of water resources in India	26 March 2018-25 March 2020	Ministry of Water Resources	25.40	Dr. Balaji Narasimhan, Dr. Sachin S. Gunthe
5.	Air flow measurement of the indoor unit	January-August 2018	ETA General Private Limited, Chennai	2.50	Dr. Mani A
6.	Development of a small direct injection spark-ignition (DISI) engine for conventional and hybrid app	Three years; April 2018	UAY/DST	182.117	Dr. Mayank Mittal
7.	Development of efficient falling film evaporators for vapor compression chiller packages	10 May 2018-9 January 2019	Voltas Limited	16.99	Dr. Sateesh Gedupudi
8.	Evaluation of lubricant performance using dynamic load modified pin-on-disc against white etching cracks failures	1 January 2019-21 February 2020	Kluber Lubrication Munchen SE & Co. KG, Germany	10.68	Dr. P Ramkumar
9.	Failure analysis of low-torque pinion of steering gear- project extension, Rane Madras Limited	1 February 2019-31 January 2020	Rane Madras Limited	9.10	
10.	Vibration test of radiator assembly with coolant (CIL QSK50)	1 January-1 December 2018	Fluid Dynamics Inc	23.6	Dr. Krishna Kannan
11.	Multi-satellite radiance assimilation to improve short to medium range forecast of the Indian Monsoon	27 July 2018-26 July 2021	National Monsoon Mission, Government of India (through IITM Pune)	24.52	Dr. C Balaji, Dr. Balaji Narasimhan
12.	Development of a small gasoline direct injection spark ignition engine for conventional and hybrid running on conventional and alternative fuels	30 October 2018-30 October 2021	DST UAY	182	Dr. A Ramesh, Dr. Mayank Mittal
13.	Modular portable motorized wheelchair with an alternate control mechanism	One year	IMPRINT-2	106	Dr. Sujatha Srinivasan
14.	Manufacturing of magnesium-based micro components via superplastic microforming processes	18 September 2018-17 September 2020	DST-TDT-AMT	48.60	Dr. Sushanta Kumar Panigrahi, Dr. M. S. Shunmugam
15.	A comfortable low-energy building constructed using GFRG panels and provided with radiant cooling and desiccant systems – IIGP 2.0 – University Challenge Competition 2018	One year	Indo-US Science and Technology Forum, New Delhi, India	10.00	Dr. M. P. Maiya



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
16.	Fresh air load calculation for Microflow Devices India Private Limited to submit tender to MTNMSC Chennai	-	SIDCO Industrial Estate, Thirumudivakkam, Chennai	0.295	Dr. M. P. Maiya, Mr. R. Selvakumar
17.	Study of cooling towers and plant condenser cooling	-	NTPC/TTPS, Talcher Thermal Power Station	0.295	Dr. M. P. Maiya, Mr. Rajanikanta Sahoo
18.	Design of vapour extraction and exhaust system for Tank Wagon Gantry at Tondiarpet Terminal	-	Aish Residency, Opp Krishna College, Visakhapatnam	1.18	Dr. M. P. Maiya, Mr. Vedha Pentakota
19.	Design and checking/approval of extract ventilation system for TW sunken pump-house at IOCL Coimbatore	-	JMJ Mansion, 57/98 Brindavan Nagar, Ernavoor, Chennai	1.239	Dr. M. P. Maiya, Mr. P. G. Jose
20.	AC plant room performance audit at Tamil Nadu House	-	Principal Resident Commissioner, Tamil Nadu House, New Delhi	1.947	Dr. M. P. Maiya
21.	Seismic test on five breakers	1 October 2018-31 January 2019	Siemens, Aurangabad	17.11	Dr. Sujatha Chandramohan, Dr. Seshadri Sekhar, Dr. Shankar Krishnapillai, Dr. Krishna Kannan, Dr. Parag Ravindran
22.	A non-linear viscoelastic constitutive model for solid propellants and studies on effects of voids	1 November 2018-31 October 2020	ISRO	20.28	Dr. Parag Ravindran
23.	Seismic test on 420 kV breaker	1 November 2018-31 January 2019	ABB Limited, Vadodara	3.54	Dr. Sujatha Chandramohan, Dr. Seshadri Sekhar
24.	Seismic test on 245 kV circuit breaker	1 November 2018-28 February 2018	CG Power & Industrial Solutions Limited, Nashik	3.54	Dr. Sujatha Chandramohan, Dr. Abhijit Sarkar
25.	Design and development of an advanced carbon fiber 3d printable printer	1 November 2018-31 October 2020	ISRO-SAC	68.96	Dr. S Soundarapandian, Jaimin Desai, ISRO-SAC
26.	Development of tools to access thermal comfort and energy savings in a passenger vehicle cabin	1 October 2018-30 September 2021	Saint Gobain India	48.2	Dr. M.P. Maiya, Dr. Shaligram Tiwari
27.	Testing of diesel fuel additive in an automotive truck diesel engine	15 November-15 December 2018	Nishanta Environmental Technological Co Limited, Kolkata, India	1.18	Dr. K. Anand
28.	Photo responsive actuation of thin polymer films: modeling and experiments	Three years	Department of Science and Technology	61.9	Dr. Ratna Kumar Annabattula and Dr. Pijush Ghosh, Applied Mechanics
29.	Desiccant solar still	Three years	Impacting Research Innovation and Technology - IMPRINT	46.64	Dr. M. P. Maiya, Dr. Sourav Mitra, Dr. Avadhesh Yadav
30.	Spring bar hole drilling automation through load cell	Six months	Titan	3.56	Dr. S. Sathyan



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
31.	Graphene platelet exfoliation by high speed jet based impact induced shearing of graphite particle suspensions	One year	Tata Steel Advanced Materials Research	9.2	Dr. S. Sathyan and Dr. Narasimhan Swaminathan
32.	DST Solar Energy Harnessing Centre	Three years	DST	300	Dr. M. S. R. Rao and Dr. S. Sathyan, among others
33.	Development of a new two-stroke engine concept for hybrid range extender applications	19 February 2019-18 February 2020	ICSR, IIT Madras	8.5	Anand T. N. C.
34.	Characterization of GPI spray	1 September 2017-30 June 2019	Stanadyne LLP	17	Anand T. N. C., Shamit Bakshi
35.	Experiments on gas atomization of low melting point metal for powder production	25 November 2015-30 November 2018	Sansvik Asia Private Limited	24	Shamit Bakshi, Anand T. N. C.
36.	Gas atomization system for producing steel powders	21 February 2019-20 February 2022	IMPRINT-2 (SERB, Sandvik Asia Private Limited)	118	Shamit Bakshi, Anand T. N. C.
37.	Heat and mass transfer across liquid-vapour interface in a pressurised cryogenic tank with and without wave motion	Two years eight months	ISRO	38.4	Dr. Shyama Prasad Das, Dr. Shaligram Tiwari
38.	Unsteady flow physics and loss mechanisms in small engine axial compressors	Three years	DRDO	28.392	Dr. Shyama Prasad Das, Dr. BVSSS Prasad
39.	Loss reduction in annular S-shaped ducts	Three years	DRDO	78.7936	Dr. Shyama Prasad Das, Dr. BVSSS Prasad
40.	Development of fuel flex microturbine for clean power	Three years	UAY (MHRD, MNRE, GE)	1001	Dr. BVSSS Prasad, Dr. SR Chakravarthy, Dr. TM Muruganandam, Dr. Seshadri Sekhar, Dr. V Raghavan, Dr. Abhijit Sarkar, Dr. Shyama Prasad Das, Dr. P Ramkumar, Dr. S Soundarapandian, Dr. KR Anupindi
41.	Micro/mini turbine for hydropower generation applications in India	Three years	(MHRD, MNRE, GE)	187.72	Dr. Dhiman Chatterjee, Dr. Shyama Prasad Das
42.	Secondary air interaction with main flow in axial flow turbines	Two years	DRDO	66.942	Dr. BVSSS Prasad, Dr. Shyama Prasad Das
43.	Performance improvement of high-pressure compressor stage by optimizing vane diffuser geometries	Three years	DRDO	29.982	Dr. BVSSS Prasad, Dr. Shyama Prasad Das
44.	Effect of variable width and rotation of vaneless diffusers on the performance of centrifugal compressor	Three years	DRDO	28.392	Dr. BVSSS Prasad, Dr. Shyama Prasad Das
45.	Unsteady flow physics and loss mechanisms and shock boundary layer interactions in turbine flow field	Three years	DRDO	44.7216	Dr. BVSSS Prasad, Dr. Shyama Prasad Das
46.	Tip gap mechanism in turbines	Three years	DRDO	23.856	Dr. BVSSS Prasad, Dr. Shyama Prasad Das



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
47.	Development of hydrokinetic energy conversion system	Two years	IOCL	81.05	Dr. Dhiman Chatterjee, Dr. P Chandramouli, Dr. V Anantha Subramanian, Dr. Krishna Vasudevan, Dr. Shyama Prasad Das
48.	Unsteady forces on cylinders under cavitation		NRB/DRDO	84.66	Dr. Dhiman Chatterjee, Dr. Shamit Bakshi
49.	Smart submersible (6 inch) pumping solutions for industrial and water supply applications	Two years	DHI	32.5	Dr. BVSSS Prasad, Dr. Dhiman Chatterjee
50.	Establishing novel erosive wear test facility for testing of materials used in hydro-turbine component	Two years	Ministry of Power/ CPRI	125	Dr. M. Kamaraj, Dr. Dhiman Chatterjee
51.	Numerical study of performance of inducer and pump used in cryogenic engines under cavitating and non-cavitating conditions	Two years	ISRO	31.14	Dr. S. Vengadesan, Dr. Dhiman Chatterjee
52.	Arm rehabilitation robot	March 2018-March 2020	Portescap CSR	32.7	Dr. Sujatha Srinivasan and Dr. Sivakumar Balasubramanian (CMC Vellore)
53.	Finalization of NeoBolt design	March 2019-March 2020	HDFC CSR	100	Dr. Sujatha Srinivasan
54.	Development of cost-effective CPVT solar panel for commercial rooftop market	2018-2020	MHRD-MNRE-BEETPL under UAY	75	Dr. K. S. Reddy
55.	Sustainable technological solutions for energy efficiency in jaggery industry (STEEJ)		RAE, UK	48.83	
56.	DST Solar Energy Harnessing Centre - Thermal - Sub Project		DST	627.42	
57.	CPV assisted tandem assisted artificial photosynthetic device for effective solar to chemical conversion	2017-2022	UKIERI	11.59	
58.	Solar energy powered net-zero energy smart buildings	2017-2019	ICIMPACT (Indo-Canadian)	24.37	
59.	Non-imaging optics based low concentrating photovoltaic thermal (LCPVT) hybrid system	2016-2019	DST	86.87	
60.	Development and characterization of PCM-based thermal energy storage for solar process heat applications			60	
61.	Indo-UK project on Reliable and efficient systems for community energy solutions—Energy Storage	2015-2019	RCUK-DST	47.20	
62.	SPARC project on Development of inspection and structural health monitoring techniques for solar power plant systems	2019-2021	With Concordia University, Canada	53	



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
63.	Development of low-cost and efficient filler material for single tank energy storage for concentrating solar power and process heat systems	2018-2021	Indian Oil Corporation Limited, R&D Centre, Faridabad	133.19	
64.	Design of CSP and solar thermal energy systems for water and desalination	2018-2021	Rensol Power (P) Limited, Chennai	30.80	
65.	UK-ESRC Impact Acceleration Project on Transferring knowledge on dairy production technologies between the UK and India	2017-2018	UK-ESRC	30	

Faculty members' participation with other institution under MoU

Sl. No.	Faculty Member	Participation Details	University/Institution
1.	Dr. Gnanamoorthy R	Development of joint degree programme	Nagaoka University of Technology, Japan
2.		Preparing the guidelines and procedures for establishing first double degree programme with Japan	
3.		Letter of Intent signed to initiate Indo-Japan Centre for Futuristic Materials and Manufacturing	
4.	Dr. Sujatha Srinivasan	MoU for field testing of assistive devices	Cerebral Palsy Lanka Foundation
5.	Dr. GL Samuel	Delivered a seminar on 25 October 2018 at University of Technology Sydney on Mechanical Micro- manufacturing Using Conventional Tools	University of Technology Sydney, Australia
6.		Meeting with the delegation from National Chiao Tung University, Taiwan for a joint degree programme	National Chiao Tung University, Taiwan

Distinguished visitors to the department

Sl. No.	Visitor and Designation	Date of Visit	Purpose of Visit
1.	Prof. John Abraham, Chair Professor Sand Diego State University, Adjunct Professor, Purdue University	21 June 2018	Interactions with faculty and students
2.	Prof. Dr. Pierre Duret	8 October 2018	Discussion with faculty and students
3.	Mr. B. S. Patil and Mr. Sunil Kale, Mahindra & Mahindra, Pune	4 September 2018	Talk: Manufacturing of engines and power trains; interaction with faculty and students
4.	Mr. Shashank, President, MAG India IAS Private Limited, Bengaluru	17 September 2018	Talk: Advances in machine tools and IoT; interaction with faculty and students
5.	Toshio Takagi, Managing Director, Alfa TKG Co. Limited	14 November 2018	Discussion with faculty on research collaboration
6.	Prof. Patrick Kwan, Dean, Michigan State University, USA	3-5 December 2018	Visited the department
7.	Prof. Dimitris Lagoudas, Associate Vice Chancellor for Engineering Research Texas A&M University, and Prof. N. K. Anand, Executive Associate Dean of Engineering, Texas A&M University	20 December 2018	Interaction with Faculty
8.	Dr. Adarsh Krishnamurthy, Iowa State University College of Engineering Research	21 December 2018	
9.	Dr. Sudarsan Rachuri, Department of Engineering, USA	28 December 2018	Talk on Smart and advanced manufacturing innovation
10.	Dr. B P Goutham, Principal Scientist, Head of PREMAP and ICME Research and Innovation Program, TCS Limited, Pune	3 January 2019	Interaction with faculty

4.13.6. Other Activities of the Department

1. Faculty visit

Sl. No.	Faculty Member	Purpose of Visit	Date and Venue
1.	Dr. Gnanamoorthy R	Academic and industrial collaboration	27 March 2018, Japan
2.	Dr. Anil Meena	Conference	3 April 2018, Italy
3.	Dr. Amitava Ghosh	Exploring feasibility of conducting experiments by research group	30 March 2018, IIT Kharagpur
4.	Dr. G. L. Samuel	Curriculum revision meeting	10 April 2018, Karunya University, Coimbatore
5.		Faculty recruitment	17 April 2018, Karunya University, Coimbatore
6.	Prof. Mani A	Keynote lecture in DACON 2018	20 April 2018, National Institute of Technology Tiruchirappalli
7.		To access solar drier for lignite drying using solar energy	27 April 2018, CARD, NLCIL
8.	Dr. Gnanamoorthy R	Development of a new centre for mobility engineering as Advisory Committee Member	29 April 2018, IIT Delhi
9.		As Search and Selection Committee member of the selection of the Vice Chancellor of Anna University	30 April 2018, Anna University
10.	Dr. J M Mallikarjuna	To deliver lectures for FDP	4 April 2018, Malnad College of Engineering, Hassan
11.	Dr. Ratna Kumar Annabattula	Give a talk	24 May 2018, TU Delft, The Netherlands
12.	Dr. V. Raghavan	Project meeting	27 May 2018, IIT (ISM) Dhanbad, India
13.	Dr. Shyama Prasad Das	To deliver a lecture in Faculty Development Training Programme on ME6502-Heat and Mass Transfer	21 June 2018, University College of Engineering, Villupuram, India
14.	Dr. S Soundarapandian	Collaborative work	22 June 2018, University of North Texas, Denton, TX, USA
15.	Dr. P. V. Manivannan	Anna University PhD Viva Voce Expert Examiner	27 June 2018, Dr. NGP Institute of Technology, Coimbatore, India
16.	Dr. GL Samuel	Guest lecture on Research methodology	13 August 2018, Sri Ramakrishna Engineering College, Coimbatore
17.	Dr. Hariharan	Deliver a lecture for faculty development programme	18 August 2018, R. M. K College of Engineering
18.	Dr. Gnanamoorthy R	Collaborative research	1 August 2018, Palmeso Co Limited, Japan - Industry
19.		Faculty selection	25 August 2018, BITS Hyderabad
20.	Dr. P. V. Manivannan	External expert in selection committee to select Teaching Fellow	29 August 2018, MIT, Anna University Campus, Chrompet, Chnennai
21.	Dr. Sujatha	Visit their Assistive Tech Lab	12 July 2018, BVRIT, Hyderabad
22.	Srinivasan	Project review	26 August 2018, IMPRINT-1 Review Meeting
23.	Dr. Sujatha	Resource person for the two-day workshop on Experimental vibrations and analysis	7 September 2018, SRM Institute of Science and Technology
24.	Chandramohan	To deliver lecture on Vibration fundamentals	24 September 2018, MNM Jain Engineering College
25.	Dr. Piyush Shakya	To visit Mechanical Engineering Department labs and explore possibility of collaboration	14 September 2018, TU Delft
26.	Dr. Somashekhar S Hiremath	12th Academic Council Meeting and 8 th Graduation Day	22 September 2018, Basaveshwar Engineering College, Bagalkot
27.		13 th Academic Council Meeting	27 October 2018, Basaveshwar Engineering College, Bagalkot
28.	Dr. K. Srinivasan	DC Meetings	27 September 2018, MIT Chromepet



Sl. No.	Faculty Member	Purpose of Visit	Date and Venue
29.	Dr. Sushanta Kumar Panigrahi	To conduct oral examination, Ph.D Defence	28 September 2018, IISc Bangalore
30.	Dr. A. Ramesh	To conduct Ph.D viva voce	22 October 2018, IIT Delhi
31.	Dr. B.V.S.S.S. Prasad	To conduct PhD viva voce	24 October 2018, NIT, Surathkal
32.	Dr. A. Seshadri Sekhar	Expert of faculty selection committee, Department of Mechanical Engineering	15 November 2018, IIT Roorkee
33.		Expert of faculty selection committee, Department of Mechanical Engineering	7 December 2018, IIT Dharwad
34.	Dr. P. Ramkumar	Chief Guest/Invited talk for the Faculty Development Programme	26 November 2018, St. Joseph's Institute of Technology, Chennai
35.		Engine Tribology, TRIBO MEET 2019	25 January 2019, Adhi Engineering College, Kanchipuram
36.		Syllabus Sub Committee Meeting-Faculty of Mechanical Engineering (B.E.)	3 January 2019, College of Engineering Guindy, Anna University
37.		Board of Studies Meeting	16 February 2019, Saveetha University, Department of Mechanical Engineering, Chennai
38.			20 February 2019, DDR Meeting, CVRDE, Avadi, Chennai
39.		Expert Committee Member Academic	14 December 2018, PRC Meeting, CVRDE, Avadi, Chennai
40.	Dr. Amitava Ghosh	Served as an external examiner of M. Tech Projects of the students	27 November 2018, Anna University
41.		PhD Viva/Oral Examiner	27 November 2018, IISc Bangalore
42.	Dr. N. Ramesh Babu	Invited to talk on Innovation in academics	24 November 2018, Saveetha Engineering College, Chennai
43.	Dr. K. Anand	To deliver a lecture in Faculty Development Training Programme	4 December 2018, University College of Engineering, Villupuram, Anna University
44.		To deliver a lecture in National Level Short-Term Programme on Biofuels and Fuel Cell-Fundamentals and Applications	8 December 2018, Annamalai University
45.	Dr. Abhijit Sarkar	Deliver a lecture for the Faculty Development Programme of Anna University	8 December 2018, MNM Jain Engineering College
46.	Dr. Sujatha Chandramohan	Faculty selection meeting on 18 and 19 December 2018	18 December 2018, visited IIIT D&M, Kancheepuram
47.		To deliver Dr. V. Ramamurti Memorial Lecture for SAE India entitled, Vehicle, road and human models for ride dynamics	22 December 2018, SAE India Southern Section
48.	Dr. Somashekhar S Hiremath	Delivered technical talks on the topics- Intelligent manufacturing in the context of industry 4.0 and Role of industrial robotics in automation	3 January 2019, KLE DR M S Sheshgiri College of Engineering and Technology, Udyambag, Belagavi-590008
49.		Delivered technical talks on the topics, Micro-machining: An overview and development, fabrication and some investigation on indigenously developed micromachining facility	7 January 2019, St Joseph College of Engineering and Technology, Palai-686 579, Kerala, India
50.		Meeting of the ongoing consultancy project	7 January 2019, NIT Rourkela
51.	Dr. M P Maiya	External member in the committee for assessment and promotion interviews to the next higher grade	8 January 2019, Recruitment Assessment Centre (RAC)
52.	Dr. A Seshadri Sekhar	Gave an Invited talk at the International Conference on Recent Advances in Materials, Manufacturing & Energy Systems (ICRAMMES)	4 January 2019, V. R. Siddhartha Engineering College, Vijayawada



Sl. No.	Faculty Member	Purpose of Visit	Date and Venue
53.	Dr. A Seshadri Sekhar	Expert of faculty selection committee, Department of Mechanical Engineering	27 February 2019, IIT Dhanbad
54.	Dr. Ratna Kumar Annabattula	To deliver a keynote lecture in their FDP under TEQIP-3	11 February 2019, College of Engineering and Technology (CET), Bhubaneswar
55.		Interactions with the faculty of IIT Bhubaneswar	11 February 2019, IIT Bhubaneswar
56.	Dr. K Hariharan	Deliver a lecture: Ultrasonic assisted forming	16 February 2019, Kongu Engineering College
57.		PhD viva voce	30 January 2019, GCT Coimbatore
58.	Dr. GL Samuel	Opening of Institution of Engineers chapter and guest lecture	20 February 2019, Adithya College of Engineering, Rajhamundry
59.	Dr. PV Manivannan	Expert Member, Board of Studies of Department of Mechatronics Engineering	7 March 2019, SRM University, Chennai
60.		Special Guest for the inauguration of the first National Workshop on Digital Transformation and 3D Printing for Transtibial Socket Designing	22 November 2018, Mobility India, Bengaluru
61.	Dr. Sujatha Srinivasan	Chair of session and Invited speaker, Asian MMS Conference	17-20 December 2018, IISc Bangalore
62.		Plenary Speaker, IAAT-NC 2018	22 December 2018, Bhubaneswar





4.14. Department of Metallurgical and Materials Engineering

4.14.1. Introduction

One of the oldest departments of IIT Madras, the Department of Metallurgical and Materials Engineering (MME) was established in 1959 as Department of Metallurgy. It was renamed as Department of Metallurgical and Materials Engineering in 2003. Actively engaged in research, education and industrial consultancy, the department offers B.Tech., M.Tech., M.S. and Ph.D. degree courses. Its teaching, research and consultancy activities cover a broad spectrum, from conventional metallurgy to frontiers of materials' science and engineering. The department is respected for its strong linkages with industry and expertise in industrial metallurgy. Over the years, it has hosted excellent research infrastructure in the broad areas of material science and engineering, such

as materials processing (forming, joining, casting, particulate processing, nanostructured materials), characterisation (X-ray diffraction, electron microscopy, thermal analysis), mechanical testing, environmental degradation/corrosion, surface engineering, computational materials science and electronic materials. The department continues to strive for excellence and realising its vision of becoming a pioneering department in the areas of material science and engineering, while consolidating its strength in traditional areas of metallurgical engineering.

4.14. Academic Programmes

The department offers B.Tech, Dual Degree (B.Tech + M.Tech), M.Tech, M.S and Ph.D programmes.

New courses introduced

Sl. No.	Course No.	Title
1	MM5007	Production of Special Steels
2	MM6011	Field Emission Sciences and Atom Probe Tomography
4	MM5150	Advances in Ironmaking
5	MM2090	Introduction to Scientific Computing
6	MM5035	Advanced Magnetic Materials

Students on roll as of March 2018+M.S. and Ph.D admission in January 2019

Programme	Year I	Year II	Year III	Year IV	Year V and others	Total
B.Tech.	36	30	30	30	17	143
Dual Degree	13	10	9	14	22	68
M.Tech.	31	21	2	-	-	54
M.S.	15	13	4	4	1	37
Ph.D.	58	31	16	23	35	163
Total	153	105	61	71	75	465

Student/Scholar who attended conference/seminar/symposium/workshop abroad/India

Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue
Abroad				
1	Sai Rajeswari	MM13D208	ICSMA 18	15-19 July 2018, Columbus, Ohio
2	Lalith Kumar	MM15D404	European Conference on Residual Stress	11-14 September 2018, Leuven, Belgium
3	Eranezhuth Wasan Awin	MM12D018	International Conference - CMCEE 2018	22-27 July 2018, Singapore
4	Mookara Rama Kishore	MM16D413	71 st Annual Assembly of International Institute of Welding and International Conference 2018	15-20 July 2018, Bali, Indonesia
5	G. Mohan Muralikrishna	MM15D410	ISMANAM 2018	2-6 July 2018, Rome, Italy
6	R. Lavanya	MM13D201	THERMEC 2018	8-13 July 2018, Paris
7	A. Kousika	MM15D408	European Materials Society—Spring Meeting	18-22 July 2018, Strasbourg, France



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue
8	M. Ram Kishore	MM14D404	International Conference of the International Institute of Welding	21-24 July 2018, Bali, Indonesia
9	Nandha Kumar E	MM14D003	71 st IIW Annual Assembly and International Conference 2018	15-20 July 2018, Bali, Indonesia
10	Krishna Kumar	MM14D404	2018 MRS Fall Meeting	25-30 November 2018, Boston, Massachusetts
11	Soumya Sridar	MM12D030	12th International Conference on Ceramic Materials and Components for Energy and Environmental Applications (CMCEE 2018)	22-27 July 2018, Singapore
12	A Sandeep Kranthi Kiran	MM14D301	Annual Meeting of the German Society for Biomaterials (DGBM 2018)	8-10 November 2018, Braunschweig, Germany
13	A Sandeep Kranthi Kiran	MM14D301	8 th Materials Research Society-Singapore Conference on Advanced Materials (AMC 2018)	21-23 November 2018, Singapore
14	C Srishilam	MM13D213	Indo-German Project	1 November-20 December 2018, Germany
15	Ummen Sabu	MM15D010	6 th International Conference on Multifunctional, Hybrid and Nanomaterials 2019	11-15 March 2019, Spain
16	Anirban Chakravarthy	MM16S006	International Workshop on Advanced Materials 2019	24-26 February 2019, Dubai
India				
1	Piu Rajak	MM13D301	International Conference on Microscope and XXXIX Annual Meeting of Electron Microscope Society of India	18-20 July 2018, Bhubaneswar
2	Soumya Sridar	MM12D030	NMD-ATM 2018	14-16 November 2018, Kolkata
3	Rahul M. R.	MM15D12	Annual Technical Meeting of Indian Institute of Metals	15-16 November 2018, Kolkata
4	Rahul M.R	MM15D12	7 th International Conference on Solidification Science and Processing (ICSSP)	19-22 November 2018, Trivandrum
5	Mr. S. Santosh	MM15D020	International Conference on Advanced Materials and Manufacturing Processes (ICAMPS)	25-27 October 2018, Trivandrum
6	M. Agilan	MM15D201	ICAMPS	25-27 October 2018, Trivandrum
7	J. U. Nandhini	MM14D405	International Conference on Nano Science and Engineering Applications	4-6 October 2018, Hyderabad
8	Bhavanish Kumar Singh	MM16S004	ICAMPS	25-27 October 2018, Trivandrum
9	Deepu Mathew John	MM14D207	72 nd Annual Technical Meeting of Indian Institute of Metals	15-16 November 2018, Kolkata
10	Agilan M	MM15D201	National Welding Seminar	13 December 2018, Kochi
11	Nitheesh Nair	MM16D300	3 rd International Conference on Soft Materials	9-14 December 2018, MNIT, Jaipur
12	Hari Ramachandran	MM15B040	Inter Tech IIT Meet, IIT Bombay	18-20 December 2018, Mumbai
13	S. Santosh	MM15D020	Second International Conference on Sustainable Energy Resources, Materials and Technologies, SSN College of Engineering, Chennai	14-15 March 2019
14	S. Santosh	MM15D020	Second National Conference for Mechanical Engineering Research Scholars, SSN College of Engineering, Chennai	29 March 2019



Students/Scholars who won outside prizes and awards

Sl. No.	Student/Scholar	Roll No.	Prize	Awarded by
1	Lokesh Vendra	MM16D017	Viewer's Choice Award	American Ceramics Society, Columbus, Ohio, USA
2	Rahul M. R.	MM15D12	Prof. G. S. Tendulkar Prize	Annual Technical Meeting of Indian Institute of Metals, 15-16 November 2018, Kolkata
3	Rahul M. R.	MM15D12	Best Poster Award	7 th International Conference on Solidification Science and Processing (ICSSP), 19-22 November 2018, Trivandrum
3	Ramesh Kumar Soni	MM17S300	Millennium Alliance Award	Government of India
4	Ramesh Kumar Soni	MM17S300	Gandhian Young Technological Innovation Award	Techpedia
5	S. Santosh	MM15D020	Best Paper Award	ICAMPS, 25-27 October 2018, Trivandrum
6	M. Agilan	MM15D201	Best Paper Award	ICAMPS, 25-27 October 2018, Trivandrum
7	J. U. Nandhini	MM14D405	Best Oral Presentation	International Conference on Nano Science & Engineering Applications, 4-6 October 2018, Hyderabad
8	Bhavanish Kumar Singh	MM16S004	Best Poster Award	ICAMPS, 25-27 October 2018, Trivandrum
9	Deepu Mathew John	MM14D207	Best Oral Presentation	72 nd Annual Technical Meeting of Indian Institute of Metals, 15-16 November 2018, Kolkata
10	Agilan M	MM15D201	Best Technical Paper	National Welding Seminar, 13 December 2018, Kochi
11	Nitheesh Nair	MM16D300	Best Poster Award	3 rd International Conference on Soft Materials, 9-14 December 2018, MNIT, Jaipur
12	Hari Ramachandran	MM15B040	Best Poster Award	3 rd International Conference on Soft Materials, 9-14 December 2018, MNIT, Jaipur
13	Hari Ramahandran	MM15B040	Best Poster Award	Inter Tech IIT Meet, IIT Bombay, 18-20 December, Mumbai
14	Ghule Sanchit Jagannath	MM16B004	2 nd Prize	I-STEM Hackathon, IISc, Bangalore
15	Santosh S	MM15D020	Best Paper Award	Second National Conference for Mechanical Engineering Research Scholars, 29 March 2019, SSN College of Engineering, Chennai

Students/scholars who won Institute Convocation/Institute Day Prize

Sl. No.	Student/Scholar	Roll No.	Prizes
1	Sonia Sharma	MM13D017	Institute Research Award
2	R. Jayasree	MM11D018	Institute Research Award
3	Eranezhuth Wasan Awin	MM12D018	Institute Research Award
4	Srivathsan S and T Hanas	MM16M025 and MM13D009	Sudharshan Bhat Memorial Prize
5	Naveen Sundaresan Ramesh	MM14B021	Dr Dhandapani Memorial Prize
6	Gautham Muthusamy	MM13B040	S Anantharamakrishnan Memorial Prize

4.14.3. Faculty and their activities

Faculty

Name and Qualifications	Major Areas of Specialisation
Professors	
Uday Chakkingal, Ph.D. (Rensselaer Polytechnic Institute) (HOD)	Metal forming and material processing, severe plastic deformation processes, aluminium alloys
M. Balasubramanian, Ph.D. (IIT Madras)	Advanced ceramics and composites, nanocomposites processing, materials, characterization



Name and Qualifications	Major Areas of Specialisation
S. S. Bhattacharya, Ph.D. (IIT Madras)	Nanocrystalline materials—synthesis, consolidation, characterisation and property evaluation, superplasticity of materials (analytical and experimental), superplastic forming, advanced materials testing
S. Ganesh Sundara Raman, Ph.D. (IIT Madras)	Fatigue and fracture of metallic materials and their weldments, fretting fatigue, fretting wear, high-temperature deformation, coatings, thermal spray processing, surface engineering
K.C. Hari Kumar, Ph.D. (IIT Delhi)	Computational thermodynamics and kinetics; ab initio calculations of thermochemical and thermophysical properties
M. Kamaraj, Ph.D. (IIT Madras)	High-temperature deformation studies on steels/super alloys, hot-corrosion studies, surface technology, development of wear surfacing materials, tribological studies on weld deposits/coatings/composites, failure analysis
B. S. Murty, Ph.D. (IISc, Bengaluru)	Nanocrystalline materials, bulk metallic glasses, high-entropy alloys, composites, phase transformations, electron microscopy, atom probe tomography
G. Phanikumar, Ph.D. (IISc, Bengaluru)	Solidification using electromagnetic levitation and melt spinning, transport phenomena in manufacturing processes, microstructure simulation and characterization
Prathap Haridoss, Ph.D. (University of Wisconsin-Madison)	Production and characterisation of carbon nanotubes, synthesis of CdS nanocrystals, CO-tolerant PEM fuel cell catalysts
Ranjit Bauri, Ph.D. (IISc, Bengaluru)	Metal matrix composites, aluminium alloys, solid oxide fuel cells
N. V. Ravi Kumar, Ph.D. (MPI-Stuttgart and University of Stuttgart, Germany)	Polymer-derived ceramics, silicon carbide/silicon nitride ceramics, high-temperature mechanical properties, object-oriented finite element programming for prediction of macroscopic properties
V. Sampath, Ph.D. (IISc, Bengaluru)	Shape memory alloys/smart materials, composite materials, powder metallurgy, structure–property correlations in materials
T. S. Sampath Kumar, Ph.D. (IISc, Bengaluru)	Nanostructured biomaterials, antimicrobial ceramics and delivery systems, value-added biomaterials from natural wastes
S. Sankaran, Ph.D. (IIT Kanpur)	Mechanical behaviour of materials, electron microscopy, structure–property correlations
V. Subramanya Sarma, Ph.D. (IIT Madras)	Materials processing, development, characterisation and microstructure, mechanical property correlations in engineering materials
G. Sundararajan, Ph.D. (Ohio State University)	Tribological behaviour of materials, indentation behaviour of materials, coatings on materials, deformation and fracture behaviour of materials
G. D. Janaki Ram, Ph.D. (IIT Madras)	Welding, additive manufacturing, failure analysis
Associate Professors	
K. Ravi Sankar, Ph.D. (IISc, Bengaluru)	High-temperature deformation, super plasticity, nanocrystalline materials, size effects in plastic deformation
Somnath Bhattacharyya, Ph.D. (MPI-Stuttgart and University of Stuttgart, Germany)	Studying correlation of the structure and chemistry of materials at atomic scale with physical properties using transmission electron microscopy, development of new methodology related to TEM/STEM to study materials, studying nano-bio conjugation using electron probe
Srinivasa Rao Bakshi, Ph.D. (Florida International University, Miami, USA)	Thermal spraying, carbon nanotube-reinforced composites, microstructure property correlations at different length scales, nuclear materials
Lakshman Neelakantan, Ph.D. (MPIE Dusseldorf and RUB, Bochum, Germany)	Corrosion characteristics, smart coating for corrosion protection, electro-dissolution, planarisation and deposition
Parasuraman Swaminathan, Ph.D. (University of Illinois, Urbana-Champaign, USA)	Printed electronics, vapour-deposited thin films and nanoparticles, optical and electrical properties of doped metal oxides, photovoltaics
Assistant Professors	
Ajay Kumar Shukla, Ph.D. (IIT Kanpur)	Process modeling, control and optimisation of iron and steel making, computational thermodynamics and its application to high-temperature metallurgical processes, heat and mass transfer
Anand K. Kanjarla, Ph.D. (Katholieke Universiteit Leuven (KUL), Belgium)	Microstructural approach to mechanics of materials, finite element method and fast Fourier transform approach to crystal plasticity (CPFEM and CPFFT), plastic anisotropy and crystallographic texture, microstructure evolution in irradiated systems



Name and Qualifications	Major Areas of Specialisation
Manas Mukherjee, Ph.D. (Technical University Berlin, Germany)	Metal foam production and characterisation, physics of foaming, X-ray tomography, solidification
Murugaiyan Amirthalingam, Ph.D. (Delft University of Technology, Netherlands)	Welding metallurgy, welding processes development, steels product development, in situ 3D synchrotron X-ray diffraction and additive manufacturing
Sabita Sarkar, Ph.D. (IISc, Bengaluru)	Process modelling/design of metallurgical and chemical processes, modeling and simulation of flows through packed beds, fluidised beds, heat and mass transfer, granular flows, multi-phase flows, reacting flows
Satyesh Kumar Yadav, Ph.D. (University of Connecticut, USA)	Physics and chemistry of materials from first-principles electronic structure modelling, first-principles thermodynamics, modeling of materials using quantum mechanics derived potentials, understanding structure, property, and processing relation of materials
Sreeram K. Kalpathy, Ph.D. (University of Minnesota)	Soft matter: colloid and polymer science, interfacial fluid mechanics, physical chemistry of surfaces, coating and printing methods
Tiju Thomas, Ph.D. (Cornell University, USA)	Energy materials, environmental remediation materials [nitrides, oxynitrides, oxides (in nano, meso and bulk forms)], photofunctional materials (for solar cells, photocatalytic applications), optical materials and devices, surfaces, interfaces and transformation of nanostructures, green approaches to functional nanomaterials
K. G. Pradeep	Combinatorial alloy design, atom probe tomography and field ion microscopy, magnetic materials, thin films and hard coatings, correlative microscopy, amorphous and nanocrystalline materials, mechanical behaviour of materials
Adjunct Faculty	
R. Gopalan, Ph.D. (IIT Madras), Associate Director and Head, Centre for Automotive Energy Materials, ARCI, Chennai	Magnetic materials, thermo-electric materials, fuel cells
Raju Ramanujan, Ph.D. (CMU), Professor, NTU, Singapore	Nano functional materials
T. Venugopalan, Ph.D. (NIT, Rourkela)	R&D in steel technology
Dr. M. Sundararaman, Ph.D (University of Mumbai)	Phase transformation and structure property correlation in metallic materials, ordered-disordered transformation under equilibrium and non-equilibrium conditions; micromechanics of plasticity, material characterisation, physical metallurgy of super alloys, defect analysis using microscopy

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members

Sl. No.	Coordinator	Title	Period
Seminar			
1	Dr. B.S. Murty, Dr. Srinivasa Rao Bakshi and Dr. Pijush Ghosh	Nanomechanical Testing: Theory and Applications	4-5 August 2018
Symposium			
2	Dr. Srinivasa Rao Bakshi	In-house symposium for research scholars	4-5 May 2019
Workshops			
3	Dr. Srinivasa Rao Bakshi and Dr. M. Kamaraj	Post Indo-Japan Symposium Workshop on Thermal Spray Coatings and Applications	18 July 2018
4	Prof. B. S. Murty	Workshop on Recent Advancement in Thermal Analysis	18 September 2018
5	Dr. B. S. Murty	Advances in Nanotechnology	22-23 December 2018
6	Dr. K.C. Harikumar	DICTRA Training Programme	9-11 January 2019
7	Dr. Srinivasa Rao Bakshi, Dr. A.Murugaiyan and Dr. Satyesh Kumar Yadav	Prof. Brahm Prakash Memorial Materials Quiz	2 September 2018
8	Dr. Uday Chakkingal	Processing of High-Strength Steels for Automotive Applications	18-19 May 2018
9	Dr. Srinivasa Rao Bakshi and Dr. M. Kamaraj	Chemical Analysis of Materials Using Instrumental Analytical Techniques	3 December 2018



Sl. No.	Coordinator	Title	Period
10	Dr. K.G. Pradeep	Struers Workshop: Latest Guidelines and Developments on Sample Preparation	22 March 2019
11	Dr. B. S. Murty	Indo-Australian Workshop on Advances in Materials and Additive Manufacturing	15 March 2019
12	Dr. K. C. Hari Kumar	ThermoCalc Training Program, Hindalco Innovation Centre – Semifab, Mumbai	6 September 2018
13	Dr. K. C. Hari Kumar	ThermoCalc Training Program, Materials Science International, Stuttgart, Germany	6 March 2019
Short-term course			
12	B. S. Murty	Certificate Course on Materials Characterization	25-28 July 2018

Short-term courses/workshops/seminars/symposia/conferences//trainings attended by the faculty members in academic institutions and public sector undertakings

Sl. No.	Faculty Member	Title	Institution	Period
Workshop				
1	Dr. Murugaiyan A	India-UK Workshop on Advancement in Welding	NIT Trichy	22 June 2018
Conferences				
2	Uday Chakkingal	National Conference on Processing of Materials (NCOPOM 18)	NIT Surathkal	19-21 September 2018
3	M. Balasubramanian	International Conference on Direct Digital Manufacturing and Polymers (ICDDMAP 2019)	Karnataka University, Dharwad	20 February 2019

Special lectures delivered by the faculty in other institutions and IIT Madras

Sl. No.	Faculty	Topic of Lecture	Institution	Date
1	Sreeram K. Kalpathy	Basics of asymptotic analysis and self-similarity	IIT Madras	30 March 2018
2	Sreeram K. Kalpathy	Stability of thin film flows bounded by surfaces with wettability contrasts	IIT Madras	31 March 2018
3	S. S. Bhattacharya	Nanocrystalline and nanostructured materials: synthesis and consolidation	IIT Bombay	28 February 2018
4	S. S. Bhattacharya	Multicomponent equimolar nanocrystalline ceramics	M.S.R.I.T. Bangalore	28 February 2018
5	Dr. Sreeram K. Kalpathy	Mechanical evaluation of reversion heat treatment of thermally embrittled duplex stainless steels	NIT Karnataka	6 February 2018
6	Dr. M. Balasubramanian	Role of first-principles electronic structure modeling in materials simulation at inter-IIM (IITM and IGCAR Chapters)	IIT Kharagpur	23 February 2018
7	Dr. M. Balasubramanian	Some metallurgical properties of a laser-deposited nickel-titanium shape memory alloy	CIT Coimbatore	15 May 2018
8	Dr. V. Subramanya Sarma	Influence of the mode of deformation on recrystallization kinetics in Ni and Ti through experiments, theory, and phase field model	Institute of Materials Physics, University of Muenster, Germany	1 May 2018
9	Dr. V. Subramanya Sarma	Influence of the mode of deformation on recrystallization kinetics in Ni and Ti through experiments, theory, and phase field model	Institute for Applied Materials, Karlsruhe Institute of Technology, Germany	13 June 2018
10	Dr. V. Subramanya Sarma	Influence of the mode of deformation on recrystallization kinetics in Ni and Ti through experiments, theory, and phase field model	IIT Roorkee	6 July 2018
11	Dr. Tiju Thomas	Inclusive education – preparing everyone for thriving in our society	Teaching Learning Centre, IIT Madras	2 May 2018



Sl. No.	Faculty	Topic of Lecture	Institution	Date
12	Dr. Sreeram K. Kalpathy	Interfacial flows in printing processes near surfaces with wettability contrasts	Department of Chemical Engineering, IIT Madras	14 March 2017
13	Dr. V. Sampath	The aging effects in NiTi shape memory alloy wire	Cairo, Egypt	3 April 2018
14	Dr. V. Sampath	Optimization of shape memory effect in Fe-based shape memory alloys by modification of solution treatment temperature	Cairo, Egypt	4 April 2018
15	Dr. V. Sampath	Shape memory alloys and their applications	Cairo, Egypt	6 April 2018
16	Dr. V. Sampath	Mechanical bottom-up nano-assembling and nano-manipulation using shape memory alloy nano-grippers	Kottayam, Kerala	11 April 2018
17	Dr. V. Subramanya Sarma	Role of grain boundary character on hot corrosion and liquation cracking in a Ni based-superalloys and austenitic stainless steel	Institute for Applied Materials, Karlsruhe Institute of Technology, Germany	22 June 2018
18	Dr. V. Subramanya Sarma	Influence of the mode of deformation on recrystallization kinetics in Ni and Ti through experiments, theory and phase field model	Institute for Nanotechnology, Karlsruhe Institute of Technology, Germany	6 July 2018
19	Dr. Ajay Kumar Shukla	Process control aspects of BOF steelmaking process	Gerdau Steel Plant, Tadipatri	10 June 2018
20	Dr. Murugaiyan A	Mathematical modelling of residual stress evolution in wire arc additive manufacture (WAAM)	India-UK Workshop on Advancement in Welding, NIT Trichy	22 June 2018
21	Dr. V. Subramanya Sarma	Role of grain boundary character on hot corrosion and liquation cracking in a Ni based-superalloys and austenitic stainless steel	Institute for Applied Materials, Karlsruhe Institute of Technology, Germany	13 June 2018
22	Dr. K. Ravi Sankar	Creep and superplasticity	IIT Kanpur	2 November 2018
23	Dr. K. G. Pradeep	Fundamentals of atom probe tomography	IIT Kanpur	4 October 2018
24	Dr. K. G. Pradeep	Atomic scale characterization and its methods	IIT Kanpur	4 October 2018
25	Dr. Uday Chakkingal	Sheet metal formability testing and stretch flangeability	SRM University, Chennai	30 November 2018
26	S. S. Bhattacharya	4 th International Conference on Emerging Electronics (ICEE) 2018	IIT Madras	17-19 December 2018
27	Sreeram K. Kalpathy	Workshop on Advances in Nanotechnology	Bangalore	22-23 December 2018
28	M. Balasubramanian	Processing and structure-property relationships of nanocrystalline silicon carbide	IIT Kharagpur	23 February 2018
29	Satyesh Kumar Yadav	Role of first-principles electronic structure modeling in materials simulation at inter-IIM (IIT Madras and IGCAR chapters)	IIT Madras	3 March 2018
30	Parasuraman Swaminathan	Printed oxide electronics: A summary of our efforts at IIT Madras	NIT Rourkela	27 November 2017
31	M. Balasubramanian,	Polymer nanocomposites, International Conference on Direct Digital Manufacturing and Polymers (ICDDMAP 2019)	Karnatak University, Dharwad	20-23 February 2019
32	Dr. A. Murugaiyan	Mathematical modeling of residual stress evolution in wire arc additive manufacture	NIT Trichy	20 June 2018
33	S. Ganesh Sundara Raman	National Institute of Technical Teachers Training and Research	Taramani, Chennai	21 August 2018
34	Satyesh Kumar Yadav	Accelerating design of materials from electronic structure modeling	IIT Bombay	9 July 2018



Sl. No.	Faculty	Topic of Lecture	Institution	Date
35	Dr. Uday Chakkingal	Mechanical property evaluation and stretch flangeability of a dual phase DP 600 steel	NIT Surathkal	21 September 2018
36	Dr. N. V. Ravikumar	Ceramic matrix composites: aerospace, automotive and electronic industries	SA Engineering College, Chennai	22 March 2019

Visits abroad by faculty

Sl. No.	Faculty Member	Country Visited	Date	Purpose of visit
1	Dr. Ajay Kumar Shukla	Germany	16-29 April 2018	Visit to Department of Ferrous Metallurgy, RWTH Aachen University, Germany under Research Mission Program funded by DAAD-UGC
2	Dr. V. Subramanya Sarma	Germany	1 May-30 June 2018	To do research at Institute of Materials Physics, University of Muenster and Karlsruhe Institute of Technology, Germany under AvH Fellowship
3	Dr. N.V. Ravikumar	Russia	14-26 May 2018	Indo-Russian Federation
4	Dr. Srinivasa Rao, Bakshi	Germany	22-28 May 2018	10 th Indo-German Frontiers of Engineering Symposium
5	Dr. Manas Mukherjee	Germany	24 -29 May	Fraunhofer IFAM, Germany
6	V. Sampath	Egypt	3-6 April 2018	18 th International Conference on Applied Mechanics and Mechanical Engineering (AMME 2018)
7	V. Sampath	France	30 May-13 June 2018	Kotelnikov Institute of Radio Engineering and Electronics of the Russian Academy
8	Dr. K. C. Hari Kumar	Israel	20-24 August 2018	Tenth International Conference on Materials Technologies and Modeling (MMT-2018)
9	Dr. N.V. Ravi Kumar	Japan	17-19 September 2018	8 th International Workshop on Advanced Ceramics (IWAC08)
10	Dr. N.V. Ravi Kumar	Germany	24-25 September 2018	Roundtable on Frontiers of Ceramics and Materials at University of Cologne
11	Dr. N.V. Ravi Kumar	Germany	26-28 September 2018	Conference on Materials Science and Engineering 2018
12	Dr.G. Sundararajan	USA	12-18 October 2018	Materials Science & Technology Conference & Exhibition – MS & T 2018
13	Dr. M. Kamaraj	Columbus, Ohio, USA	12-18 October 2018	Materials Science & Technology Conference & Exhibition – MS & T 2018
14	Dr. M. Kamaraj	Singapore	15-19 November 2018	9 th Asian Thermal Spray Conference (ATSC-2018)
15	Dr. G. D. Janaki Ram	Canada	26 November 2018-4 January 2019	University of New Brunswick as Recipient of Harrison McCain Visiting Professor Award
16	Dr. K.G. Pradeep	USA	10-15 June 2018	Atom Probe Tomography and Microscopy Conference
17	Dr. Tiju Thomas	China	12-22 June 2018	Ningbo Institute of Technology (CNITECH)
18	Dr. B.S. Murty	Rome, Italy	2-6 July 2018	25 th International Symposium on Metastable, Amorphous and Nanostructural Materials (ISMANAM 2018)
19	Dr. B.S. Murty	Paris, France	8-12 July 2018	THERMEC 2018
20	Dr. A. Murugaiyan	Bali, Indonesia	15-20 July 2018	71 st IIW Annual Assembly & International Conference
21	Dr. N. V. Ravi Kumar	Singapore	23-27 July 2018	12th International Conference on Ceramic Materials and Components for Energy & Environmental Applications (CMCEE 2018)
22	Dr. Ravi Sankar K	Paris, France	8-13 July 2018	THERMEC2018 International Conference
23	Dr. Ravi Sankar K	London, UK	23-30 July 2018	11 th International Conference on Magnesium Alloys and their Applications



Sl. No.	Faculty Member	Country Visited	Date	Purpose of visit
24	Dr. S. Ganesh Sundara Raman	Paris, France	9-13 July 2018	THERMEC2018 International Conference
25	Dr. Tiju Thomas	Porto, Portugal Rabat, Morocco	25-31 July 2018	Visited INESC TEC for Project work Visited IRESEN for Project work
26	Dr. K.G. Pradeep	Germany	15 December 2018- 15 January 2019	Max Planck India Partner Group Meeting at RWTH Aachen University, Aachen
27	Dr. K.G. Pradeep	Korea	9-12 December 2018	2 nd International Conference on High-Entropy Materials (ICHEM 2018), Jeju, Korea
28	Dr. T.S. Sampathkumar	Malaysia	12-14 December 2018	Symposium on Nanomaterials for Innovative Products, Kulim, Kedah, Malaysia
29	Dr. Ajay Kumar Shukla	Germany	30 November- 16 December 2018	Institute of Iron and Steel Technology, TU Bergakademie Freiberg, Germany
30	Dr. Hari Kumar K. C.	Germany	4-8 March 2019	33 rd Annual MSIT Meeting and 3 rd MSIT Winter School on Materials Chemistry
31	Dr. Hari Kumar K. C.	Belgium	3 March 2019	Special Materials and Technology

Honours and awards obtained by faculty

Sl. No.	Faculty Member	Award/Honour	Awarded by	Awarded for	Date of award
i. Honours					
1	Dr. B S Murty	JC Bose National Fellowship	DST	Excellence in Research	2018
	Dr. M. Kamaraj	FASM	ASM International, USA	Excellence in Materials Engineering	2018
2	Dr. Parasuraman Swaminathan	Young Faculty Recognition Award (YFRA)	IIT Madras	Excellence in Teaching and Research	2018
3	Dr. G.D Janaki	Harrison McCain Visiting Professor Award to visit University of New Brunswick, Canada	University of New Brunswick, Canada	Excellence in Research	16-31 November 2018
4	Dr. Somnath Bhattacharyya	External academic board member for the Doctoral program	Universidad De Cádiz, Spain		2018
5	Dr. Murugaiyan	Academic member during 2018-2019	Central Council of Indian Institute of Welding		2018
6	Dr. Tiju Thomas	Publons' Global Peer Review Awards	Publons	Among top 1 per cent of reviewers in two fields: Materials Science and Chemistry	2018
7	Dr. Ravi Sankar Kottada	Publons' Global Peer Review Awards	Publons	Among top 1 per cent of reviewers in Materials Science	
8	Dr. R. Gopalan	VASVIK Industrial Award	Vasvik, Mumbai	Industrial research in the area of science and technology	2018
9	Dr. B.S. Murty	The World Academy of Sciences (TWAS)	TWAS		2018
10	Dr. G. D. Janaki Ram	Letter of Appreciation	Larsen & Toubro, India	For resolving critical issues related to Cast Bronze (90300 alloy) panel testing and welding	2018

Fellowships of academies and professional societies

Sl. No.	Faculty Member	Year of Admission
INAE		
1	Dr. B. S. Murty	2007
INSA		
1	Dr. B. S. Murty	2013
Others		
FASM (Fellow of ASM International, USA)	Dr. B. S. Murty	2010
	Dr. M. Kamaraj	2018
FIWS (Fellow of Indian Welding Society)	Dr. M. Kamaraj	2018
FIE (Fellow of Institution of Engineers)	Dr. M. Kamaraj	
FIMSA (Fellow of International Medical Sciences Academy)	Dr. T. S. Sampathkumar	2007
FBOA (Fellow of Society of Biomaterials and Artificial Organs)	Dr. T. S. Sampathkumar	2011
FTWAS (Fellow of The World Academy of Sciences)	Dr. B. S. Murty	2018
FAPAS (Fellow of Andhra Pradesh Academy of Sciences)	Dr. B. S. Murty	2016
FIIM (Fellow of Indian Institute of Metals)	Dr. B. S. Murty	2015
FAPAM (Fellow of Asia Pacific Academy of Materials)	Dr. B. S. Murty	2013
FIAS (Fellow of Indian Academy of Sciences)	Dr. B. S. Murty	2008
FNAS (Fellow of National Academy of Sciences)	Dr. B. S. Murty	2008

Journal Editorial Boards

Sl. No.	Faculty Member	Position (Editor/member)	Journal name
1.	Somnath Bhattacharyya	Editorial Board member	<i>Scientific Reports</i>
2	B.S. Murty	Chief Editor	<i>Transactions of The Indian Institute of Metals</i>
3	A. Murugaiyan	Corresponding editor and Principal reviewer	<i>Welding in the World</i> , Springer, International Institute of Welding
4	N.V. Ravi Kumar	Editor	<i>Surface Innovations</i>
5	Somnath Bhattacharyya	Editor	<i>Indian Journal of Materials Science</i>
6	T.S. Sampath Kumar	Member	<i>Biomaterials and Tissue Technology</i>
7	S. Ganesh Sundara Raman	Editor	<i>Transactions of The Indian Institute of Metals</i>
8	A. Murugaiyan	Editor	<i>Transactions of The Indian Institute of Metals</i>
9	V. Subramanya Sarma	Key reader	<i>Metallurgical and Materials Trans. A</i>
10	Uday Chakkingal	Associate Editor	<i>Sadhana</i>

4.14.4. Design and Development Activities

New facilities added or major equipment procured

Sl. No.	Name of Equipment	Value (in lakh of Rs.)
1	Functional fatigue testing machine	22.53
2	Carbon, sulphur analyzer	38.90
3	Cyclic corrosion test chamber	13.3
4	High-temperature tribometer	29.10
5	Differential scanning calorimeter (DCS/TGA)	39.10

Patents filed

Sl. No.	Faculty Member	Topic of Patent
1	Doble Mukesh, Rubaiya Y, T.S. Sampath Kumar	Conjugated beta-glucan nanoparticles for targeted delivery applications
2	S. Chandra, Mareeswari Aravindhram, T. S. Sampath Kumar	Method for synthesis of nanocomposites by microbes
3	Nitheesh M. Nair, Debduutta Ray, and P. Swaminathan	Printable wi-fi transparent antenna
4	Arulkumar Ganapathi, P. Swaminathan and Lakshman Neelakantan	A method for fabrication of metallic nanowires by galvanic displacement reaction using AAO templates



Sl. No.	Faculty Member	Topic of Patent
5	Srinivasa Rao Bakshi, Revati Gorle and K. Vasanthakumar	A low-temperature method for fabrication of dense boron carbide composites
6	Avisor Bhattacharya, Prabhat Kumar Rai, Neetu, Kallol Mondal, Sandeep Sangal, Shashank Shekhar, Chandra Shekhar Upadhyay, Shubhendu Garg, Sankaran S, Somnath Bhattacharyya, Chandan Srivastava, Satyam Suwas	A high-strength bainitic spring steels for elastic rail clip
7	Lakshman Neelakantan, Manas Mukherjee, Arulkumar Ganapathi	An alternative chemical method for faster and reproducible patination process for the alloys used in Bidriware

4.14.5. Research and Consultancy

Sponsored research projects (ongoing and new)

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
New					
1	Understanding the evolution of residual stress during repair and refurbishment of gas turbine components via laser additive manufacturing	7 May 2018-6 May 2020	Uchhatar Avishkar Yojana - IIT Madras	66.04	Gandham Phani Kumar
2	Development of oxide dispersion strengthened steels for super critical thermal boilers and fusion reactors	7 May 2018-6 May 2021	Uchhatar Avishkar Yojana - IIT Madras	378.30	B.S. Murty
3	Friction Stir Processing (FSP) of Al 7075 alloy and investigation on thermal stability and high temperature mechanical properties	7 July 2018-6 July 2021	Aeronautics Research & Development Board	36.81	Ranjit Bauri
4	VAJRA Visiting Faculty - Dr. Juergen Eckert	4 May 2018-3 May 2021	Department of Science & Technology (DST)	33.69	B.S. Murty
5	Combinatorial design of novel rare-earth free, high-entropy based permanent magnets	1 June 2018-31 May 2021	Max Planck Institute for Nuclear Physics	37.70	Pradeep K G
6	Development of new dephosphorisation model for primary steel making	26 June 2018-25 June 2020	DST	7.04	Ajay Kumar Shukla
7	JC Bose Fellowship	12 November 2018-11 November 2023	DST	95.00	B. S. Murty
8	Refractory high entropy alloys for high temperature structural applications	24 August 2018-23 August 2020	Air Force Office of Scientific Research	35.00	B. S. Murty
9	Electrosprayed nano structures for the sustained release of anti-glaucoma drugs	7 September 2018-6 September 2021	Department of Biotechnology	55.25	Sampath Kumar T. S. and Ravi Kumar N. V.
10	Enhancement of creep rupture, hot corrosion and liquation cracking resistance of alloy 617M through grain boundary engineering	11 October 2018-10 October 2021	International Advanced Research Centre for Powder Metallurgy and New Materials	272.20	Subramanya Sarma V and M. Kamaraj
11	Development of self-cleaning coatings on glass using TiO ₂ nanoparticles developed at Indian Rare Earth Limited	6 September 2018-5 September 2021	Indian Rare Earths Limited	78.68	B.S. Murty
12	Development of Zr, La, B and C containing single-source proceramic polymer for high-temperature applications	1 November 2018-31 October 2020	Indian Space Research Organisation	36.00	Ravi Kumar N.V.



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Co-ordinators
13	High-entropy alloys for high-temperature aircraft components	15 December 2018-14 December 2021	Impacting Research Innovation and Technology - IMPRINT	44.83	B.S. Murty and Subramanya Sarma V
14	Thermal insulation of toughened Yttria-stabilized zirconia reinforced with carbon nanotube and graphene for the application of thermal barrier system	5 February 2019-4 February 2021	Science and Engineering Research Board	19.20	Srinivasa Rao Bakshi
15	Development of TiVZr based high-entropy alloys (HEAs) for hydrogen storage application	3 January 2019	Science and Engineering Research Board	19.20	B.S. Murty
16	Tailoring tantalum nitrides and oxy-nitrides and designing electrocatalytic devices for green energy	15 March 2019-14 March 2012	Scheme for Promotion of Academic and Research	63.83	Ravi Kumar N.V. and Hari Kumar K.C.
17	Investigation of tribological and rolling contact fatigue analysis of AISA 52100 steel with micro and nano additives dispersed in vegetable and mineral oil	11 November 2018-10 November 2021	Science and Engineering Research Board	10.05	Kamaraj M

Ongoing

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
18	Assured opportunity for research career fellowship	1 January 2015-11 August 2019	DST	24.26	Tiju Thomas
19	Performance of coatings under fretting wear conditions	13 November 2015- 31 March 19	Aeronautics Research & Development Board	103.47	Ganesh Sundararaman S and M Kamaraj
20	Development of high entropy alloy (HEA) coatings as potential bond-coat materials for high temperature turbine engine applications (GTMAP)	12 February 2020	Aeronautics Research & Development Board	275.16	Kottada Ravi Sankar
21	Morphology transitions in nanostructures of transition/rare earth metal compounds and their applications	26 June 2016-25 June 2019	DST	24.14	Tiju Thomas and M Kamaraj
22	Centre of excellence in Iron and Steel Technology (COEXIST)	9 May 2017-8 May 2022	Ministry of Steel	3555	Head of the Department
23	Cold spray technology development for repair and coating of aircraft engine components	27 October 2016-26 October 2019	Uchhatar Avishkar Yojana - IIT Madras	520.00	Kamaraj M and Srinivasa Rao Bakshi
24	Agarose-based wound dressings	22 August 2016-21 August 2019	DST	43.52	Sampath Kumar T S
25	New family of Fe-containing magnetic shape memory alloys with giant reversible strain	12 September 2016-3 April 2019	DST	26.56	Sampath V
26	National Facility for the Atomic Scale Materials Characterization using Remote Operatable Atom Probe Tomography (NFAPT)	31 March 2017-30 March 2020	DST	2570.00	Srinivasa Murthy B
27	Development of fluidised bed reduction roasting process for slimes and low grade iron ores by utilizing thermal grade coal for improving their magnetic susceptibility properties and maximising the iron recovery	18 November 2016-17 November 2020	Ministry of Steel	51.00	Sabita Sarkar, Bvss Prasad, Srikrishna Sahu and Harikumar K.C.H



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
28	Ordered patterns of colloids and polymers on porous substrates: Deposition, characterization and modelling	11 January 2017 -10 January 2020	DST	45.29	Sreeram K. Kalpathy
29	Studying structure and chemistry within and at the interfaces of nano lamella in cold rolled ti-alloys using transmission electron microscopy to determine reason behind its superior strength	21 February 2017-31 August 2019	DST	6.30	Somnath Bhattacharyya
30	Studies on functional fatigue behaviour of shape memory alloys for actuator and sensor applications	20 February 2017-19 February 2020	DST	48.16	Sampath V
31	Development of a novel electrolyte-free single layer solid oxide fuel cell	31 March 2017-30 March 2020	DST	43.66	Ranjit Bauri
32	Engineering weld microstructures against hydrogen embrittlement	31 March 2017-30 March 2020	DST	85.49	Murugaiyan Amirthalingam, Janaki Ram and Ravi Kumar N.V.
33	Development of hot stamping process with low spring back for advanced high-strength steels	11 May 2017-10 May 2020	DST	34.23	Uday Chakkingal and Murugaiyan A
34	Microwave assisted reduction of iron ore/slimes: an innovative and cost-effective approach for steel production	30 May 2017-29 December 2020	Impacting Research Innovation and Technology - IMPRINT	331.80	Ajay Kumar Shukla
35	JC Bose Fellowship	1 April 2016-30 June 2019	DST	59.50	Sundararajan G
36	Stress-rupture property evaluation of advanced superalloys for small turbo fan engine (STFE) technologies	30 May 2017-29 May 2021	Defence Research and Development Organisation (DRDO)	435.61	Kottada Ravi Sankar
37	High-temperature erosion damage characterization of downstream components by particle erosion testing	30 May 2017-29 May 2021	DRDO	115.29	Srinivasa Rao Bakshi
38	Characterization of selective laser melted Inconel 718 and Ti-6Al-4V	30 May 2017-29 May 2021	DRDO	161.53	Janaki Ram G D
39	Development and characterization of Novel materials for capacitor-based energy storage devices	28 June 2017-27 June 2020	DST	35.60	Ravi Kumar N.V.
40	Laser peening of nickel based super alloys	24 June 2017-23 June 2020	DST	19.20	Ganesh Sundararaman S
41	Development of oxide dispersion strengthened high entropy alloys	7 September 2017-6 August 2019	DST	19.20	Srinivasa Murthy B
42	First principles study of structural, electronic, magnetic, mechanical and optical properties of perovskite structured materials for solar energy applications–National Post-Doctoral Fellowship (NPDF)	14 September 2017-13 June 2019	DST	19.20	Tiju Thomas
43	Exfoliated hexagonal boron nitride and graphene layers-based polymer composite coating: synthesis, characterization and its application towards corrosion protection of metals	18 September 2017-17 September 2019	DST	19.20	Kamaraj M



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
44	Synthesis and characterization of crystal axis oriented nanotube arrays for energy applications–NPDF	15 September 2017-14 September 2019	DST		Lakshman Neelakantan
45	Establishing novel erosive wear test facility for testing of materials used in hydro-turbine components	1 April 2016-30 June 2019	Central Power Research Institute		Kamaraj M and Dhiman Chatterjee
46	The effect of 'Si' addition on microstructure and mechanical properties of oxide dispersion strengthened reduced activation ferritic (ODS RAF) alloys fabricated by mechanical alloying (MA) and consecutive spark plasma sintering (SPS)–NPDF	5 October 2017-4 October 2019	DST	19.20	Srinivasa Murthy B
47	Development of liquid metal processing route for closed cell magnesium foam–DST SERB	8 September 2017-7 September 2020	DST	16.21	Manas Mukherjee
48	Advanced manufacturing of new high entropy alloys–DST-AISRF	23 October 2017-22 October 2020	DST	40.85	Srinivasa Murthy B
49	Centre of excellence (CoE) in advanced materials and manufacturing	28 November 2017-27 November 2020	Deakin University	175.00	Srinivasa Murthy B
50	High strength, wear and corrosion resistant steel for high speed rail and elastic clip	11 December 2017-10 December 2020	Impacting Research Innovation and Technology - IMPRINT	137.40	Sankaran S
51	Multicomponent entropy stabilised oxides: Synthesis, processing and characterisation of a new class of ceramic materials	7 August 2017-6 August 2020	DST	29.06	Bhattacharya S S
52	Non-destructive, atomically resolved off-stoichiometry determination within nanostructures using intensity distribution of Scanning Transmission Electron Microscopic (STEM) images	21 March 2018-20 March 2021	DST	33.22	Somnath Bhattacharyya
53	In situ experimental and numerical studies of abnormal grain growth and twinning during annealing of cold worked nickel	20 March 2018-19 March 2021	DST	82.59	Subramanya Sarma V and Srikanth Vedantam

Industrial consultancy projects (ongoing and new)

Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
New				
1	Srinivasa Murthy B	Microstructural analysis and testing	M/s. Stork HKB India Private Limited	5.00
2	Kottada Ravi Sankar, S. Ganesh Sundara Raman, A. Murugaiyan	Electrical discharge machining (EDM)	Common Code	5.00
3	Janaki Ram G D	Failure analysis of coke-cutting pump impellers	Chennai Petroleum Corporation Limited	4.72
4	Janaki Ram G D	Inspection of welded steel pipes and structures	S P Infocity	21.24
5	Janaki Ram G D	Weldability testing of power plant steels	L&T Special Steels and Heavy Forgings	4.25



Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
6	Srinivasa Murthy B	Microstructural analysis and testing	M/s. Stork HKB India Private Limited	5.00
7	Janaki Ram G D	Inspection of welded steel pipes and structures	Shapoori Pallonji and Company Limited	1.59
8	Janaki Ram G D	Microstructural analysis of brazed aluminum components	Hanon Automotive Systems India Private Limited	9.44
9	Srinivasa Murthy B	NFAPT	Common Code	5.00
10	Srinivasa Murthy B	NFAPT	Common Code	5.00
11	Pradeep K G	Correlative microscopy analysis of additive manufactured complex alloys	University of New Brunswick	10.75
12	Srinivasa Rao Bakshi	Vetting of BHEL/Indian Standards against international standards for 2X660MW Maitree Bangladesh Project	Bharat Heavy Electricals Limited	2.69
13	Ranjit Bauri	Characterization of sigma phase in heat resistant casting	FLSmith Private Limited	2.36
14	Pradeep K G	Correlative microscopy analysis of 9Cr-1Mo steels	Indian Institute of Technology Kharagpur	15.00
15	Murugaiyan Amirthalingam and G. D. Janaki Ram	Hot ductility and stress relaxation cracking by thermomechanical simulator	Indira Gandhi Centre for Atomic Research	36.89
16	Somnath Bhattacharyya	TEM investigation of hot ductile, stress relaxed cracked samples of SANICRO25 and Alloy 617M	Indira Gandhi Centre for Atomic Research	7.25
Ongoing				
17	Uday Chakkingal and S. Venugopal	Aluminium Watch Case Manufacturing Project	Titan Company Limited	10.74
18	Kamaraj M	Mechanical Testing - II	Common Code	0.41
19	Srinivasa Rao Bakshi	Characterization and analysis of the materials	Renault Nissan Technology and Business Centre India Private Limited	11.50
20	Janaki Ram G D	Microstructural analysis of brazed aluminum components	Hanon Automotive Systems India Private Limited	9.44
21	Murugaiyan Amirthalingam and G. J. Janaki Ram	Simulation of roll bonding– Al/Mg/Al layered composites using Gleeble	Common Code	0.69
22	Somnath Bhattacharyya	Electron microscopic investigation of steel with various composition and processing conditions	Indira Gandhi Centre for Atomic Research	4.84
23	Pradeep K G	Correlative microscopy analysis of additive manufactured complex alloys	University of New Brunswick	10.75
24	Murugaiyan Amirthalingam and G. J. Janaki Ram	Hot ductility and stress relaxation cracking by thermomechanical simulator	Indira Gandhi Centre for Atomic Research	36.89
25	Kamaraj M	Thermo-mechanical simulation facility	Common Code	5.00
26	Srinivasa Murthy B	Microstructural analysis and testing	M/s. Stork HKB India Private Limited	5.00
27	Ranjit Bauri and M. Kamaraj	Wear resistant iron matrix composites for cement and mining industries	FLSmith Private Limited	16.00
28	Srinivasa Murthy B	NFAPT	Common Code	5.00
29	Sabita Sarkar, BVSS Prasad, Srikrishan Sahu and K.C.H. Harikumar	Development of reduction roasting technology using iron ore and coking coal to maximize iron recovery	JSW Steel Limited	22.80
30	Pradeep K G	Correlative microscopy analysis of 9Cr-1Mo steels	Indian Institute of Technology Kharagpur	15.00



Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
31	Kamaraj M	Materials Testing, Characterisation and Analysis	Common Code	0.94
32	Sankaran S and A. Arockiarajan	Effect of Dwell time of LCF behaviour of GTM SU - 263	Gas Turbine Research Establishment	68.58
33	Sankaran S and Somnath Bhattacharya	Central Electron Microscopy Facility	Common Code	5.00
34	Sankaran S	Rolling Mill Facility at MFL	Common Code	15.00
35	Sankaran S and Somnath Bhattacharya	Central Electron Microscopy Facility	Common Code	5.00
36	Kottada Ravi Sankar	Electrical Discharge Machining (EDM)	Common Code	5.00

RBIC projects (ongoing and new)

Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
1	Sankaran S and A. Arockiarajan	Effect of dwell time of LCF behaviour of GTM SU-263	Gas Turbine Research Establishment	68.58
2	Ganesh Sundararaman S and H. S. N. Murthy	Fretting fatigue behaviour of gas turbine engine compressor blade alloy Su-718 at room temperature	Gas Turbine Research Establishment	9.92
3	Satyesh Kumar Yadav, Parasuraman Swaminathan and Lakshman Neelakantan	First principles modeling and combinatorial electrodeposition of Cu-based alloys for IC interconnects	Lam Research	17.50
4	Somnath Bhattacharyya	Electron microscopic investigation of steel with various composition and processing conditions	Indira Gandhi Centre for Atomic Research	4.84
5	Lakshman Neelakantan, M. Kamaraj, K. Rajagopal, Arul Jayachandran, Dale Naidu Arnepalli	Replacement of spillway shutters of Krishnagiri Dam of TNWRD	Tamil Nadu Water Resources Department	15.00
6	Parasuraman Swaminathan 7 Lakshman Neelakantan	Development of encapsulants for flexible electronics applications	Saint-Gobain Research India Limited	15.46
7	Parasuraman Swaminathan and Kavita Arunachalam	Development of printed antennas for automotive applications	Saint-Gobain Research India Limited	8.50
8	Ranjit Bauri and M. Kamaraj	Wear resistant iron matrix composites for cement and mining industries	FLSmith Private Limited	16.00
Ongoing				
9	Gandham Phani Kumar and K.C.H. Harikumar	Modeling of segregation behavior of beta stabilization elements during solidification of a beta titanium alloy (containing Fe and/or CR) after vacuum arc melting	DRDO	11.00
10	Kottada Ravi Sankar and M. Kamraj	Oxidation and hot corrosion studies on GTM-SU-111 DS alloy	Gas Turbine Research Establishment	9.85
11	Somnath Bhattacharyya	TEM investigation of hot ductile, stress relaxed cracked samples of SANICRO25 and alloy 617M	Indira Gandhi Centre for Atomic Research	7.25
12	Satyesh Kumar Yadav, Parasuraman Swaminathan and Lakshman Neelakantan	First principles modeling and combinatorial electrodeposition of Cu-based alloys for IC interconnects	Lam Research	17.50
13	Anand Krishna Kanjarla	On the multiscale modelling of texture and anisotropy development during thermo-mechanical processing of duplex stainless steels	AB Sandvik Materials Technology	36.72
14	Sankaran S and Somanth Bhattacharya	Advanced microstructural studies on ultra-high strength steels for armour applications	DRDO	32.20



Retainer consultancy (ongoing and new)

Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
1	Janaki Ram G D	Inspection of welded steel pipes and structures	Shapoori Pallonji and Company Limited	1.59
2	Janaki Ram G D	Metallurgical consultancy for construction of Chhatrapati Shivaji Maharaj Memorial	L&T Construction, Buildings & Factories	29.50

Distinguished visitors to the department

Sl. No.	Name and Designation	Date	Title of the talk
1	Dr. K. A. Padmanabhan	7 April 2018	Integrated computational materials engineering (ICME) for the steel industry (sixth lecture of the Prof. E.G. Ramachandran Distinguished Lecture Series)
2	Prof. Seeram Ramakrishna, Department of Mechanical Engineering National, University of Singapore	25 April 2018	Functional nanofibers
3	Mr. Pavi Maris, R&D Engineer, Intel Corporation Portland, Oregon	5 June 2018	Atom probe tomography (APT) – the complete picture – principle, preparation and analysis
4	Ms. Shalini J. Rukmani, Department of Materials Science and Engineering, University of Florida, Gainesville, USA	12 June 2018	Molecular modelling of complex cross-linked networks of PEGDA nanogels
5	Dr. Anand Chandrasekaran School of Materials Science & Engg. Georgia Institute of Technology Atlanta, GA 30332, USA	6 July 2018	Polymer Genome: A polymer informatics paradigm for accelerated property prediction
6	Dr. Pierpaolo Carlone, Associate Professor, Department of Industrial Engineering, University of Salerno, Italy	1 October 2018	Fiber-reinforced polymer matrix composite: impact behavior and manufacturing opportunities
7	Dr. Olena Volkova, Director, Iron and Steel Institute, TU Bergakademie Freiberg, Germany	9 October 2018	Current research areas of the Iron and Steel Institute, TU Bergakademie, Freiberg, Germany
8	Dr. P.V. Venkitakrishnan, Outstanding Scientist and Director, ISRO Headquarters	23 October 2018	Dr. A.P.J. Abdul Kalam Memorial Lecture titled Strategic materials in space
9	Dr. D.N. Rao, Professor of Biochemistry, IISc Bangalore	1 November 2018	Restriction-modification systems: guardians of bacterial genomes
10	Prof. Sankara Sarma V. Tatiparti, Department of Energy Science and Engineering, IIT Bombay	20 November 2018	Metal and graphene based materials for hydrogen storage and super capacitor applications
12	Prof. Horst Hahn, Executive Director, Institute of Nanotechnology KIT, Germany	22 November 2018	High-entropy oxides with tailorable properties: Fundamental aspects and prospects
13	Prof. A. Inoue, Special Senior Advisor to the Chancellor Josai University Educational Corporation, Tokyo, Japan; Former President, Tohoku University, Sendai, Japan	23 November 2018	Features and prospects of multicomponent metallic glasses
14	Dr. Liu Nan, Zeiss Research Microscopy Solutions, Product and Applications Sales Specialist, Asia Pacific	28 November 2018	3D X-Ray microscopy solutions for materials research and characterization
15	Dr. Abhijeet Lale, Institute of Research for Ceramics (IRCER), CNRS-European Center for Ceramics, Limoges, France	3 December 2018	Polymer-derived mesoporous ceramics as catalysis supports and co-catalysts for hydrogen generation
16	Dr. Sushil Mishra, Indian Institute of Technology Bombay, Powai	5 December 2018	Formability analysis of advanced high strength steels (AHSS)
17	Dr. Dilip K. Banerjee, NIST, Gaithersburg, MD 20899, USA	10 December 2018	Optimization of biaxial cruciform specimen design
18	S. Vakhrushev, Ioffe Institute, St. Petersburg, Russia and Peter the Great St. Petersburg Polytechnic University	11 December 2018	From $PbZrO_3$ to $PbZr_{1-x}T_xO_3$ microscopic mechanisms of the phase transitions

Sl. No.	Name and Designation	Date	Title of the talk
19	Prof. K. S. Ravi Chandran, The University of Utah, UT 84112	2 January 2019	New advances and physical basis of fatigue: metals, polymers and composites
20	Dr. Niyanth Sridharan, R&D Scientist, Oak Ridge National Laboratory, USA	13 February 2018	A fundamental understanding of microstructure evolution during solid state and fusion based additive manufacturing (AM) of dissimilar metals-A personal anecdote
21	Prof. Dr. Gerhard Wilde, Institute of Materials Physics, University of Münster, Wilhelm-Klemm-Str. 10, 48149, Münster, Germany	19 February 2018	Shear bands in metallic glasses: atomic transport, propagation and relaxation behavior

4.14.7. Other activities of the department

Sl. No.	Faculty Member	Institute Visited	Purpose	Date
1	Dr. K. C. Hari Kumar	IIT Kanpur	Member, Selection Committee for faculty recruitment	22 October 2018
2	Dr. K. C. Hari Kumar	IIT Roorkee	Member, Selection Committee for faculty recruitment	23 November 2018
3	Dr. K. C. Hari Kumar	IIT Hyderabad	Member, Selection Committee for faculty recruitment	4 January 2019
4	Dr. K. C. Hari Kumar	M/s Imco Alloys, Mumbai	Member, Project Monitoring Committee constituted by DST-TDB	2018-2019





4.15. Department of Ocean Engineering

4.15.1. Introduction

The Ministry of Education and Social Welfare, as per the decision of Council of Indian Institute of Technology, established the Ocean Engineering Center of IIT Madras in 1977 based on the recommendation of the committee headed by Dr. Y. Nayudamma. The department had to act as a Centre of Excellence for advancing the frontiers of science, provide breakthrough technology and develop education and training programmes in the field of ocean engineering. A national advisory committee consisting of representatives of the then Ministry of Education and institutions such as Council of Scientific and Industrial Research (CSIR), University Grants Commission (UGC), Department of Science & Technology (DST), Oil and Natural Gas Corporation (ONGC) and Engineers India Limited (EIL), other IITs and user industries

with the Director, IIT Madras as the chairman monitored the progress of the department over the years. A review committee headed by Prof. M. G. K. Menon also reviewed the progress of the department in 1982 and its recommendation has since been implemented.

4.15.2. Academic Programmes

B.Tech and M.Tech (Dual Degree) in Naval Architecture and Ocean Engineering, B.Tech and M.Tech (Dual Degree) in Naval Architecture and Applied Mechanics, M.Tech in Ocean Engineering, M.Tech in Ocean Technology – UoP (MoES), M.Tech in Offshore Structural Engineering – UoP (L&T), M.Tech in Petroleum Engineering, and M.S. and Ph.D in Ocean Engineering and Petroleum Engineering

Students on roll as of September 2018+M.S. and Ph.D admission in January 2019

Programme	Year I	Year II	Year III	Year IV	Year V and others	Total
B.Tech.	34	32	35	26	33	160
Dual Degree	15	15	17	15	23	85
M.Tech.	42	50	-	-	-	92
M.S.	12	10	9	-	-	31
Ph.D.	34	26	21	40	58	179
Total						547

Endowment prize instituted

Prof. Vallam Sundar prize for Best PhD thesis in the field of hydrodynamics.

Class NK award for Best B.Tech project.

Student/Scholar who attended conference/seminar/symposium/workshop abroad/India

Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue	Financial Assistance from
Abroad					
1	J. Nasiha	OE13D041	Proceedings of Particles in Europe (PiE)	14-17 October 2018, Instituto Hidrografico, Marinha, Lisbon, Portugal	IIT Madras Alumni Association
India					
1	Sanjay Kumar Sahu	OE12D029	International Conference of Sonar Systems and Sensors (ICONS) 2018	23-24 February, 2018; Naval Physical Oceanography Laboratory (NPOL), DRDO, Kochi, India	IIT Madras



Students/scholars who won outside prizes and awards

Sl. No.	Student/Scholar	Roll No.	Prize	Prize awarded by
1	P. Madhan Kumar	OE15D027	Best Paper Award	Paper: Effect of blade profile on the performance of bidirectional wave energy turbine; 3 rd International Conference on Design, Analysis, Manufacturing and Simulation (ICDAMS 2018), Chennai, 6-7 April 2018
2	Ambati Venkatesh, M. Tech (Petroleum Engineering)	PE16M002	Prof. M. S. Ananth Prize	Prizes and Awards' Committee, IIT Madras, 59 th Institute Day Function, 26 April 2018, Students Activities Centre
3	John Ashlin S	OE14D200	Institute Research Award 2018	The IR award consists of a merit certificate and a cash prize of Rs.20,000 from IIT Madras
4	Tapas Kumar Das	OE15D016	ASME IGTI Student Scholarship	International Gas Turbine Institute (IGTI), The American Society of Mechanical Engineers (ASME), Houston; the scholarship entitles a financial assistance of \$2,000
5	Sanjay Kumar Sahu	OE12D029	Best Student Paper Award	Paper: Optical oceanography and its impacts on modern day marine surveillance, ICONS 2018, Kochi, Kerala, India
6	Neha Sunil Patil	OE15D201	Best Paper Award	Paper: Fin based active control for ship roll motion stabilization, International Conference on Naval Architecture and Ocean and Marine Engineering (NAOME 2018), South Korea, 26-28 October 2018
7	Kasthuri N.	OE16S006	The Pratibha an Eaton Excellence Award 2018-19	Field of Ocean Engineering
8	Khalde Chirag	OE16D018	Joint Winner under the category, New Polymer Processing Machine including Energy Efficiency, titled Horizontal rheometer for measuring rheological properties of complex polymeric multiphase fluids	8 th National Awards for Technology Innovation in various fields of Petrochemicals and Downstream Plastics Processing Industry instituted by the Department of Chemicals and Petrochemicals, Government of India. This award was given through the Vice President of India.
9	Sudhir C. Sindagi	OE16D001	AWSAR award	His popular science story was chosen for 2018 award, which includes Rs. 10,000 and a certificate of appreciation
10	Rashmita Sahoo	OE15D005	First Best Paper award	Awarded by JV Micronics

4.15.3. Faculty and their activities

Faculty

Name and Qualifications	Major Areas of Specialisation
Professors	
Prof. S. A. Sannasiraj (Head)	Breaking wave impact on piles and vertical wall, wave data assimilation, nonlinear free surface wave simulation using FEM, SPH and LBM
Prof. S. K. Bhattacharya	Ship and offshore structures, structural dynamics, fluid-structure interaction, finite element method, dynamics of floating bodies, ocean acoustics, controllability of marine vehicles
Prof. R. Sundaravadivelu	Computer-aided analysis, design and experimental studies of coastal and offshore structures, port and harbour structures
Prof. K. Murali	Numerical modelling of coastal hydrodynamics, sediment transport and pollutant transport, CFD modelling for pollutant transport, CFD application to ship and underwater hydrodynamics
Prof. S. Surendran	Ship motion analysis and control, ship structures and alternate materials for ship construction
Prof. P. Krishnankutty	Ship maneuvering and motions, ocean wave-structure interaction, ship-to-ship hydrodynamic interaction, high-speed vessel passenger comfort, HSV wave wash



Name and Qualifications	Major Areas of Specialisation
Prof. S. Nallayarasu	Analysis and design of offshore structures, wave structure interaction, hydrodynamic response of spar hulls, damping elements in floating systems
Prof. S. Chandrasekaran	Nonlinear dynamic analysis of offshore compliant structures, earthquake-resistant analysis and design of structures, modal pushover analysis of framed structures, base isolated structures, semi-active damping devices for response control of structures, seismic analysis of offshore structures, shell structures under shock and impact loads
Prof. P. Shanmugam	Oceanography, coastal zone management, ocean optics and acoustics imaging, radiative transfer modelling and algorithm development
Prof. R. Panneer Selvam	Stochastic modelling and simulation analysis, system identification, nonlinear dynamical fluid structure systems—applications in ocean and wind engineering
Prof. G. Suresh Kumar	Flow through fractured reservoirs, enhanced oil recovery, groundwater contaminant transport
Prof. Palaniswamy Ananthkrishnan	Ship hydrodynamics: resistance and seakeeping biomimetic propulsion and control of marine vehicles finite-difference analysis of nonlinear wave hydrodynamics
Dr. Jitendra Sangwai	Enhanced oil recovery, flow assurance, nanotech applications for O&G, gas hydrates in bulk and porous media, rheology of complex fluids, drilling fluids, polymer science, PVT studies
Dr. Rajiv Sharma	Design of deep-water drilling solutions and floating structures; computer-aided geometric design, computational geometry, visualisation, and their applications in design, robotics and manufacturing; dynamic data driven forecasting systems; and participatory/democratic economy
Associate Professors	
Dr. Rajesh R. Nair	Petroleum: geomechanics, fracturing and recovery process, geostatistics for reservoir modeling and seismic characterisation and near surface geophysics, including ground penetrating radar data analysis and seismic refraction
Dr. Abdus Samad	Marine energy, turbomachinery design and optimisation, surrogate-based optimisation methods
Dr. Nilanjan Saha	Offshore wind and wave energy, dynamics of offshore structures, extreme value statistics and fatigue, nonlinear methods in ocean engineering, offshore soil-structure interaction, stochastic processes, filtering and identification
Dr. Deepak Kumar	Structural dynamics, random vibration, nonlinear dynamics, stochastic control and stability, time-frequency domain analysis, structural dynamics experiments
Dr. V. Sriram	Numerical modeling/computational hydrodynamics meshfree methods hydro-elasticity violent wave-current-structure interactions, experimental wave generation and extreme wave interactions
Assistant Professors	
Dr. Tarun K. Chandrayadula	Signal processing and propagation modeling
Dr. R. Vijay Kumar	Marine hydrodynamics, warship design, submarine design
Dr. Suresh Rajendran	Numerical modelling of fluid-structure interaction, nonlinear ship dynamics and hydrodynamics, hydroelasticity, maneuvering in waves, parametric rolling of ships
Dr. Abhilash Sharma (newly joined faculty)	Ship hydrodynamics
Emeritus Scientist/Professor: Prof. V. Sundar	Coastal engineering, coastal structures, fluid flow problems

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members

Sl. No.	Coordinator(s)	Title	Period
Conferences			
1	Dr. R. Sundaravadivelu, Dr. V. Sundar, Dr. S. A. Sannasiraj, Dr. K. Murali	National conference titled, Applications of Geosynthetics in Ports, Waterways and Coasts	ICSR, 24 November 2018
2.	Dr. P. Krishnankutty, Dr. R. Vijayakumar, and Dr. Suresh Rajendran	International Conference on Computational and Experimental Marine Hydrodynamics (MARHY 2018)	IIT Madras, 26-27 November 2018



Sl. No.	Coordinator(s)	Title	Period
3.	Dr. K. Murali, Dr. Abdus Samad, Dr. Nilanjan Saha, Dr. V. Sriram	4 th International Conference in Ocean Engineering (ICOE2018)	18-21 February 2018
4	Dr. R. Sundaravadivelu, Dr. Jitendra Sangwai, Dr. Rajiv Sharma	Short-term course on Deep Sea technology, delivered lectures at RIL, Kakinada	29-30 June 2018
5	Prof. Srinivasan Chandrasekaran and Prof. S. K. Bhattacharya	Analysis and design of structures with application to ships and offshore structures	8-13 October 2018

Workshops

1	Prof. P. Shanmugam	Theme Coordination Meeting cum Workshop and Training on Hyperspectral Remote Sensing of Inland and Coastal Waters	8-12 March 2018
2	Abdus Samad, Nilanjan Saha	Wave and OTEC	22-23 February 2018
3	Dr. S. A. Sannasiraj, Dr.V. Sriram	National Workshop on Coastal Developments in India: A Look Back and Future in honour of Prof. V. Sundar	22 June 2018
4	Dr. V. Sundar	Second National Workshop on Coastal Management Information System	11 March 2019

Short-term Course

1.	Prof. S. Nallayarasu	Design of Offshore Structures – Module 1	21-26 January 2019
2	Abdus Samad, Jitendra Sangwai	Advances in Oil and Gas	29 January-3 February 2018
3	Abdus Samad, Jitendra Sangwai	AICTE QIP short-term course in Advances in Petroleum Engineering	29 January-3 February 2018
4	Prof. S. Nallayarasu	Design of Offshore Structures – Module 2	12-16 February 2019
5	Prof. S. Nallayarasu	Design of Offshore Structures – Module 3	26-30 March 2019

Trainings

1	Dr. V. Sundar	Hands-on training on coastal management information system, CWC, MoWS	IIT Madras	1-5 June 2018
2	Dr. V. Sundar	Hands on Training on coastal management information system, CWC, MoWS	IIT Madras	19-29 November 2018

Short-term courses/workshops/seminars/symposia/conferences/trainings attended by the faculty members in academic institutions and public sector undertakings

Sl. No.	Faculty	Title	Institution	Period
Conferences				
1	Dr. Abdus Samad	Asian Wave and Tidal Energy Conference 2018	National Taiwan Ocean University, Taipei, Taiwan	9-14 September 2018
2	Dr. Abdus Samad	11 th International Conference on Marine Technology (MARTEC 2018)	Universiti Teknologi Malaysia, Kuala Lumpur, Malaysia	13-14 August 2018

Special lectures delivered by the faculty in other institutions

Sl. No.	Faculty	Topic of Lecture	Institution	Date
1	Dr. Rajiv Sharma	Energy efficiency and nurturing of Mother Earth in the Earth Day celebration	Pondicherry University, Pondicherry	19 April 2018
2	Dr. Abdus Samad	Guest Lecture (Chief Guest)	De-Oleum, Danish Ahmed College of Engineering	17 August 2018, Chennai
3	Dr. Abdus Samad	Renewable Energy and Applications 2018 Marine Energy	NIT Patna	19-23 December 2018
4	Dr. Abdus Samad	Wave Energy in India	PK Nag Memorial Lecture and Seminar, Aliah University, Kolkata	20 December 2018
5	Dr. Jitendra Sangwai	Invited talk during Southern Region Pipelines Young Engineers Conclave, Indian Oil Corporation Limited	Hotel Taj Club, Chennai	25 January 2019



Sl. No.	Faculty	Topic of Lecture	Institution	Date
6	Dr. S. A. Sannasiraj	Hydrodynamics and sediment dynamics in the Nearshore area, tsunami impact on coastal infrastructures at AICTE-QIP short-term course	TKM College of Engineering, Kollam	18 January 2019
7	Dr. V. Sriram	Numerical modelling of coastal and ocean processes, AICTE-QIP short-term course		
8	Dr. Rajiv Sharma	Structural analysis and design of pressure vessels-focused on submarine design and engineering	Defence Metallurgical Research Laboratory (DMRL), Hyderabad, India	4 February 2019
9	Dr. Abdus Samad	Research work on wave energy harvesting turbine	IIT Madras, India	22-23 February 2018
10	Dr. Abdus Samad	Marine Energy R&D in India	Saga University, Japan	4 March 2019

Professional visits within India by faculty

Sl. No.	Faculty	Institute	Date	Purpose of Visit
1	Dr. S. A. Sannasiraj	Kamaraj College of Engineering	5 January 2019	Civil Engineering, Faculty self-appraisal meeting
2	Dr. Abdus Samad	AMET University, Chennai, India	20-21 March 2018	Chief Guest
3	Dr. Abdus Samad	D.A. College of Engineering	17 November 2018	Chief Guest, National Seminar on Well Stimulation 2018

Visits abroad by faculty

Sl. No.	Faculty	Country Visited	Date	Purpose of visit	Funding from
1	Dr. R. Panneer Selvam	Houston, USA	30 March-4 April 2018	A brief visit to the United States of America for Offshore Technology Conference 2018	IIIT Madras
2	Dr. Tarun K. Chandrayadula	Naval Postgraduate School, Monterey, USA	18 May-10 June 2018	Naval Postgraduate School, Monterey, USA; Lecture: Philippine Sea deep water acoustic observations: A new test for wave propagation through random media models	
3	Dr. V. Sriram	London, UK	22 May-11 June 2018	DST-UKIERI Project	Project
		Germany	30 June-29 July 2018	Brief visit to Germany DST-DAAD Project	Project
4	Dr. V. Sundar	London, UK	28 May-16 June 2018	DST-UKIERI Project	Project
5	Dr. Rajesh R. Nair	Aachen, Germany	July 2018 - January 2019	Shock Wave Laboratory, RWTH Aachen, Germany	UGC-DAAD Visiting Faculty
6	Dr. S. A. Sannasiraj, Dr. V. Sundar	Mauritius	22-25 May and 18-21 June 2018	Project presentation to Mauritius Port Authority, and a discussion on organising the Fifth ICOE 2019	Project
7	Dr. K. Murali	UK		Visit to City, University of London, London; visit to BMT, HR Wallingford and Southampton; visit to Swansea University, Swansea, Wales	
8	Dr. P. Krishnankutty	Rockford, Chicago, Illinois, USA	26 May-25 June 2018	University of Illinois College of Medicine Rockford	
9	Dr. S. Nallayarasu	Kuala Lumpur, Malaysia	28 May 2018	Project meeting at Sapura Offshore Sdn, Berhad	Project
10	Dr. R. Sundaravadivelu	Port Louis, Mauritius	17-23 June 2018	Presentation - project Trident at National Coast Guard Office Port	
11	Dr. R. Sundaravadivelu	Panama City, USA	7-11 May 2018	34 th PLANIC World Congress Panama	



Sl. No.	Faculty	Country Visited	Date	Purpose of visit	Funding from
2	Dr. Suresh Rajendran	Madrid, Spain	17-22 June 2018	37 th International Conference on Ocean Offshore and Arctic Energy OMAE 2018	
13	Dr. P. Shanmugam	Institute of Oceanography, Hangzhou, Zhejiang, China	29 June - 29 August 2018	Visiting Ocean – Star Professor in the State Key Laboratory of Satellite Ocean Environment Dynamics (SOED), Second Institute of Oceanography, Hangzhou, Zhejiang, China	
14	Prof. V. Sundar, Prof. K. Murali, Prof. S. A. Sannasiraj	RWTH Aachen University, Aachen, Germany	15-18 July 2018	2018 IGCS Summer School at RWTH Aachen University, Aachen, Germany	Project
15	Prof. S. Nallayarasu	United Arab Emirates	1 August 2018	Expert meeting, Dubai, United Arab Emirates	Project
16	Dr. Abdus Samad	Nanyang Technological University (NTU), Singapore	14-15 August 2018	Meeting at NTU, Singapore	CPDA, PCF/ Project
17	Dr. Abdus Samad	Kuala Lumpur, Malaysia	13-14 August 2018	11 th International Conference on Marine Technology (MARTEC 2018) Kuala Lumpur, Malaysia; chaired two sessions and met NTU professors	PCF
18	Prof. V. Sundar (Emeritus), Dr. S. A. Sannasiraj	Yogyakarta, Java, Indonesia	2-5 September 2018	21 st Congress of International Association for Hydro- Environment Engineering and Research (IAHR) – Asia Pacific Division (APD)	Project
19	Dr. Abdul Samad	Taipei, Taiwan	9-13 September 2018	4 th Asia Wave and Tidal Energy Conference, Taipei, Taiwan, chaired a session	CPDA/PCF/ Project
20	Dr. K. Murali	Antwerp, Belgium	24-28 September 2018	Discussion on proof consultancy at Haldia Lock Opening at the Port of Antwerp	Project
21	Dr. R. Sundaravadivelu	Ho Chi Minh City, Vietnam	15-18 October 2018	Brief visit to Vietnam for 12th Meeting of the Port–City Universities League, PUL 2018	
22	Dr. Tarun K. Chandrayadula	Boston, USA Washington DC	26-29 September 2018 1-2 October 2018	India Innovation Growth Program Innovators' visit	
23	Dr. Nilanjan Saha	Colombo	22-24 October 2018	A brief visit to Sri Lanka; visited Lanka Hydraulic Institute Limited (LHI)	
24	Dr. S. A. Sannasiraj, Dr. V. Sundar, Dr. R. Panneer Selvam	Charleston, SC, USA	22-25 October 2018	IEEE-OCEANS 2018 Conference	Project
25	Dr. P. Shanmugam	Croatia	7-12 October 2018	Ocean Optics XXIV Conference	IIT Madras
26	Dr. P. Shanmugam	France	12-19 October 2018	International Ocean Color Coordinating Group Meeting	IIT Madras
27	Dr. S. A. Sannasiraj	Kavaratti island	28-29 September 2018	LCZMA committee meeting to review Lakshadweep projects	
28	Dr. Tarun K. Chandrayadula	Victoria, Canada	5-9 November 2018	176 th Meeting of the Acoustical Society of America and 2018 Acoustics week	
29	Prof. S. Nallayarasu	Malaysia	14-15 January 2019	Meeting with Client	Project
30	Prof. R. Sundaravadivelu	M/s Lanka Hydraulic Institute Limited, Colombo	20-27 January 2018	Inspection of 3D model test of breakwater	



Honours and awards obtained by faculty

Sl. No.	Faculty	Award	Awarded by	Awarded for	Date of award
i. Honour					
1	Dr. R. Sundaravadivelu	Institute Chair Professor	IIT Madras	IIT Madras	1 May 2018
ii. Awards					
1	Dr. Nilanjan Saha	Certificate of Reviewing and Outstanding Contribution to Reviewing	<i>Soil Dynamics and Earthquake Engineering</i> , Elsevier Journal		July-August 2018
2	Dr. Jitendra S. Sangwai	National Award for Technology Innovation	Ministry of Chemicals and Fertilisers, Government of India	As Joint Winner for the technology (authored by Dr. Sangwai and his Ph. D student, Chirag Khalde) entitled, Horizontal rheometer for measuring rheological properties of complex polymeric processing machine, including energy efficiency. The US patent has been recently granted for this technology.	
3	Prof. V. Sundar	Lifetime achievement	Indian Society of Hydraulics	Significant contributions in the field of hydraulics and ocean engineering in particular; the ISH Executive Council has decided to award Prof. R J Garde Lifetime Achievement Award for 2018 to Prof. Vallam Sundar.	19 December 2018

Journal Editorial Boards

Sl. No.	Faculty	Position (Editor/Member)	Journal Name
1	Dr. Abdus Samad	Associate Editor	<i>International Journal of Fluid Machinery and Systems</i>
2	Dr. Abdus Samad	Editor, Special issue	<i>Mathematical Problems in Engineering</i> , Hindawi
3	Prof. V. Sundar	Member	<i>Journal of Applied Water Engineering and Research</i>
4	Prof. V. Sundar	Associate Editor	<i>Journal of Hydro-Environment Research</i> (Elsevier Publishing Co.)
5	Prof. V. Sundar	Associate Editor	<i>Ocean Engineering</i> (Elsevier Publishing Co.)
6	Prof. V. Sundar	Member	Institution of Mechanical Engineers, Part M: <i>Journal of Engineering for the Maritime Environment</i>
7	Prof. V. Sundar	Associate Editor	Indian Society of Hydraulics Journal
8	Prof. V. Sundar	Member	Fourth Editorial Board of <i>China Ocean Engineering</i>

4.15.4. Design and Development Activities

Brief and specific details of process/instruments/equipment/software designed and developed:

A new biplane wells turbine is designed and being tested in the unidirectional test rig. The system is capable of simultaneously measuring torque, rotational speed, pressure drop, flow rate and power produced by the turbine.

New facilities added or major equipment procured

Sl. No.	Equipment	Value (Rs. in lakh)
1	DH4(6s)	8.43
2	Unidirectional flow test rig designed and installed	5
3	Triaxial loading geomechanical equipment	15

Patents

Patents filed

Sl. No.	Faculty	Topic of patent
1.	Dr. Jitendra Sangwai	Formulations for dissolution of petroleum sludge or waxes and method for evaluation thereof; patent number 298066

Patents awarded

Sl. No.	Faculty	Topic of patent
1	Abdus Samad	Mechanical energy harvesting devices and methods

4.15.5. Research and Consultancy**Sponsored Research Projects (ongoing and new)**

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Coordinators
1	Climate change impact on coastal infrastructures			860.20	Dr. S. A. Sannasiraj
2	Potential impact of climate change on extreme waves and wave-induced sediment transport coastal erosion siltation and shoreline shifts		DST	34.46	Dr. S. A. Sannasiraj, Dr. V. Sundar
3	Prediction of coastal morphological changes due to climate change variation of sea level rise		DST	34.46	Dr. V. Sundar, Dr. S. A. Sannasiraj
4	Coastal inundation mapping due extreme events in view of climate change scenarios		DST	35.21	Dr. V. Sriram, Dr. K. Murali
5	Storm surge impact on estuaries		DST	41.46	Dr. S. N. Kuiry, Dr. B.S. Murty, Dr. K. Murali
6	Ecosystem-based solution as a coastal defense structure for coastal smart cities		DST	63.08	Dr. V. Sriram, Dr. K. Murali
7	Towards Excellence in Engineering Education (TEEDE)		Erasmus Plus	50.00	Dr. Rajesh Nair
8	Effects and adaptation for sea level rise on major coastal infrastructure in India		DST	95.96	Dr. K. Murali, Dr. S. A. Sannasiraj, Dr. R. Sundaravadivelu, Dr. V. Sundar
9	Numerical study of tanker maneuvering on shallow water			4.99	Dr. P. Krishnankutty
10	SPARC development of guidance and control systems for sea going autonomous surface vehicles (ASV)			40.14	Dr. Suresh Rajendran, Dr. Ranjith Mohan- AE, Foreign PI, Antonio Pascoal, University of Lisbon, Portugal
11	DST-Core Research Grant: Development of numerical and experimental model for unified seakeeping and manoeuvring of ships in seaway		DST	40.00	Dr. Suresh Rajendran
12	Vortex induced vibration of slender cylindrical structures and cables under wave and current	23 November 2016-22 November 2019	Naval Research Board	51.00	Prof. S. Nallayarasu and Prof. S. K. Bhattacharyya
13	Assessment of sea surface solar radiation and pCO ₂ fluxes in coastal and estuarine waters using OCM-2/OCM-3 data	2017-2021	IITM-ISRO Cell	25.56	P. Shanmugam
14	Development of a strategy for optimal power production from 100 kW class horizontal axis tidal turbines	2018-2020	DST-KNRF	31.85	PI: Abdus Samad, CoPI: Nithya Venkateshan, VIT University, Chennai Campus
15	An automated optimization framework for turbomachinery design	2017-2019	GTRE- DRDO	33.65	PI: Abdus Samad, CoPI: BVSSS Prasad, IIT Madras



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Coordinators
16	Design and testing of an impulse turbine for wave energy conversion	2016-2018	NIOT	35.04	PI: Dr Abdus Samad, CoPI: Dr Purnima Jalihal, NIOT
17	Assessment tool for assessing the impact of ship/boat wake waves on the banks and protection measures for inland waterways	March 2018-March 2021	Ministry of Shipping	69.51	Prof. K. Murali and Prof. V. Sriram
18	Inlet dynamics and shoal process-a complete numerical, laboratory and field study	March 2018-March 2021	Ministry of Shipping	63.51	Prof. K. Murali
19	New concepts of pile supported breakwater with berthing facility	March 2018-March 2021	Ministry of Shipping	59.11	Prof. S. A. Sannasiraj
20	Effects and adaptation for sea level rise on major coastal infrastructure in India		DST	95.96	Dr. K. Murali, Dr. S. A. Sannasiraj, Dr. R. Sundaravadivelu
21	Clean Electricity generation using coal and solar thermal based super- critical carbon dioxide cycles enabled by Additional Manufacturing and Digital Twin	24 Months	Indo US Science and Teaching Forum	46.34	Dr. Abdus Samad

Industrial consultancy projects (ongoing and new)

Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
1	Dr. V. Sundar, Dr. K. Murali, Dr. S. A. Sannasiraj	Conducting hydrodynamic study in Kosasthalaiyar river mouth (Ennore Creek) and connected backwater		220.70
2	Dr. S. Surendran	Fabrication and installation of floating jetty walk way for water ambalance of NHM Odisha		5.00
3	Dr. V. Anantha Subramanian	Model test for 60 pax and 80 pax steel boats		9.44
4	Dr. V. Sundar	Conducting hydrodynamic study in Kosasthalaiyar river mouth (Ennore Creek) and connected backwater		4.13
5	Dr. V. Sundar	Construction of fishing harbour at Vellapallam in Nagapattinam district		4.13
6	Dr. V. Sundar	Extension of Groynes at Periyathalai village, Sathankulam taluk in Thoothukudi district, Korampallam Aru Basin Division		
7	Dr. R. Sundaravadivelu	Upgradation of existing facility and creation of new facility at Visakhapatnam Port for iron ore handling on DEFOT basic dredging activity (-) 18M (-) 20m		20.00
8	Dr. R. Sundaravadivelu	Consultancy proposal for arresting of leakage of water at OFL of SZ ash dyke of NTPC Singrauli	NTPC Sail Power Company Private Limited	20.00
9	Dr. S. Nallayarasu	Expert assistance during arbitration case for Umm Qasr Jetty III project	Unison Engineering and Construction Private Limited	5.00
10	Dr. Nilanjan Saha	Development of smoothed particle hydrodynamics (SPA) capability for naval applications		21.49
11	Dr. V. Anantha Subramanian	Design analysis and manufacture of water jet propulsion units for infantry combat vehicle for ordnance development centre		295.10



Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
12	Dr. S. A. Sannasiraj, Dr. B. S. Murthy (Civil Engineering)	Climate change impacts on coastal infrastructure and the adaptation strategies sub project	DST	69.69
13	Dr. S. A. Sannasiraj, Dr. K. Murali	Beach monitoring	DST	114.97
14	Dr. P. Shanmugam	Second phase of National Geospatial Chain Professor scheme to Dr. P. Shanmugam	DST	41.40
15	Dr. K. Murali	Development of a customizable 3D numerical hydrodynamics and siltation tool	National Technological Centre for Ports, Waterways and Coasts	62.93
16	Dr. V. Sundar	Inlet dynamics and shoal process-a complete numerical, laboratory and field study	National Technological Centre for Ports, Waterways and Coasts	62.93
17	Dr. V. Sriram	Assessment tool for assessing the impact of ship/boat wake waves on the banks and protection measures for inland waterways	National Technological Centre for Ports, Waterways and Coasts	70.43
18	Dr. R. Sundaravadivelu	Demonstration of Dragflow Dredger for silt trap and shoal dredging	National Technological Centre for Ports, Waterways and Coasts	41.89
19	Dr. S. A. Sannasiraj	New concepts of pile supported breakwater with berthing facility	National Technological Centre for Ports, Waterways and Coasts	62.93
20	Dr. P. Krishnankutty	Controllability of ships in harbour and navigational channels	National Technological Centre for Ports, Waterways and Coasts	53.11
21	Dr. R. Vijay Kumar	Technology development and demonstration of micro bubble drag reduction (MBDR) and manoeuvring of vessels in inland water transportation	National Technological Centre for Ports, Waterways and Coasts	62.93
22	Dr. P. Anantha Krishnan	Hydrodynamics study and simulation of multiple ship interactions in inland waterways and shallow waters	National Technological Centre for Ports, Waterways and Coasts	41.89
23	Dr. K. Murali	Comprehensive study of the maintenance dredging requirements of all major ports and national waterways and strategies and technical solutions to reduce the cost in short term and long term	National Technological Centre for Ports, Waterways and Coasts	62.93
24	Dr. R. Vijaykumar	Technology development and demonstration of micro bubble drag reduction (MBDR) and manoeuvring of vessels in inland water transportation		100.31
25	Dr. P. Anantha Krishnan	Hydrodynamics study and simulation of multiple ship interactions in inland waterways and shallow waters		42.31
26	Dr. P. Krishnankutty	Controllability of ships in harbour and navigational channels		113.51
27	Dr. V. Sriram, Dr. K. Murali, Dr. V. Sundar	Assessment tool for assessing the impact of ship/boat wake waves on the banks and protection measures for inland waterways		69.51
28	Dr. P. Shanmugam	Assessment of sea surface solar radiation and pCO ₂ fluxes in coastal and estuarine waters using OCM-2/ OCM-2 data		24.30
29	Dr. R. Sundaravadivelu	Upgradation of existing facility and creation of new facility at Visakhapatnam port for iron ore handling on DBFOT basic dredging activity from (-) 18m to (-) 20m CD		5.90
30	Dr. Rajesh R Nair	Detection of root cause and recommendations for anomalous saline water at Cairn Well pads	Cairn Vedanta Limited	28.99



Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
31	Dr Rajesh R Nair	Root cause analysis and subsidence of offshore oil and gas wells (Off Neelam and Heera Assets, Mumbai)	ONGC	82
32	Dr. S. Nallayarasu	Engineering Support for 1000MW Offshore wind farm Project	Adani Wind Energy (Gujarat) Private Limited	5
33	Dr. S. Nallayarasu	Saudi LTA Project Pre – Bid weight estimate for four Well head Platform decks	Sapura Energy Bhd	12.75
34	Dr. R. Sundaravadivelu	Addition and alteration to existing cargo shed on Madhusudan Jetty at Chennai Port Trust	Chennai Port Trust	16.54
35	Dr. K. Murali	Formation of Geophysical Information System (GIS) Cell in the Tamil Nadu Disaster Management Agency Formation of Geophysical Information system (GIS) Cell in the Tamil Nadu Disaster Management Agency	Disaster Management Agency Disaster Management Agency	105.01 151.44
36	Dr. S. Nallayarasu	Detailed project for MLI-ii for handling POL and LPB for HPCL /BPCL at Kamarajar Port Ennore	Hindustan Petroleum Corporation Ltd	220
37	Dr. R. Sundaravadivelu, Dr. Nilanjan Saha	Mechanisation and rehabilitation of berth No.3 for installation of mechanical setup including conveyor structure at HDC		22.42
38	Dr. V. Sundar, Dr. S. A. Sannasiraj	GIS mapping of 800 dia and 600mm dia Di transmission main along Buckingham Canal		1.75
39	Dr. S. Nallayarasu	Conductor draining analysis	Coast Marine Construction and Engineering Limited	5.90
40	Dr. K. Murali, Dr. S. A. Sannasiraj	Navigation simulation studies for Shivaji statue, Mumbai	Shivaji Statue Mumbai, L&T Infrastructure Engineering Limited	0.76
41	Dr. R. Sundaravadivelu, Dr. Nilanjan Saha	Recommendation of health check-up of lock barrel for fixing of fenders, Haldia Dock Complex, Haldia	Kolkata Port Trust (KoPT)	19
42	Dr. R. Sundaravadivelu	Health monitoring and condition survey of LPG berth in the outer harbour of Visakhapatnam Port	Visakhapatnam Port Trust	14.16
43	Dr. R. Sundaravadivelu	Establishment of captive coal jetty with unloading facilities and pipe conveyor system for 1x 660 MW Udangudi Super Critical Thermal Power Project; Engaging Engineering consultant services for post-contract services	TNEB	216.40
44	Dr. S. Nallayarasu	Assessment of Existing Dyke for Wave Dynamics	GSPC ING Ltd	7.50
45	Dr. Abdus Samad	Optimization of Wave Energy System A primitive Model for Indian Coastal Line	Department of Science and Technology	16.44
46	Dr. S. Nallayarasu	Pre-bid engineering services for wellhead platforms	Petro6 Engineering & Construction Private Limited	13.00
47	Dr. R. Sundaravadivelu	Vetting of design and drawings for marine structures and deep sea cold water pipes at six islands of UT Lakshadweep (NIOT)	NIOT National Institute of Technology	24.00
48	Dr. R. Sundaravadivelu	Development of berth by replacement of existing ORS jetty in entrance channel of Vishakhapatnam port Trust	Vishakhapatnam Port Trust	28.00
49	Dr. R. Sundaravadivelu, Dr. Nilanjan Saha	Structural health check-up of berth no 7 NS Dock, KoPT	Kolkata Port Trust	9.00
50	Dr. S. A. Sannasiraj, Dr. V. Sundar	Structural health check-up, Mosque near berth no 3, NSD, KoPT	Kolkata Port Trust	7.



Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
51	Dr. Suresh Rajendran, Dr. R. Vijayakumar	Development of numerical methods for calculation of hydroelastic responses of ships in extreme sea conditions	Naval Research Board	38.61
52	Dr. Suresh Rajendran, Dr. R. Vijayakumar	Study of hydro-acoustic performance of a DTMB 4119 propeller in non-cavitating regime	Naval Research Board	21.47
53	Dr. Suresh Rajendran	Development of a numerical and experimental model for manoeuvring of ships in adverse weather conditions		24.030
54	Dr. S. A. Sannasiraj Dr. V. Sundar	Construction of groynes at Kuthankuli to provide safe fish landing facility	Tamil Nadu Fisheries Department	12.050
55	Dr. R. Sundaravadivelu, Dr. Jitendra Sangwai	Conducting soil and groundwater sample test along the proposed 42" crude oil pipeline for Chennai Petroleum Corporation Limited (CPCL)	CPCL	3.9
56	Dr. S. Surendran	Fabrication of 50-seater FRP boat for ports and IWT Inland Water Transport	IWT Inland Water Transport	2.26
57	Dr. R. Sundaravadivelu	Consulting service for protection work on beach for provision of static test facility (STF) and related infrastructure for CNAI (E) at Bheemunipatnam	CNAI	15.00
58	Dr. K. Murali	Comprehensive study for the maintenance dredging requirement at Deendayal Port Trust	Deendayal Port Trust	463.74
59	Dr. S. Nallayarasu	Development of SIMS for offshore platforms of ONGC Institute of Energy & Ocean Technology	ONGC	187.84
60	Dr. K. Murali	Study to complete the work for development of ship repair facility slipway at, Pandu, Guwahati	Inland Waterways Authority of India, Pandu, Guwahati	14.00
61	Dr. R. Sundaravadivelu, Dr. S. Nilanjan Saha	Upgradation of berth no. 7 NSB KoPT	Kolkata Port Trust, Kolkata	60
62	Dr. S. Nallayarasu	Verification of 16" RLNG pipeline railway crossing using HDD at Ennore IOCL	Indian Oil Corporation Ltd	7.5
63	Dr. R. Sundaravadivelu	Appointment of as independent engineer for Gopalpur project	Gopalpur Port Trust	85.00
64	Dr. S. Nallayarasu	Pre-bid structural design for ONGC HRP 111 and Cluster 7 Project, L&T Hydrocarbon Engineering Limited	L&T Hydrocarbon Engg Limited	11.00
65	Dr. R. Sundaravadivelu	Construction of check dam across river Palar in Vayalur Village		3.54
66	Dr. K. Murali	Consulting work to IIT Madras for review stage dredger requirement and certification of equipment mobilisation by the agency, NTPC Tamil Nadu Energy Company Limited	NTPC Tamil Nadu Energy Company Limited	4.50
67	Dr. K. Murali, Dr. R. Sundaravadivelu	Maintenance dredging at the Mormugga Port	Mormugga Port Trust	20.00
68	Dr. K. Murali	Appointment of third-party inspection agency for bathymetry survey of dredging works, Mumbai Port Trust	Mumbai Port Trust	97.95
69	Dr. V. Sundar, Dr. K. Murali, Dr. S. A. Sannasiraj	Preparation of detailed project report and cost estimate in connection with coastal erosion protection measures at Gangasagar Island (Southern Face) under GBDA	Gangasagar Island	47.20
70	Dr. V. Sundar, Dr. K. Murali, Dr. S. A. Sannasiraj	Conducting LNG jetty dredging study by NTCPWC	NTCPWC	30.68



Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
71	Dr. K. Murali, Dr. V. Sundar	Consultancy Services for Conducting ING Jetty dredging study by NTCPWC	NTCPWC	26.00
72	Dr. S. Nallayarasu	Helideck Verification for spotting of CTU Equipments and Modular Crane for LA &LB Platform	Petro6 Engg & Construction Pvt Ltd	4.00
73	Dr. R. Sundaravdivelu	Preparation of tender engineering and detailed engineering for the construction of coast guard jetty at OOT-Vadinar Kandla Port Trust	Vadinar Kandla Port Trust	13.00
74	Dr. K. Murali, Dr. S. A. Sannasiraj, Dr. V. Sundar, Dr. S. Ramanathan- Chemical Engineering	Detailed engineering for construction of common user manifold and project management consultancy for its implementation, Jawaharlal Nehru Port Trust	Jawaharlal Nehru Port Trust	77.90
75	Dr. K. Murali	Health audit for all berths inside harbour area deepening of iron ore berth	Pradip Port Trust	14.16
76	Dr. P. Krishnankutty	Marine ambulance boat resistance model tests and propeller design, Cochin Shipyard Limited	Cochin Shipyard Limited	8.85
77	Dr. P. Krishnankutty	Numerical study of tanker maneuvering on shallow water		4.99
78	Dr. S. Nallayarasu	Preparation of detailed project report (DPR) for conversion of Earth Retaining Structure (CB3 -CB4) at POL berth at Kamarajar Port	Kamarajar Port	16.90
79	Dr. Nilanjan Saha, Dr. R. Sundaravdivelu	Inspection with respect to works related to Kolkata Port Trust	Kolkata Port Trust	2.50
80	Dr. R. Sundaravdivelu	Providing MEP design work for preparation of detailed project report and bit process management for riverfront development in Truppur Smart City	Truppur Smart City	20.00
81	Dr. R. Sundaravdivelu, Dr. Nilanjan Saha, Dr. Deepak Kumar	Recommendation of structural health checkup at Howrah Bridge using NDT Methods		35.00
82	Dr. K. Murali	Recruitment to various posts in the Cochin Port Trust	Cochin Port Trust	8.00
83	Dr. R. Sundaravdivelu	Project management consultancy service for the preparation and submission of feasibility study report for conversion of existing clerk basin into dry dock at Mumbai Port	Mumbai Port	214.20
84	Dr. R. Sundaravdivelu	Evaluation for design of 3 nos of floating jetties on River Manor and I no on River Chapora	Mormuga Port Trust	17.70
85	Dr. R. Sundaravdivelu	Condition assessment of concrete in the 3RCC box culverts near the runaway of INS Rajali at Arokkanam	INS Rajali at Arokkanam	7.00
86	Dr. R. Sundaravdivelu	Numerical model study for construction of groyne at Poothurai in Vilavancode taluk of Kanyakumari district	Public Works Department	10.00
87	Dr. K. Murali	Conducting written examination for the post of Junior Executive (HSE), Assistant Hydrographic Officer (AHO)	Kamarajar Port Trust	5.0
88	Prof. S. Nallayarasu	Preparation of Detailed Project Report (DPR) for Conversion of Earth Retaining Structure (CB3 - CB4)	Hindustan Petroleum Corporation Ltd	17
89	Prof. S. Nallayarasu	Structural Verification of QPE telecom tower and Modification works	Petro6 Engineering & Construction Private Limited	2.0



Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
90	Prof. S. Nallayarasu	Expert Opinion on methodology adopted for reclamation works at GSPC Mudra LNG terminal	GSPC LNG Limited	2.0
91	Dr. R. Sundaravadivelu	Identification of potential location for developments of inland water transport system in the state of Odisha		295
92	Dr. K. Murali, Dr. S. A. Sannasiraj, Dr. V. Sundar, Dr. S. Ramanathan	Detailed engineering for construction of common user manifold and project management consultancy for its implementation	Jawaharlal Nehru Port Trust	77.90
93	Dr. Tarun K. Chandrayadula	Noise cancellation and beam forming consultation		1.00
94	Dr. S. Nallayarasu	Detailed Mooring Analysis of Barge for positioning and Station keeping at Vizhanjam Port area for construction of breakwater	ITC Cementation India Limited	10.00
95	Dr. S. Nallayarasu	Proof Checking of Container Berth Reanalysis and Design due to damage	Cullen Grummitt & ROE India Pvt Ltd	5.0
96	Dr. S. Nallayarasu	Infrastructure upgradation work of existing billboard pier berth (BPS and BPX) for cruise ships and other cargo ships	Mumbai Port Trust	31.0
97	Dr. S. Surendran	Drawing approval of 5.6m hull fitted with marine outboard engine,	Mechem Private Limited	0.47
98	Dr. S. Surendran	Drawing approval for 14m long FRP hull,	Mechem Private Limited	70.80
99	Dr. S. Nallayarasu	Pre-feasibility study for installation of single point mooring near Tata Power Land Dherand near Alibaug for BPCL (Bharat Petroleum Corporation Limited, BPCL)	BPCL	4.72
100	Dr. R. Sundaravadivelu	PMC services for improving the capacity utilization of OR-1 OR-II berths in Inner Harbour, Visakhapatnam Port Trust	Visakhapatnam Port Trust	1.82
102	Dr. S. Nallayarasu	Study on rationalization of shipping operations and fleet optimization	Indian Ports Association	4.13
103	Dr. P. Krishnankutty	Development of biomimetic autonomous underwater vehicles (BAUV) for maritime surveillance, Phase I, Naval Research Board	Naval Research Board	10.41
104	Dr. K. Murali	Design and consultancy for offshore seawater outfall pipeline work for 1800 MW 50 STPS Stage II unit No.3 of ADDPCL Krishnapatnam in Nellore, Andhra Pradesh	Navayuga Engineering Company Limited	
105	Dr. S. Nallayarasu	Preparation of conceptual study, artificial lift for LB Platform,	Petro6 Engg Construction Pvt Limited	4.0
106	Dr. K. Murali	Consultant for preparation of DPR for maintenance dredging to handling 15.5mm drought vessels award of work		1.21
107	Dr. K. Murali	Monitoring of maintenance dredging at 4 th Consumer Terminal navigational area of JNPT	JNPT	32.25
108	Dr. R. Sundaravadivelu	Development of Cruise Terminal at channel berth at Outer Harbour of Visakhapatnam Port Trust	Visakhapatnam Port Trust	37.76
109	Dr. R. Sundaravadivelu	Identification of potential location for developments of inland water transport system in the state of Odisha	Odisha	2.95



Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
110	Dr. V Sundar, Dr. S A Sannasiraj	PWD/WRD Anti sea erosion works, construction of a series of nine numbers of groynes from Ennore to Ernavoor Kuppam Ls along the coastal 19/000-15/200 km area in Madhavaram taluk of Tiruvallur district	Public Works Department	6.90
111	Dr. R. Sundaravadivelu	FLCS preparation of CR2 map and layout drawing for the purpose of obtaining CR2 clearance		5.31
112	Dr. S. Nallayarasu	Engineering Services for Structural Design review and Re - Analysis for KG DWN-98/2 Project	Sapura Fabrication Sdn Bhd	231
113	Dr. V. Sundar	Shore protection works from Kollam beach to Thanni in Kollam district		8.26
114	Dr. S. Surendran	Drawing approval of 14m FRP boat ambulance fitted with inboard marine engine	Mechem Pvt Limited	60.00
115	Dr. K. Murali	Project management consultancy services (PMC) for the proposed capital dredging of LNG Jetty and its approaches at Kamarajar Port Limited	Kamarajar Port Trust	50.25
116	Dr. R. Sundaravadivelu, Dr. P. Shanmugam	Land subsidence studies in Ramnad basin using SAR interferometry and field techniques		1.38
117	Dr. R. Sundaravadivelu	PMC service for the work of laying of submarine cable for extension of shore power supply to OSTT berth from LPG Substation, Visakhapatnam Port Trust	Visakhapatnam Port Trust	25.96
118	Dr. Rajesh R. Nair	Identification of the probable cause for anomalous high saline subsurface water and impact on pipelines	Cairn Vedanta Limited	28.00
119	Dr. Rajesh R. Nair	Detection of leakages of underground pipes by 2d and 3d ground penetrating radar measurements and detect cavities	ONGC Mangalore Petrochemicals Limited (OMPL)	8.4
120	Prof. R Sundravadelu Prof. P Shanmugam	Subsidence studies in ONGC's operational area in onshore Ramanathapuram PML Block, Ramanathapuram district	ONGC Limited	138.06
121	Dr. V. Sundar Dr. S. A. Sannasiraj	Construction of groyne fields at Vattachal, Arattupuzha, Pathiyankara, Ambalappuzha and Kattoor in Alappuzha district	Kerala Irrigation Infrastructure Development Corporation Limited	14.16
122	Dr. S. Surendran	Fabrication of 50-seater FRP boat for ports and IWT	Inland Water Transport	2.26
123	Dr. S. Nallayarasu	Consulting services in design of offshore structures and allied special areas	ONGC Limited	38.00
124	Dr. V. Sundar Dr. S. A. Sannasiraj	Shore protection work in VV pin coastal area in Ernakulam district- studies and mitigation measures	Kerala State Coastal Area Development Corporation Limited	41.30
125	Prof. S. Nallayarasu	Pre-bid structural design for float-over installation of deck and jacket	L&T Hydrocarbon Engineering Limited	8.00
126	Prof. S. Nallayarasu	Pre-bid assistance for CRPO 47, 48 and 49 jackets	Petro6 Engineering & Construction Private Limited	15.00
127	Prof. S. Nallayarasu	LNG Petronet standby jetty at Dahej verification of Approach Trestle Design during bid and detail	Afcons Infrastructure Limited	10.00
128	Prof. S. Nallayarasu	Preparation of Detailed Feasibility Report (DFR) for LPG Import jetty at Dahej, Gurjart	Hindustan Petroleum Corporation Limited	150.00
129	Prof. S. Nallayarasu	Design of pipeline stability and intake tower and diffuser dispersion for MRPL desalination plant	Va Tech Wabag Limited	22.00



RBIC projects (ongoing and new)

Sl. No.	Faculty	Title	Industry	Amount (Rs. in lakh)
1	S. Balaji, P. Shanmugam	Feasibility study of underwater optical wireless communication	DEAL, DRDO	299.00
2	Prof. V. Sundar	Implementation of Coastal Management Information System (CMIS) in Tamil Nadu, Kerala and Puducherry	Central Water Commission	234.77
3	Prof. S. Nallayarasu	Development of SIMS for offshore platforms of ONGC	ONGC Limited	221.00

Distinguished visitors to the department

Sl. No.	Visitor and Designation	Date of Visit	Purpose of Visit
1	Dr. Anil Kumar, Principal Surveyor/Marine and Offshore Area Business Development Manager – South Asia	23 April 2018	Title of the technical talk: Data and digital innovation @LR – A strategic overview in OED Seminar Hall
2	Dr. D. V. Satya Gupta, Technology Fellow, Enterprise Technology Baker Hughes, a GE company	25 April 2018	Title of the seminar: Fundamentals of hydraulic fracturing in unconventional hydrocarbon reservoirs in OED Seminar Hall
3	Prof. Madasamy Arockiasamy, President of the Faculty of the College of Engineering and Computer Science, Florida Atlantic University	8-9 August 2018	Interacted with UG and PG students for the opportunities in higher studies
4	A team of 25 students of Dhanish Ahmed Engineering College	23 July 2018	Visited the Department of Ocean Engineering
5	Prof Debasish Roy, Civil Engineering, IISc Bangalore	13-16 August 2018	Discuss about possible collaborations and research; gave a talk: Complex dynamical systems: a tale of non-classical continuum models
6	25 participants of ITEC programme for African delegates	13 September 2018	Visited the Department of Ocean Engineering
7	A batch of 50 students and their teachers from Spectrum Academy School, Namakkal; Dr. Rajiv Sharma coordinated the visit	14 September 2018	A visit to the Department of Ocean Engineering
8	A Ministry-level delegation from Indonesia visited the department to discuss ship-building related activities being carried out. The tentative agenda of the meeting was introduction the DOE, visit to the laboratories, and interaction with interested faculty members in the DOE Conference Room on the first floor of the Department of Ocean Engineering	15 October 2018	A visit to the DOE
9	Prof Marc Perlin, Texas A&M University	21-27 December 2018	A visit to the DOE
10	Mr. S. S. Sudhi, DGM(P), ONGC Mehsana, Mumbai	12 November 2018	Delivered industrial lecture: Oil industrial safety and safety practices followed by ONGC
11	Dr. Rodrigo Perez, Marine Business Unit Area Manager, Naval Shipbuilding, SENER Associate Professor, Universidad Politecnica de Madrid, Spain	21 January 2019, DOE Seminar, Second Floor, Department of Ocean Engineering	Delivered guest lecture: Ship design evolution: A bright future ahead through intelligent CADs
12	Prof Milind D Deo, Professor and Department Chair, Department of Chemical Engineering, University of Utah	4 February 2019, DOE Seminar Hall, Second Floor, Department of Ocean Engineering	Delivered guest lecture: Considerations in the production of fluids from tight oil plays in North America

4.15.6. Other activities of the department



- Prof. S. Surendran designed a Boat ambulance. Inaugurated by the Chief Minister of Odisha, it is being put in service in the state. The ambulance can be called with number 102. There are six boats with 60 jetties.
- In the team of IIT Madras, a group of students from the Design and Simulation Laboratory, Department of Ocean Engineering, participated and their poster presentations were displayed in the Defence Expo at Chennai during 11-14 April 2018. This expo was inaugurated by the Honourable Prime Minister of Republic of India.
- Mr. Sashank Sharma, OE 15D205, is pursuing joint doctoral degree programme with Curtin University, Australia.
- Mr Venkatesh Ambatti, OE16D204, was UGC DAAD research intern from 1 September-30 November 2018 at RWTH Aachen University.
- Dr. Rajesh Nair, Associate Professor, was Sabbatical Visiting Professor at RWTH Aachen University under UGC DAAD fellowship programme.
- IIT Madras developing technology for waterways, ports (NTCPWC); *Economic Times*, 19 June 2018
- IIT engineers tap nuclear test ban monitor to build a whale atlas; *The Indian Express* and *Financial Express*, 5 July 2018
- Coastal info system to help tackle erosion in scientific manner; *India Today*, 1 July 2018
- Dr.S.A.Sannasiraj authored a chapter on Tsunami hazards and aspects on design loads to the Special volume, IIT Roorkee. *Advances in Indian Earthquake Engineering and Seismology: Contributions in Honour of Jai Krishna*, Springer Int.
- Hair Sreenivasan, PhD scholar, was chosen for a research exchange programme at RWTH Aachen University through the DAAD-UGC Indo-German Partnership for a period of six months from 1 July 2018-1 January 2019. He is being guided by Dr. Rajesh R. Nair.
- Mr. Chirag Madhusudan Khalde, PhD scholar, has been invited to visit Queen's University, Belfast, UK to carry out research on Modelling of multiphase flows in the intensified mixers. He is being guided by Dr. Jitendra Singwai.

Faculty's Other Activities

- Dr. Srinivasan Chandrasekaran's proposal to write a book, *Structural Health Monitoring*, has been considered and registered with the Centre for Continuing Education CCE/BWS/01/SC/OE/18-19 dated 3 July 2018.
- Dr. Jitendra Sangwai, Department of Ocean Engineering, has been recognised as one of the 25 'Emerging Investigators' by the American Chemical Society *Journal of Chemical and Engineering Data*.
- Sameer Babu (OE17D013) and Dr. Tarun K. Chandrayadula—one among the Top 16 of the India Innovation Growth Program 2.0 (IIGP 2.0) Open Innovation Challenge, sponsored by the DST, Lockheed Martin and Tata Trusts, for their AQUA-FI, an underwater acoustic modem. They will be provided financial support of Rs.25 lakh for incubating companies, IIGP mentoring support and support for technology transfer.
- Dr. R. Sundaravadivelu visited Mukkombe barrage on 27 August 2018 to suggest immediate remedial measures for restoration of damages caused by the flood, and subsequently, participated in the discussion with Chief Minister, Tamil Nadu along with Secretary, PWD and Chief Engineer, PWD
- Dr. Jitendra S. Sangwai has been awarded National Award for Technology Innovation by the Ministry of Chemicals and Fertilizers, Government of India as joint winner for the technology (authored by Dr. Sangwai and his Ph.D student, Chirag Khalde) entitled, Horizontal rheometer for measuring rheological properties of complex *polymeric* processing machine including energy efficiency. The US patent has been recently granted for this technology.
- Dr. Jitendra S. Sangwai is awarded by National Award for Technology Innovation for the Technology (authored by Sangwai) entitled, In situ thermal polymerization of water-soluble polymers in petroleum reservoirs for improved petroleum resources recovery under the category of New Applications of Polymers in Various Fields. The US patent has been filed for this technology.
- Dr. Abdus Samad is the Member on Board of Studies at AMET University, Chennai.
- Dr. J.S. Mani published a textbook on Coastal Engineering by PHI, New Delhi
- Dr. Jitendra Sangwai's patent on Gas Hydrates has been granted by the US patent office.
- Systems and methods for gas hydrate slurry formation (US20160376515A1)
- IIT Madras and ONGC sign agreement to boost operational lifecycle of platforms; Prof. S. Nallayarasu,



Department of Ocean Engineering (<https://www.business-standard.com/article/companies/iit-madras-ongc-sign-agreement-to-boost-operational-lifecycle-of-platforms->)

- The synergy between Institute of Engineering and Ocean Engineering IEOE and IIT-M will be continued to develop a technology-based tool for monitoring, assessment, inspection and maintenance of structural integrity of existing platforms to fulfil operational and regulatory requirements for prolonged production of oil and gas.

- Prof. S. Surendran has been invited by Nan Yang Academy of Science, Singapore to hold the role of Research Advisor and Editor-in-Chief of their newly launched journal, *Sustainable Marine Structures*.

Foreign national students in Ocean Engineering department

- Mr. Jannih Mayer, OE18F006, is from the University of Hannover, Germany. He was at the department from 28 October-6 December 2018, under the guidance of Dr. V. Sriram.
- Prof Marc Perlin from Texas A&M University visited the department from 21-27 December 2018.

Students Research Work – Cruise Measurements

- Deep Sea, Bay of Bengal, 14-18 September 2018; Sanjay Kumar Sahu (OE12D029), Rakesh Kumar Singh (OE12D028), T. Varunan (OE14D209), Sandip Banerjee (OE16D019), Harish Kumar KS (OE17D009), Vimalathithan S (OE18D012) and Karthik M

- A batch of 50 students and their teachers from Spectrum Academy School, Namakkal visited the Department of Ocean Engineering, IIT Madras on 14 September 2018. Dr. Rajiv Sharma coordinated the visit.

- Dr. Suresh Kumar G, Professor, Department of Ocean Engineering, reviewed the SPARC Research Proposal, Ministry of Human Resources and Development (MHRD), Government of India in January 2019

Activities in the Ocean Engineering Department

An Open House was arranged in the department on 3-4 January 2019. The Wave Basin was operated and demonstrated to the visitors.





Results obtained in research work (from M.S. and Ph.D thesis) of the scholar/faculty

- Md. Hamid Siddique, OE13D032, was awarded Ph.D. degree on 20 July 2018 for research work, Optimization of a centrifugal pump impeller design for pumping viscous oils. It is a numerical and experimental study conducted on a centrifugal pump to optimise its performance by manipulating the shape of the impeller. The final optimised impeller improved the head rise and overall efficiency of the pump while pumping viscous oils.
- KR Mrinal, OE13D005, was awarded Ph.D. degree on 20 July 2018 for research work, Experimental and numerical analysis of centrifugal and progressive cavity pump delivering bentonite based slurry. The performances of centrifugal and progressive cavity pump delivering bentonite based non-Newtonian slurry were analysed by experimental and numerical approach. The surrogate models were used for predicting the performances of the pumps and CFD model for prediction as well as to study the flow physics.
- Ezhil Sabreesh, OE15S004, was awarded M.S. degree on 19 July 2018 for research work, Shape optimization of bidirectional impulse turbine through surrogate models. Multi-variable optimisation technique with mean efficiency as the objective function and stagger angle (γ), hub guide vane deflection, tip guide vane deflection as design variables was employed. The optimized parameters predicted by WAS show 3.2° rotor setting angle, hub guide vane deflection angle of 1.9° and a tip guide vane deflection angle of -2.53° as optimum parameters. The reference and optimum maximum mean efficiency were 40 per cent and 50.6 per cent, respectively, and hence

a relative efficiency enhancement of 26.5 per cent was obtained from design optimisation.

- The research title of Ranjith Balakrishnan, OE15S015, was Flow analysis and loss reduction in the bidirectional impulse turbine using blade lean techniques Compound rotor blade lean found to be more effective and increased the peak efficiency by 8.8 per cent.
- Arvind George, OE15S200, did research titled, Experimental and numerical analysis of turbine-induced damping for wave energy conversion. The wave energy turbine when coupled to oscillating water column induces damping to the airflow, which affects the overall efficiency of the oscillating water column. The research was carried out to understand this damping effect experimentally and numerically.
- The research title of Dhairyasheel Deshmukh, OE15S00, was Effect of surface roughness and splitter blade on an electric submersible pump. The wall-bounded turbulent flows in a centrifugal pump passage were investigated by CFD analysis with equivalent sand-grain roughness concept. The maximum effect of roughness was observed at the highest flow rate and, hence at ϕ_{max} , the difference in head developed for a smooth ($K=0$) and a rough surface ($K=0.1$) is 3.64 m and 0.66 m for higher and lower pump speed, respectively. The difference in efficiency is 22.5 per cent and 14.19 per cent, respectively.
- K. Devi, OE14D207, to be awarded Ph.D degree, is guided by Dr. Rajesh R. Nair.
- Shanker Krishna, OE 12D202, to be awarded Ph.D degree, is guided by Dr. Rajesh R. Nair.

International collaboration achievements by the department

1. Faculty visit

Sl. No.	Faculty Member	Purpose of Visit	Date and Venue
1.	Dr. Shin Hyung Rhee	Visiting Faculty	17 February 2018, Department of Ocean Engineering, Wave Energy and Fluids Engineering Lab, IIT Madras

2. Student visit

Sl. No	Students	Purpose of Visit	Date and Venue
1	KiHyeon Cheon	Visiting research scholar	15 June 2018, Department of Ocean Engineering, Wave Energy and Fluids Engineering Lab, IIT Madras
2	Yong Jae Cho	Visiting research scholar	7 January 2019, Department of Ocean Engineering, Wave Energy and Fluids Engineering Lab, IIT Madras
3	GyukPo Park	Visiting research scholar	7 January 2019, Department of Ocean Engineering, Wave Energy and Fluids Engineering Lab, IIT Madras

3. Activities initiated

Major infrastructure development made in the department

A unidirectional flow test rig for the testing of wave energy harvesting turbine is designed and installed in Wave Energy and Fluids Engineering Lab.



4.16. Department of Physics

4.16.1. Introduction

The Department of Physics was established in 1959. The department conducts research in many frontier areas in the sylvan campus of IIT Madras. These areas include experimental solid state physics, quantum electronics, optical and laser physics, soft condensed matter physics and various aspects of theoretical and computational physics, ranging from condensed matter to string theory and cosmology.

The Department of Physics offers a vibrant undergraduate programme, B.Tech. (Engineering Physics) in conjunction with

the Department of Electrical Engineering. The department offers three master's programmes: the Dual Degree (B.S. and M.S.), M.Sc. and M.Tech. programmes in physics. The department also conducts a regular doctoral research (Ph.D.) programme.

4.16.2. Academic Programmes

B. Tech (Engineering Physics), Dual Degree (B.S and M.S.), M. Sc., M. Tech (Functional Materials and Nanotechnology) and Ph.D.

New courses introduced

Sl. No.	Course No.	Title
1	PH6015	Advanced Materials and Nanotechnology Lab

Students on roll as of September 2018+M.S. and Ph.D admission in January 2019

Programme	Year I	Year II	Year III	Year IV	Year V and others	Total
B.Tech.	30	27	28	27	8 + 9	129
Dual Degree	10	9	10	8	11 + 3	51
M.Sc.	41	41	4	2		88
M.Tech.	10	5		1		16
Ph.D.	38	31	29	17	27 + 54	196
Total						480

Student/scholar who attended conference/seminar/symposium/workshop abroad/India

Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue	Financial Assistance from
Abroad					
1	Sreetama Ghosh	PH14D302	Poster presentation at 2018 MRS Spring Meeting and Exhibit, Phoenix, Arizona	2-6 April 2018, USA	IIT Madras
2	Ashish Sharma	PH15D201	Collaboration visit to CMS at CERN	3 April-1 June 2018	IIT Madras
3	Shibnath Samanta	PH12D055	Poster presentation at International Symposium on Functional Materials	13-15 April 2018, USA	IIT Madras
4	Sarath Srinivas S	PH13D044	Oral presentation at American Physical Society (APS)	14-17 April 2018, USA	IIT Madras
5	Midhunlal P V	PH14D009	Poster presentation at International Magnetic Conference INTERMAG 2018 (2018 IEEE)	23-27 April 2018, Singapore	IIT Madras
6	Tripta Parida	PH15D301	Oral presentation at The International Magnetics Conference INTERMAG 2018 (IEEE 2018)	23-27 April 2018, Singapore	IIT Madras
7	Pritam Kalbhor	PH16D038	Collaboration visit to CMS at CERN	24 April-1 July 18	IIT Madras
8	Niharika Rout	PH16D021	Collaborative visit to High-Energy Accelerator Research Organization (KEK)	4 May-1 July 2018, Japan	IIT Madras
9	Ajay Piriya V S	PH15D302	Paper presentation at 233 rd Electronic Chemical Society (ECS) Meeting, Seattle, Washington	11-18 May 2018, USA	IIT Madras
10	Resmi P K	PH14D039	Research work visit at High Energy Accelerator Research Organization (KEK)	11 May-14 July 2018, Japan	IIT Madras



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue	Financial Assistance from
11	Sandhya Rani Mangiseti	PH14D301	Paper presentation at 233 rd Meeting of ECS, Seattle, Washington	13-17 May 2018, USA	IIT Madras
12	G Meenakshi Seshadrhri	PH15D004	Poster presentation in 233 rd ECS, Seattle, Washington	13-17 May 2018, USA	IIT Madras
13	Anita	PH15D203	Collaborative work as part of research work at University of Oxford	14 May-24 June 2018, UK	IIT Madras
14	Shashi Kant Singh Kunwar	PH13D046	Collaborative visit to Zhejiang University	19 May-17 June 2018, China	IIT Madras
15	Geethu P M	PH13D031	Oral presentation at 16 th Conference of the International Association of Colloid and Interface Scientists (IACIS 2018), Rotterdam	21-25 May 2018, Netherlands	Institute
16	Sudhakara Rao Hari	PH13D050	Poster presentation at INTERMAG 2018 (2018 IEEE)	23-27 April 2018, Singapore	IIT Madras
17	Dr. Lakshmi S Mohan	PH17IPF06	Poster presentation at International Centre for Theoretical Physics (ICTP)	28 May-1 June 2018, Italy	IIT Madras
18	Anup Kumar Sikdar	PH16D055	CMS-CERN (Compact Muon Solenoid, European organisation for nuclear research), Geneva	15 June-31 July 2018, Switzerland	IIT Madras
19	Antarjami Sahoo	PH13D021	Paper presentation at E-MRS 2018 Spring Strasbourg	18-22 June 2018, France	IIT Madras
20	B M Pratima	PH13D035	Oral presentation at European Material Research Society Spring Fall (EMRS 2018), Strasbourg	18-22 June 2018, France	IIT Madras
21	Asalatha A. S	PH12D026	Poster presentation at EMRS Spring Meeting and Exhibit 2018, Strasbourg Convention Centre	18-22 June 2018, France	IIT Madras
22	Lakshmi Kola	PH12D038	Poster presentation at E-MRS 2018 Spring Meeting, Strasbourg Convention Centre	18-22 June 2018, France	IIT Madras
23	Ranjana Rani Das	PH13D042	60th Electronic Material Conference	27-29 June 2018, USA	IIT Madras
24	Imon Kalyan	PH13D032	Paper presentation at Advanced Photonics 2018 Congress, ETH Zurich	2-5 July 2018, Switzerland	IIT Madras
25	Ramchandra Dhal	PH13D012	Poster presentation at International Conference on Magnetism (ICM2018), California	15-20 July 2018, USA	IIT Madras
26	Haripriya G R	PH13D004	Poster presentation at International Conference on Magnetism (ICM 2018), San Francisco	15-20 July 2018, USA	IIT Madras
27	Ranjana Rani Das	PH13D042	Poster presentation, ICM2018	16-20 July 2018, California	IIT Madras
28	Gyanti Prakash Moharana	PH14D006	Poster presentation at ICM2018	16-20 July 2018, USA	IIT Madras
29	Soumyajit Saha	PH14D014	Paper presentation at International Conference on Atomic Physics 2018 (ICAP 2018)	22-27 July 2018, Spain	IIT Madras
30	Ranjana Rani Das	PH13D042	Poster presentation in 29 th Magnetic Recording Conference Milpitas, California	8-10 August 2018, USA	IIT Madras
31	Shashi Bhusan Mishra	PH13D045	Poster presentation in Electronic Structure Theory and Materials Design 2018 at Technical University of Denmark	12-17 August 2018, Denmark	IIT Madras
32	Geethu P	PH13D031	10 th BDS International Conference, BDS 2018 and presented work at Brussels	26-31 August 2018, Belgium	IIT Madras
33	Anup Kumar Sikdar	PH16D055	Visited CMS-CERN, Geneva, for research work	7-15 September 2018, Switzerland	IIT Madras



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue	Financial Assistance from
34	Akshaya J	PH12D002	Poster presentation at Nagoya	8-18 September 2018, Japan	IIT Madras
35	Niharika Rout	PH16D021	Visited Asia-Europe Pacific School on High Energy Physics (AEPSHEP)	12-25 September 2018, Vietnam	IIT Madras
36	Ashish Sharma	PH15D201	Visited CMS-CERN, Geneva, for research work	16 September-30 October 2018, Switzerland	IIT Madras
37	Resmi P K	PH14D039	10 th International Workshop on the CKM Unitarity Triangle, Heidelberg	17-21 September 2018, Germany	IIT Madras
38	Nithin Thomas	PH17D002	Visited the University of Regensburg for research collaboration	22 September-16 December 2018, Germany	IIT Madras
39	Swati Dhua	PH15D014	A brief visit for research work under a research exchange programme at Nagaoka University of Technology	1 September-31 October 2018, Japan	IIT Madras
40	Soumen Pradhan	PH16D044	Visited CRISMAT Lab for research purpose	1-31 October 2018, France	IIT Madras
41	Hisay Lama	PH14D007	Poster presentation at 90 th Society of Rheology Meeting	13-20 October 2018, USA	IIT Madras
42	Guruprasath S Hegde	PH16D008	Visited for research exchange programme at Japan Advanced Institute for Science & Technology	24-25 October 2018, Japan	IIT Madras
43	Mamta	PH15D200	Taken two-month internship programme at Japan Advanced Institute for Science & Technology	24 October-26 December 2018, Japan	IIT Madras
44	Anubhab Sahoo	PH15D025	Visited Central Laser Facility (Rutherford Appleton Labs) for knowledge exchange programme	8 November-31 December 2018, Didcot, UK	IIT Madras
45	Gokul Raj R	PH12D033	7 th Asia-Pacific Workshop on Structural Health Monitoring (APWSHM-2018)	12-15 November 2018, Hong Kong	IIT Madras
46	Mayarani M	PH14D035	Poster presentation at Jülich Soft Matter Days 2018 conference	20-23 November 2018, Germany	IIT Madras
47	Sai Smruti Samantaray	PH15D009	Gave oral presentation at Material Research Society Fall Meeting 2018, Boston, Massachusetts	22 November-3 December 2018, USA	IIT Madras
48	Ranjana Rani Das	PH13D042	Visited Photon Factory for Synchrotron X-Ray Diffraction Experiment	24 November-1 December 2018, Japan	IIT Madras
49	Garapati Meenakshi Seshadhri	PH15D004	Gave Oral Presentation at Material Research Society Fall Meeting 2018, Boston, Massachusetts	25-30 November 2018, USA	IIT Madras
50	Subish John	PH14D015	Advanced Nano and Energy Materials (ANEM 2018) at University of Western Australia	10-16 December 2018, Australia	IIT Madras
51	Roshna S H	PH15D008	American Physical Society March Meeting 2019 in Boston	4-8 March 2019, USA	IIT Madras
52	Kanka Ghosh	PH14D034	American Physical Society March Meeting 2019 in Boston, MA	4-8 March 2019, USA	IIT Madras
53	Muhammed Javid M	PH13D201	American Physical Society March Meeting 2019 in Boston, MA	4-8 March 2019, USA	IIT Madras
54	Pritam Kalbhor	PH16D038	Collaboration visit to CMS, CERN for research work	15 March-15 May 2019, Switzerland	IIT Madras
55	Anubhab Sahoo	PH15D025	Student Exchange programme at SIT, Toyosu	28 March- 11 June 2019, Japan	IIT Madras



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue	Financial Assistance from
India					
1	B. Sharmila	PH14D041	International Conference on Quantum Frontiers and Fundamentals, RRI	29 April-3 May 2018, Bengaluru	RRI
2	S. Hazarika	NPDF	Poster presentation at National Conference on Optics, Photonics and Synchrotron Radiation for Technological Application (OPSR-2018)	29 April-2 May 2018	Project
3	Anupama Roy	PH13D022	Paper presentation at ICTS	26-30 June 2018, Bengaluru	IIT Madras
4	Joydeep Singha	PH13D079	Paper presentation at ICTS	26-30 June 2018, Bengaluru	IIT Madras
5	Rajalekshmi T R	PH16D028	Paper presentation at NIMHANS, Convention Centre	27-29 June 2018, Bengaluru	IIT Madras
6	Mahima M Kurian	PH16D047	Paper presentation at NIMHANS, Convention Centre	27-29 June 2018, Bengaluru	IIT Madras
7	Gayathri R	PH17D045	Summer School in Optics and Photonics 2018, IISc Bangalore	25-28 July 2018, Bengaluru	IIT Madras
8	Muhammad Alibordi	PH15D043	Talk on Flavour physics at Flavour Physics and CP violation conference	13-18 July 2018, Hyderabad	IIT Madras
9	Resmi P K	PH14D039	16 th Conference on Flavour Physics and CP Violation (CFPCP 2018) and Post FPCP School, HCU and IIT Hyderabad	14-22 July 2018, Hyderabad	Institute
10	Niharika Rout	PH16D021	16 th Conference on Flavour Physics and CPV (FPCP 2018), HCU and IIT, Hyderabad	14-22 July 2018, Hyderabad	IIT Madras
11	Shashi Kant Singh Kunwar	PH13D046	Paper presentation at National Conference on Quantum Condensed Matter, IISER Mohali	24-27 July 2018, Mohali	IIT Madras
12	Rohini M S	PH16D006	Collaborative work at IIT Mandi	27 July-8 August 2018, Mandi	IIT Madras
13	Athrey C D	PH17D022	Organic Photovoltaics and Electronics Technology 2018 (OPET-2018)	6-10 August 2018, NPL, New Delhi	IIT Madras
14	Anup Kumar Sikdar	PH16D055	India-CMS Collaboration Meeting at Visva-Bharati Santiniketan	22-25 August 2018, WB	IIT Madras
15	Md. Alibordi	PH15D043	India-CMS Collaboration Meeting at Visva-Bharati Santiniketan	22-25 August 2018, WB	IIT Madras
16	Subhamoy Sahoo	PH14D202	Poster presentation in International Conference on Advancement in Science and Technology (ICAST - 2018)	1-5 September 2018, WB	IIT Madras
17	Subhajit Nandy	PH15D013	Poster presentation in ICAST-2018	1-5 September 2018, WB	
18	Shubhayan Bhattacharya	PH13D205	Poster presentation in ICAST-2018	1-5 September 2018, WB	IIT Madras
19	Vijay Kumar Sagar	PH15D048	Poster presentation in ICAST-2018	1-5 September 2018, WB	IIT Madras
20	Soumyodeep Dey	PH16D041	Poster presentation in ICAST-2018	1-5 September 2018, WB	IIT Madras
21	Rahul V R	PH17D023	Poster presentation in International Symposium on Optics (OSI-ISO 2018)	20-22 September 2018, IIT Kanpur	IIT Madras
22	Pretheesh Kumar V C	PH13D041	Poster presentation in OSI-ISO 2018	20-22 September 2018, IIT Kanpur	IIT Madras
23	Midhunlal P V	PH14D009	Lab visit to BARC, Mumbai	23-29 September 2018, Mumbai	IIT Madras
24	Ajay Piriya V S	PH15D302	National Symposium on Electrochemistry in Materials and Devices	28-29 September 2018, Gujarat	IIT Madras



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue	Financial Assistance from
25	Sai Smruti S	PH15D009	National Symposium on Electrochemistry in Materials and Devices	28-29 September 2018, Gujarat	IIT Madras
26	Dipanwita Ghoshal	PH15D040	Poster presentation in Entropy, Information and Order in Soft Matter, part of School ICTS-TIFR at ICTS, Bengaluru	24-28 September 2018, Bengaluru	IIT Madras
27	G.Meenakshi Seshadhri	PH15D004	2 nd International Conference on Nano Science and Engineering Applications 2018	3-6 October 2018, Hyderabad	IIT Madras
28	Roshna S M	PH15D008	International Conference on Recent Trends in Material Science and Technology at ISRO, ATF	10-14 October 2018, Thiruvananthapuram	IIT Madras
29	Pradip Laha	PH13D040	Conference on Nonlinear Systems and Dynamics (CNSD 2018) at JNU	11-14 October 2018, New Delhi	IIT Madras
30	B. Sharmila	PH14D041	CNSD 2018, JNU	11-14 October 2018, New Delhi	IIT Madras
31	Malayaja Chutani	PH15D015	CNSD 2018, JNU	11-14 October 2018, New Delhi	IIT Madras
32	Induja P	PH17D302	CNSD 2018, JNU	11-14 October 2018, New Delhi	IIT Madras
33	Mrinal Sarkar	PH13D203	CNSD 2018, JNU	11-14 October 2018, New Delhi	IIT Madras
34	Resmi P K	PH14D039	27 th International Workshop on Vertex Detectors (Vertex 2018)	21-26 October 2018, Chennai	IIT Madras
35	Sreejith P K	PH15D036	Winter School Synchrotron Techniques in Material Science at S. N. Bose National Centre for Basic Science	25-31 October 2018, Kolkata	IIT Madras
36	Sourav Kumar Kajji	PH15D037	Winter School Synchrotron Techniques in Material Science at S. N. Bose National Centre for Basic Science	25-31 October 2018, Kolkata	IIT Madras
37	Rajalekshmi T R	PH16D028	XVIII School on Neutron as Probes of Condensed Matter, BARC	28 October-1 November 2018, Mumbai	IIT Madras
38	Subish John	PH14D015	Lab Experiment visit at RRCAT	25 November-1 December 2018, Indore	IIT Madras
39	Tulika Agrawal	PH18D010	National Laser Symposium (NLS 27, 2018), RRCAT	3-6 December 2018, Indore	IIT Madras
40	Soumyajit Saha	PH14D014	13 th Asian International Seminar on Atomic and Molecular Physics at TIFR, Mumbai and IIT Mumbai	3-8 December 2018, Mumbai	IIT Madras
41	Sauray Dutta	PH18D004	13 th Asian International Seminar on Atomic and Molecular Physics, TIFR, Mumbai and IIT Mumbai	3-8 December 2018, Mumbai	IIT Madras
42	Sourav Banerjee	PH13D204	13 th Asian International Seminar on Atomic and Molecular Physics, TIFR, Mumbai and IIT Mumbai	3-8 December 2018, Mumbai	IIT Madras
43	Nihar Ranjan Behera	PH18D017	13 th Asian International Seminar on Atomic and Molecular Physics, TIFR, Mumbai and IIT Mumbai	3-8 December 2018, Mumbai	IIT Madras
44	Saroj Kumar Barik	PH16D056	13 th Asian International Seminar on Atomic and Molecular Physics, TIFR, Mumbai and IIT Mumbai	3-8 December 2018, Mumbai	IIT Madras
45	S. Hazarika	NPDF	Poster presentation at International Conference on Magnetic Materials and Applications (ICMAGMA 2018) in NISER	9-13 December 2018, Bhubaneswar	Project



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue	Financial Assistance from
46	P. Suchismita Behera	PH17IPF07	Poster presentation at ICMAGMA 2018, NISER	9-13 December 2018, Bhubaneswar	IIT Madras
47	Nisha Ranjan	PH16D300	3 rd International Conference on Soft Martials (ICSM 2018) at MNIT, Jaipur	9-14 December 2018, Jaipur	IIT Madras
48	Sachin Krishnan TV	PH13D074	3 rd ICSM 2018 at MNIT, Jaipur	9-14 December 2018, Jaipur	IIT Madras
49	Mayarani M	PH14D035	3 rd ICSM 2018 at MNIT, Jaipur	9-14 December 2018, Jaipur	IIT Madras
50	Hisay Lama	PH14D007	3 rd International Conference on Soft Martials (ICSM 2018) at MNIT, Jaipur	9-14 December 2018, Jaipur	IIT Madras
51	Merin Jose	PH17D004	3 rd International Conference on Soft Martials (ICSM 2018) at MNIT, Jaipur	9-14 December 2018, Jaipur	IIT Madras
52	Anusree V K	PH13D206	ICMAGMA 2018, NISER	9-13 December 2018, Bhubaneswar	IIT Madras
53	G M Prakash	PH14D006	ICMAGMA 2018, NISER	9-13 December 2018, Bhubaneswar	IIT Madras
54	V Sumalatha	PH14D049	ICMAGMA 2018, NISER	9-13 December 2018, Bhubaneswar	IIT Madras
55	Harikrishnan R	PH15D045	ICMAGMA 2018, NISER	9-13 December 2018, Bhubaneswar	IIT Madras
56	Gyanti Prakash M	PH14D006	ICMAGMA 2018, NISER	9-13 December 2018, Bhubaneswar	IIT Madras
57	Sonu Vishvakarma	PH15D202	ICMAGMA 2018, NISER	9-13 December 2018, Bhubaneswar	IIT Madras
58	Antarjami Sahoo	PH13D021	ICMAGMA 2018, NISER	9-13 December 2018, Bhubaneswar	IIT Madras
59	Rohin M S	PH16D006	ICMAGMA 2018, NISER	9-13 December 2018, Bhubaneswar	IIT Madras
60	Mahima M Kurian	PH16D047	ICMAGMA 2018, NISER	9-13 December 2018, Bhubaneswar	IIT Madras
61	Ranjana Rani Das	PH13D042	ICMAGMA 2018, NISER	9-13 December 2018, Bhubaneswar	IIT Madras
62	H. V. Ragavendra	PH16D018	Kenyon and IITM Science Writing Workshop	10-14 December 2018, IIT Madras	IIT Madras
63	Sagarika Tripathy	PH17D025	School and Workshop on Frontiers in 21 cm Cosmology at IIA Solar Observatory	10-18 December 2018, Kodaikanal	IIT Madras
64	Sadhana Verma	PH18D030	DAE High Energy Physics Symposium	10-14 December 2018, IIT Madras	IIT Madras
65	Muhammad Alibordi	PH15D043	DAE High Energy Physics Symposium	10-14 December 2018, IIT Madras	IIT Madras
66	Anup Kumar Sikdar	PH16D055	DAE High Energy Physics Symposium	10-14 December 2018, IIT Madras	IIT Madras
67	Pritam Kalbhor	PH16D038	DAE High Energy Physics Symposium	10-14 December 2018, IIT Madras	IIT Madras
68	Gayathri R	PH17D045	Photonics 2018 (International Conference on Fiber Optics and Photonics)	11-15 December 2018, IIT Delhi	IIT Madras
69	Shubhayan Bhattacharya	PH13D205	Photonics 2018	11-15 December 2018, Delhi	IIT Madras
70	Roshna S H	PH15D008	International Conference on Complex and Functional Materials (CICCFM 2018), SN Bose National Centre for Basic Sciences School	13-16 December 2018, Kolkata	IIT Madras
71	Subhajit Nandy	PH15D013	CICCFM 2018, SN Bose National Centre for Basic Sciences School	13-16 December 2018, Kolkata	IIT Madras



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue	Financial Assistance from
72	Lokeswara Rao Yelamnchi	PH15D047	International Conference on Advanced Materials and Energy and Environmental Sustainability (ICAMEES 2018), UPES	14-15 December 2018, Dehradun	IIT Madras
73	Swati Dhua	PH15D014	ICAMEES 2018, UPES	14-15 December 2018, Dehradun	IIT Madras
74	Athrey C D	PH17D022	ICAMEES 2018, UPES	14-15 December 2018, Dehradun	IIT Madras
75	Sutapa Samanta	PH13D052	Indian String Meeting 2018 at IISER, TVM	16-21 December 2018, Trivandrum	IIT Madras
76	Sumeet Kumar	PH14D044	Indian String Meeting 2018 at IISER, TVM	16-21 December 2018, Trivandrum	IIT Madras
77	Pranab Biswas	PH14D012	International Conference on Nano-Structured Materials and Devices (ICNSMD) 2018	17-20 December 2018, University of Delhi	IIT Madras
78	Subhajith Pal	PH15D041	ICNSMD 2018	17-20 December 2018, University of Delhi	IIT Madras
79	Merin Jose	PH17D004	63 rd DAE Solid State Physics Symposium 2018, Hisar, Haryana	18-22 December 2018, Haryana	IIT Madras
80	Mayarani M	PH14D035	63 rd DAE Solid State Physics Symposium 2018, Hisar, Haryana	18-22 December 2018, Haryana	IIT Madras
81	Juvaid M	PH13D201	International Conference on Optoelectronic and Nano Materials for Advanced Technology (icONMAT 2019)	3-5 January 2019, Cochin	IIT Madras
82	Suraj T S	PH14D046	icONMAT 2019	3-5 January 2019, Cochin	IIT Madras
83	Sagarika Tripathy	PH17D025	Cosmology—The Next Decade Conference	3-19 January 2019, ICTS Bengaluru	ICTS
84	H V Ragavendra	PH16D018	Cosmology—The Next Decade Conference	3-19 January 2019, ICTS Bengaluru	ICTS
85	Anup Kumar Sikdar	PH16D055	XII SERB School on High Energy Physics	7-27 January 2019, TIFR, Mumbai	IIT Madras
86	Ashish Sharma	PH15D201	XII SERB School on High Energy Physics	7-27 January 2019, TIFR, Mumbai	IIT Madras
87	MD Alibordi	PH15D043	International Meeting For High Energy Physics (IMHEP) 2019	17-22 January 2019, Bhubaneswar	IIT Madras
88	Lakshmi S Mohan	PH17IPF06	IMHEP 2019	17-22 January 2019, Bhubaneswar	IIT Madras
89	S. Hazarika	NPDF	Poster presentation at International Conference on Nanoscience and Nanotechnology (ICONN 2019) in SRM Institute of Science and Technology	28-30 January 2019, Chennai	Project
90	T. Kavipriya	Project JRF	Poster presentation at ICONN 2019, SRM Institute of Science and Technology	28-30 January 2019, Chennai	Project
91	Anusree VK	PH13D206	Visited for Beam Line Experiment at Raja Ramanna Centre for Advanced Technology, Indore	7-9 February 2019, Indore, Madhya Pradesh	IIT Madras
92	Subhajit Pal	PH15D041	First Indian Materials Conclave and 30th Annual General Meeting of MRSI, IISc	12-15 February 2019, Bengaluru	IIT Madras
93	Pranab Biswas	PH14D012	First Indian Materials Conclave and 30th Annual General Meeting of MRSI, IISc	12-15 February 2019, Bengaluru	IIT Madras
94	Arnab Pal	PH13D002	First Indian Materials Conclave and 30th Annual General Meeting of MRSI, IISc	12-15 February 2019, Bengaluru	IIT Madras



Sl. No.	Student/Scholar	Roll No.	Conference/Seminar/Symposium/Workshop	Date and Venue	Financial Assistance from
95	Lakshmi Kola	PH12D038	First Indian Materials Conclave and 30th Annual General Meeting of MRSI, IISc	12-15 February 2019, Bengaluru	Institute
96	Narmada Basva	PH14D010	First Indian Materials Conclave and 30th Annual General Meeting of MRSI, IISc	12-15 February 2019, Bengaluru	IIT Madras
97	Sreetama Ghosh	PH14D302	First Indian Materials Conclave and 30th Annual General Meeting of MRSI, IISc	12-15 February 2019, Bengaluru	IIT Madras
98	Garapali Meenakshi Seshadhri	PH15D004	First Indian Materials Conclave and 30th Annual General Meeting of MRSI, IISc	12-15 February 2019, Bengaluru	IIT Madras
99	Gayathri P	PH16D201	First Indian Materials Conclave and 30th Annual General Meeting of MRSI, IISc	12-15 February 2019, Bengaluru	IIT Madras
100	Swati Dhua	PH15D014	First Indian Materials Conclave and 30th Annual General Meeting of MRSI, IISc	12-15 February 2019, Bengaluru	IIT Madras
101	Vetrivel S	PH17D300	First Indian Materials Conclave and 30th Annual General Meeting of MRSI, IISc	12-15 February 2019, Bengaluru	IIT Madras
102	Muhammed Juvaid M	PH13D201	First Indian Materials Conclave and 30th Annual General Meeting of MRSI, IISc	12-15 February 2019, Bengaluru	IIT Madras
103	Soumen Pradhan	PH16D044	First Indian Materials Conclave and 30th Annual General Meeting of MRSI, IISc	12-15 February 2019, Bengaluru	IIT Madras
104	Dhruba Das	PH15D027	First Indian Materials Conclave and 30th Annual General Meeting of MRSI, IISc	12-15 February 2019, Bengaluru	IIT Madras
105	Akash Mohapatra	PH16D001	First Indian Materials Conclave and 30th Annual General Meeting of MRSI, IISc	12-15 February 2019, Bengaluru	IIT Madras
106	Sreejith P K	PH15D036	First Indian Materials Conclave and 30th Annual General Meeting of MRSI, IISc	12-15 February 2019, Bengaluru	IIT Madras
107	Hanuma Kumar Dara	PH13D071	Visited UGC – DAE Institute for Research work purpose	17-26 February 2019, Indore	IIT Madras
108	Sumeet Kumar	PH14D044	12th International Conference on Thermal Engineering: Theory and Application 2019	23-26 February 2019, Gandhinagar, Gujarat	IIT Madras
109	Resmi P K	PH14D039	Poster presentation in Belle Analysis Workshop (BAW) 2019 at IISER, Mohali	1-4 March 2019, Punjab	IIT Madras
110	Niharika Rout	PH16D021	Poster Presentation, BAW 2019, IISER, Mohali	1-4 March 2019, Punjab	IIT Madras
111	Shashi Bhisani Mishra	PH13D045	Presentation in International Conference on Advanced Materials (ICAM-2019), Jamia Millia Islamia –A Central University	6-7 March 2019, Delhi	IIT Madras
112	Pritha Dey	PH17D006	National Seminar on Quantum and Nonlinear Optics, Pondicherry University	8 March 2019, Puducherry	IIT Madras
113	Tulika Agrawal	PH13D010	Workshop on Advances in Optics and Photonics, University of Hyderabad	18-23 March 2019, Hyderabad	IIT Madras
114	Sourav Banerjee	PH13D204	Workshop on Atomic Physics and discussion with guide, IIT Tirupati	18-22 March 2019, Tirupati	IIT Madras
115	Pritha Dey	PH17D006	22 nd National Conference on Atomic and Molecular Physics	25-28 March 2019, IIT Kanpur	IIT Madras
116	Saroj Kumar Barik	PH16D056	22 nd National Conference on Atomic and Molecular Physics	25-28 March 2019, IIT Kanpur	IIT Madras
117	Sourav Banerjee	PH13D204	22 nd National Conference on Atomic and Molecular Physics	25-28 March 2019, IIT Kanpur	IIT Madras



Students/Scholars who won outside prizes and awards

Sl.No.	Student/Scholar	Roll No.	Prize	Prize awarded by
1	Ajay Piriya	PH15D302	Best Poster Award	National Symposium on Electrochemistry in Materials and Devices, conducted by CSIR
2	Sai Smruti Samantaray	PH15D009	Best Poster Award	National Symposium on Electrochemistry in Materials and Devices, conducted by CSIR
3	Meenakshi Seshadhri Garapati	PH15D004	Best Poster Award	2 nd International Conference on Nano Science & Engineering Applications (ICONSEA 2018), CSIR
4	Shubhayan Bhattacharya	PH13D205	Best Oral Presentation Awards	Photonics 2018, Delhi
5	T S Suraj	PH14D046	Best Oral Presentation Awards	3 rd ICONMAT 2019, Kochi
6	Sreetama Ghosh	PH14D302	Best Poster Award	The International Winter School 2018 on Frontiers in Material Science held in Bengaluru
7	Mayarani M	PH14D035	Best Poster Award	Jülich Soft Matter Days 2018, Forschungszentrum Jülich, Germany
8	Dr. Anil Kumar KV	PH18IPF05	Best Poster Award	International Conference on Advanced Functional Materials for Energy, Environment and Healthcare 2019, University of Mysore
9	Sandhya Rani Mangiseti	PH14D301	Best Paper Presentation Award	5 th ICONN 2019, Chennai

Students/Scholars who won Institute Convocation/Institute Day Prize

Sl.No.	Student/Scholar	Roll No.	Prizes	Donor
1	Debika Chowdhury	PH13D028	Institute Research Award 2018-19	IIT Madras
2	Geethu P M	PH13D031	Institute Research Award 2018-19	IIT Madras
3	Tapan Kumar	PH12D059	Institute Research Award 2018-19	IIT Madras
4	Arpita Ghosh	PH13D023	Institute Research Award 2018-19	IIT Madras
5	Asalatha A S	PH12D026	Institute Research Award 2018-19	IIT Madras
6	Hisay Lama	PH14D007	Institute Research Award 2018-19	IIT Madras

4.16.3. Faculty and Their Activities

Faculty

Name and Qualifications	Major Areas of Specialisation
Professors	
Dr. Sethupathi K (Head)	Experimental condensed matter physics, magnetic oxide materials and cryogenic insulation
Dr. Arul Lakshminarayan	Quantum information, complex quantum systems, mathematical physics
Dr. Ganesan A R	Applied optics, holography, adaptive optics
Dr. Harish Kumar N	Superconductivity, spintronics, novel magnetic materials
Dr. James Frederick Libby	Experimental high energy physics
Dr. Jatindra Kumar Rath	Photovoltaics, nanomaterials, CVD
Dr. Kasiviswanathan S	Near- and far-field response of plasmonic structures, films of transparent oxide and ternary semiconductors, systems exhibiting quantum coherence
Dr. Lakshmi Bala S	Quantum dynamics and dynamical systems
Dr. Markandeyulu G	Magnetism, magnetic materials
Dr. Murugavel P	Ferroelectrics, dielectrics and multifunctional oxides for multiferroic and photovoltaic studies
Dr. Neelima M Gupte	Nonlinear dynamics, statistical physics
Dr. Prem B Bisht	Ultrafast laser spectroscopy, fluorescence microscopy
Dr. Ramachandra Rao M S	Correlation effect in metal oxide and doped diamond, electrical, optical and magnetic properties of metal oxide thin films and nanostructures and photovoltaic materials
Dr. Ramaprabhu S	Nanomaterials, fuel cells, Li battery



Name and Qualifications	Major Areas of Specialisation
Dr. Sankaranarayanan V	Low-temperature physics and cryogenics, magnetocaloric effect, superconductivity
Dr. Santhosh P N	Multiferroics, layered oxide materials, CuO based nanomaterials
Dr. Satyanarayana M V	Quantum optics, laser physics, photonics
Dr. Srinivas Veeturi	Magnetic materials
Dr. Sriramkumar L	Semi-classical and quantum gravity, inflationary cosmology and the cosmic microwave background, Alternatives to inflation
Dr. Subrahmanyam A	Photovoltaics, photocatalysis, electrochromics, bio-medical engineering, surface engineering
Dr. Subramanian V	Microwave techniques, propagation and devices dielectrics and multi-ferroics
Dr. Sunil Kumar P B (IIT Palakad)	Soft condensed matter physics, biological physics and computational physics
Dr. Suresh Govindarajan	String theory
Dr. Vijayan C	Nanophotonics, light-matter interaction
Associate Professors	
Dr. Aravind G	Autoionization and autodetachment resonances in atomic, molecular and cluster systems
Dr. Dillip Kumar Satapathy	Structure and mechanics of polymer films, directed self-assembly of microemulsions and colloids, X-ray and neutron characterization of materials
Dr. Krishnamurthy.C.V	Non-destructive evaluation, microstructural modeling, light scattering
Dr. Mahaveer Kumar Jain	Semiconductors, photovoltaics, chemical sensors
Dr. Manoj Gopalakrishnan	Theoretical biological physics, stochastic processes, statistical mechanics
Dr. Manu Jaiswal	Elastic, electronic properties of graphene and other 2d-systems, applications of graphene for solar energy, sensing and filtration, conducting polymers and other carbon-based systems
Dr. Nirmala.R	Intermetallics, rare earth intermetallics
Dr. Pattabiraman. M	Experimental atomic physics, quantum optics, magnetometry
Dr. Prafulla Kumar Behera	Experimental high energy physics, neutrino experiment, proton-proton, e+e- experiment and particle detector development
Dr. Prahallad Padhan	Magnetic materials and heterostructures, spintronic devices
Dr. Prasanta K Tripathy	String theory, high energy physics
Dr. Rajesh Narayanan	Condensed matter theory
Dr. Ranjit Kumar Nanda B	
Dr. Somnath Chanda Roy	Experimental materials science, nanomaterials and thin films, nanotechnology for energy and environment
Dr. Sudakar Chandran	Materials for energy applications, Defect-structure property correlations, multifunctional materials
Assistant Professors	
Dr. Abhishek Misra	Electrical transport in quantum materials, device physics, nanoelectronics
Dr. Ashwin Joy	Condensed matter physics
Dr. Ayan Mukhopadhyay	Theoretical physics, quantum field theory and string theory, quantum many-body systems
Dr. Basudev Roy	Experimental soft matter, optical tweezers
Dr. Chandra Kant Mishra	Gravitational waves
Dr. Dawood Kothawala	Semi-classical gravity, quantum mechanics of black holes, QFT with minimal length scale
Dr. Jayeeta Bhattacharyya	Semiconductors, optical spectroscopy, THz spectroscopy
Dr. Panchanana Khuntia	Experimental condensed matter physics
Dr. Prabha Mandayam	Quantum information and computing, quantum optics
Dr. Prabhat Ranjan Pujahari	Experimental high energy physics
Dr. Shanthanu Mukherjee	Condensed matter theory
Dr. Sivarama Krishnan	Femtosecond dynamics, photonics, quantum dynamics
Dr. Sunethra Ramanan	Nuclear structure, renormalization group/effective field theory approaches, neutron star physics
Dr. Vaibhav Madhok	Quantum information theory, chaos and complex systems
Dr. Yasir Iqbal	Theoretical condensed matter



Name and Qualifications	Major Areas of Specialisation
Dr. Vidya Praveen Bhallamudi (ID)	Condensed matter physics magnetism, magnetic resonance, optics
Visiting Faculty	
Prof. Surendra Pal Singh University distinguished professor, University of Arkansas, Fayetteville, USA	Lasers, quantum, classical, and nonlinear optics, light-matter interaction, and optical techniques in biophysics
Adjunct Faculty	
Prof. V. Balakrishnan, IIT Madras	Dynamical systems, quantum dynamics and stochastics
Prof. Shanker Balasubramanian University Distinguished Professor, Michigan State University, USA	Applied electromagnetics, computational electromagnetics, non-linear materials
DST INSPIRE Faculty	
Dr. K Lakshmi Ganapathi	Nanoelectronic devices, device physics, 2D materials and high-k dielectrics integration, thin films synthesis, properties and their applications
DST Ramanujan Fellow	
Dr. Pramoda Kumar Nayak	Two-dimensional materials, topological insulators, quantum dots, van der Waals heterostructures, novel superconducting materials

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members

Sl. No.	Coordinator(s)	Title	Period
Conference			
1	Dr. Prafulla Kumar Behera	XXIII DAE-BRNS High Energy Physics Symposium 2018	9-14 December 2018
Workshops			
1	Dr. Ranjith Kumar Nanda	Workshop on Evolution of Electronic Structure Theory & Experimental Realization 2018	11-15 September 2018
2	Dr. C Vijayan	The Regional Council, TN-Pdy (RC-13, IAPT) and Indian Association of Physics Teachers jointly conducted the Workshop on Low-Cost Microscopy.	22 September 2018
3	Dr. Ramachandra Rao MS	IITM-NTU Joint Workshop on Condensed Matter Theory, Photonics, Spintronics, 2D Materials and Electron Microscopy	17-18 September 2018
4	Dr. Prafulla Kumar Behera	The 27 th International Workshop on Vertex Detectors	21-26 October 2018
5	Dr. Harish Kumar N	IITM-FSCT Awareness Workshop on Science and Engineering – A Journey	October 2018
6	Dr. Sethupathi K	Faculty Development Programme on Material Science at Anna University, Chennai	29 January 2019
Short-term Course			
1	Dr. V Subramanian, Dr. Krishnamurthy CV	AICTE-sponsored STC workshop on Frontiers In Microwaves	22-27 October 2018

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members

Sl. No.	Faculty Member	Title	Institution	Period
Workshops				
1	Dr. Prafulla Behera	Forum on Tracking Detector Mechanics 2018	IFIC, Valencia, Spain	25-27 June 2018
2	Dr. Jim Libby	Workshop-FPCP 2018	University of Hyderabad	14-18 July 2018
3	Dr. Jim Libby	Workshop-Post FPCP School	IIT Hyderabad	19-22 July 2018
4	Dr. Jim Libby	XXIIIth DAE-BRNS High Energy Physics Symposium 2018	IIT Madras	10-14 December 2018
5	Dr. L. Sriramkumar	Workshop on Cosmology - The Next Decade	International Centre for Theoretical Studies, Bengaluru	22-25 January 2019



Sl. No.	Faculty Member	Title	Institution	Period
6	Dr. L. Sriramkumar	Gravity at Different Length Scales	Indian Association for the Cultivation of Science, Kolkata	25-27 February 2019
7	Dr. K. Sethupathi	Invited talk: The State-of-Art Analytical Equipment Workshop, Evolution in Physical Property Measurement in Materials	Anna University	2 March 2019
8	Dr. James Frederick Libby	Belle II: Flavour physics at the intensity frontier	IIT Kanpur	15 March 2019
Seminars				
1	Dr. S Ramaprabhu	Synthesis of carbon nanocomposites and their energy storage applications	CEMES, University of Toulouse, France	23 May 2018
2	Dr. S Ramaprabhu	Energy Applications of carbon nanocatalysts	ENSIAT, University of Toulouse, France	15 May 2018
3	Dr. R. Nirmala	A poster titled, Synthesis and Spectroscopic Characterization of Gd_2O_3 nanoparticles and nanorods, presented in Optics, Photonics and Synchrotron Radiation (OPSR-2018)	Raja Ramanna Centre for Advanced Technology, Indore	29 April-2 May 2018
4	Dr. Jim Libby	India-CMS Collaboration meeting	Visva-Bharati University, Santiniketan, West Bengal	16-18 August 2018
5	Dr. A. R. Ganesan	Optical Society of India International Symposium on Optics OSI-ISO 2018	IIT Kanpur	19-22 September 2018
6	Dr. Sivarama Krishnan	Invited talk, Atomic, Molecular and Optical Sciences Meet	IIT Tirupati	20 March 19
7	Dr. Sivarama Krishnan	Invited talk, National Conference on Atomic and Molecular Physics 2019	IIT Kanpur	26 March 19
Symposia				
1	Dr. R. Nirmala	Advances in Magnetocaloric materials	National Symposium on Advanced Materials (NSAM 2019) held at VIT, Chennai	8 March 2019
2	Dr. Sethupathi K	Advances in Low Temperature Physics	National Symposium on Low Temperature Physics, Chennai	5 February 2018
Conferences				
1	Dr. L. Sriramkumar	Recent Developments in Cosmology	Banaras Hindu University, Varanasi	6-8 April 2018
2	Dr. S. Lakshmi Bala	Conference on nonlinear systems and dynamics	JNU, New Delhi	11-14 October 2018
3	Dr. R. Nirmala	Enhanced magnetocaloric effect in undercooled RNi (R = Gd, Ho and Er) compounds	International Conference on Magnetic Materials and Applications (ICMAGMA 2018) at NISER, Bhubaneswar	9-13 December 2018
4	Dr. L. Sriramkumar	The XXX Meeting of the Indian Association of General Relativity and Gravitation	Birla Institute of Technology and Science – Pilani, Hyderabad	3-5 January 2019
5	Dr. Prafulla Behera	Lake Louise Winter Institute 2019	University of Alberta, Chateau Lake Louise, Canada	10-16 February 2019

Special lectures delivered by the faculty in other institutions

Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
1	Dr. L. Sriramkumar	Hawking's Genius	Institute Colloquium, Indian Institute of Technology, Palakkad	4 April 2018
2	Dr. L. Sriramkumar	Viable near-matter bounces	Invited talk in Recent Developments in Cosmology, Banaras Hindu University, Varanasi	7 April 2018



Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
3	Dr. Sivarama Krishnan	Special lecture on Nanoscale systems in intense NIR pulses and with XUV photons	Ludwig Maximilians University	2 July 2018
4	Dr. Abhishek Misra	Presented a lecture at CDT annual conference; topic: Magnon-assisted tunnelling in van der Waals heterostructures based on CrBr ₃	University of Manchester, Lancaster and Cambridge	5 July 2018
5	Dr. L. Sriramkumar	Hawking's ideas on the origin of the universe	Talk in Stephen Hawking Memorial Programme organised by the Tamil Nadu Science Forum at Anna Centenary Library, Chennai	8 July 2018
6	Dr. Manu Jaiswal	UGC refresher programme for science teachers, NCNSNT; topic: i. Feynman's challenge – The limits of nanotechnology, ii. Sensing with grapheme	Madras University	8 July 2018
7	Dr. Prem B Bisht	Hybrid micro-resonators, ultrafast optics and spectroscopy	IITM-Southampton workshop, ICSR, IIT Madras	11-13 July 2018
8	Dr. Prem B. Bisht	Design of an optical system to characterize cholesterol deposits in coronary artery for heart surgery	IITM-Sydney University workshop, ICSR, IIT Madras	11-12 September 2018
9	Dr. A. R. Ganesan	Invited talk: Measurement and characterization of higher order human ocular aberrations	Optical Society of India International Symposium on Optics OSI-ISO 2018, IIT Kanpur	21 September 2018
10	Dr. L. Sriramkumar	Cosmic microwave background: A window to the early universe	Invited talk at National Conference on Cosmology and Astroparticle Physics, Women's Christian College, Chennai	1 October 2018
11	Dr. James Libby	Gave lecture on Belle II: Flavour physics at the intensity frontier	University of Oxford	9 October 2018
12	Dr. Prem B Bisht	The Nobel Prize for Physics 2018, the groundbreaking inventions in laser physics	ICSR, IIT Madras	10 October 2018
13	Dr. James Libby	Gave lecture on Belle: Flavour physics at the intensity frontier	University of Warwick	11 October 2018
14	Dr. S. Lakshmi Bala	Invited talk: Ergodicity properties of quantum expectation values	JNU, New Delhi	11-14 October 2018
15	Dr. S. Lakshmi Bala	Refresher course in quantum mechanics (six lectures and six tutorials)	HPT College, Nashik	3-6 December 2018
16	Dr. Panchanana Khuntia	Invited speaker and chaired a session in International Conference on Magnetic Materials and Applications (ICMAGMA) 2018	NISER, Bhubaneswar	9-13 December 2018
17	Dr. R. Nirmala	Talk: Enhanced magnetocaloric effect in undercooled RNi (R = Gd, Ho and Er) compounds, ICMAGMA 2018	NISER, Bhubaneswar	9-13 December 2018
18	Dr. Somnath C Roy	Invited talk in International Conference on Complex and Functional Materials (ICCFM 2018)	SN Bose Centre, Kolkata	14-16 December 2018
19	Dr. Somnath C Roy	IEEE-INDICON 2018	Amrita University, Coimbatore	16 December 2018
20	Dr. Manu Jaiswal	Invited talk: Wrinkle and crack dependent electrical transport in graphene and other low-dimensional systems	IEEE ICEE 2018, Bengaluru	16 December 2018
21	Dr. Manu Jaiswal	Electro-thermal studies on thermal conductivity of low-density 3D graphene networks	IEEE ICEE 2018, Bengaluru	17 December 2018



Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
22	Dr. Ramachandra Rao M S	Invited talk: Physics and applications of functional materials and nanostructures	Telangana State Science Congress (TSSC), NIT, Warangal	22-23 December 2018
23	Dr. R. Nirmala	Visited Department of Condensed Matter Physics and Materials Science	TIFR, Mumbai for a collaborative project	26-31 December 2018
24	Dr. Ramachandra Rao M S	3 rd International Conference on Optoelectronic and Nanomaterials for Advanced Technology (ICONMAT) 2019	CUSAT, Cochin	3 January 2019
25	Dr. L. Sriramkumar	Magnetogenesis in inflationary and bouncing scenarios	Contributed talk in The XXX Meeting of the Indian Association of General Relativity and Gravitation, Birla Institute of Technology and Science - Pilani, Hyderabad	5 January 2019
26	Dr. Ramachandra Rao M S	Indian National Science Congress	Lovely Professional University, Jalandhar	6 January 2019
27	Dr. P. Murugavel	Special Lecture on Dielectric, magnetic and magnetoelectric materials	Anna University Chennai	1 February 2019
28	Dr. L. Sriramkumar	Primordial features from ekpyrotic bounces	Contributed talk in the workshop on Cosmology - The Next Decade, International Centre for Theoretical Studies, Bengaluru	22 January 2019
29	Dr. L. Sriramkumar	Did the universe bang or bounce?	Colloquium, Indian Institute of Technology, Gandhinagar	1 February 2019
30	Dr. P. Murugavel	Attended MRSI and the First Indian Materials Conclave	IISc Bangalore	12 February 2019
31	Dr. Manu Jaiswal	Structure and dynamics of confined water in graphene oxide membranes	IISc Bangalore, MRSI AGM	15 February 2019
32	Dr. P. Murugavel	Attended Chemistry and Physics of Materials: Glorious Past and Exciting Future	JNCASR, Bengaluru	21 February 2019
33	Dr. L. Sriramkumar	Invited talk in Gravity at Different Length Scales on title: Towards constructing viable bouncing scenarios	Indian Association for the Cultivation of Science, Kolkata	26 February 2019
34	Dr. Prem B Bisht	Interdisciplinary field of laser physics and applications in low dimensional systems	Bharthidasan University, Trichy	28 March 2019

Visits abroad by faculty

Sl. No.	Faculty Member	Country Visited	Date	Purpose of Visit	Funding from
1	Dr. Sudakar Chandran	Malaga, Spain	14-17 April 2018	Visited to approve the factory acceptance test of equipment ordered	CPDA
2	Dr. Prafulla Kumar Behera	Geneva, Switzerland	20 April-8 May 2018	Visited CMS experiment work	CPDA
3	Dr. Basudev Roy	Strasbourg France	22-26 April 2018	Brief visit to SPIE Photonics Europe	CPDA
4	Dr. Pramoda Kumar Nayak	San Diego, USA	23-27 April 2018	International Conference on Metallurgical Coatings and Thin Films	CPDA
5	Dr. R Nirmala	Marina Bay Sands, Singapore	23-27 April 2018	IEEE International Magnetism Conference (INTERMAG 2018)	CPDA
6	Dr. Sunethra Ramanan	Trieste, Italy	1-10 May 2018	Academic interaction	CPDA
7	Dr. Yasir Iqbal	Berlin, Germany	5 May-29 July 2018	Taken up as Guest Scientist at the Helmholtz Centre	CPDA
8	Dr. Subrahmanyam A	Orlando, Florida, USA	5-10 May 2018	Visited Society of Vacuum Coaster Technical International Conference	CPDA



Sl. No.	Faculty Member	Country Visited	Date	Purpose of Visit	Funding from
9	Dr. Ramaprabhu S	Toulouse, France	11-26 May 2018	Indo-French Program at National Centre for Scientific Research	CPDA
10	Dr. Sivarama Krishnan	The Synchrotron facility Elettra, Trieste, Italy	11-26 May 2018	Research meeting and experiment campaign	CPDA
11	Dr. Sunethra Ramanan	France	14-18 May 2018	A brief visit to IPN, Orsay	CPDA & IPN
12	Dr. Subrahmanyam A	Eugene, Oregon, USA	14 May-7 June 2018	Interacted with the Surface Engineering Group at University of Portland	CPDA
13	Dr. Abhishek Misra	University of Manchester, UK	17 May-20 July 2018	Visited University of Manchester	CPDA & UoM
14	Dr. Krishnamurthy CV	East Lansing, United States of America	19-23 May 2018	Visited Michigan State University	CPDA
15	Dr. Subramanian V	East Lansing, United States of America	20-27 May 2018	Workshop on research collaboration at Michigan State University	CPDA
16	Dr. Ayan Mukhopadhyay	Vienna, Austria	21 May-30 June 2018	Taken up as Visiting Professor at Vienna University of Technology	CPDA
17	Dr. Prafulla Kumar Behera	Geneva, Switzerland	23 May-22 June 2018	Visited for CMS Experiment Work	CPDA
18	Dr. Prabhat Pujahari	Geneva, Switzerland	25 May-25 June 2018	Visited for CMS Experiment Work	CPDA
19	Dr. K Sethupathi	ISAF-FMA-AMF-AMEC-PFM, Hiroshima, Japan	27 May-1 June 2018	Joint Conference (IFAAP 2018)	CPDA
20	Dr. Sivarama Krishnan	Paris, France	27 May-2 June 2018	Benoît Frachon Conference Centre in PALM International School 2018	CPDA
21	Dr. Dillip Kumar Satapathy	Eger, Hungary	28-30 May 2018	11 th Conference on Colloid Chemistry	CPDA
22	Dr. Jatindra Kumar Rath	Utrecht University, Netherlands	28 May-22 June 2018	Interacted with researchers	CPDA
23	Dr. Ramachandra Rao MS	United States of America	28-31 May 2018	A workshop at Michigan State University, East Lansing	CPDA
24	Dr. Ramachandra Rao MS	Tucson, USA	31 May-6 June 2018	A meeting at University of Arizona	CPDA
25	Dr. Shanthanu Mukherjee	Denmark	1-15 June 2018	A brief visit to Copenhagen University, Copenhagen	CPDA
26	Dr. K Sethupathi	Japan	2 June 2018	Special lecture under Kyushu branch of Applied Physics Society Ferroelectric Materials for Solid State Refrigeration, Energy Storage and Energy Conversion Applications at Nagasaki University	CPDA
27	Dr. K Sethupathi	Japan	6 June 2018	Advanced functionalities of PZT-based ferroelectrics	CPDA
28	Dr. Sivarama Krishnan	Germany	6-29 June 2018	Took up as visiting scientist at Max Planck Institute for Nuclear Physics, Heidelberg	CPDA
29	Dr. K Sethupathi	Japan	8 June 2018	Giant magnetoresistance and large magnetocaloric effect in rare earth doped manganites	CPDA
30	Dr. Ramachandra Rao M S	Japan	10-19 June 2018	Took up position as Visiting Professor at Kyushu University, Fukuoka	CPDA
31	Dr. Santhosh P N	Japan	18-21 June 2018	Visited KEK Photon Factory, Tsukuba	CPDA
32	Dr. Santhosh P N	Japan	22-23 June 2018	Visited Kyoto University, Kyoto	CPDA



Sl. No.	Faculty Member	Country Visited	Date	Purpose of Visit	Funding from
33	Dr. Prafulla Kumar Behera	Switzerland and Spain	23 June-28 July 2018	CMS experiment work at Switzerland and oral presentation in Tracker Mechanics meeting at Valencia, Spain	CPDA
34	Dr. Ranjit Kumar Nanda	South Korea	25-29 June 2018	Collaborative Conference on Material Research (CCMR) 2018, Seoul	CPDA
35	Dr. James Frederick Libby	China	25 June-4 July 2018	BESIII Collaboration Meeting at Institute of High Energy Physics, Beijing	CPDA
36	Dr. Dawood Kothawala	Netherlands	3-6 July 2018	Second Information Universe Conference, Groningen	CPDA
37	Dr. Subrahmanyam A	Japan	9-14 July 2018	Discussion at Minda Management Services Ltd, Tokyo and attended the meeting at Suzuki Motor Corporation, Hamamatsu	CPDA
38	Dr. Markandeyulu G	United States of America	16-20 July 2018	21 st International Conference on Magnetism, Sun Francisco, California	CPDA
39	Dr. Subrahmanyam A	Netherlands and Germany	17 and 20 July 2018	2018 SOLMAT Board Meeting, Amsterdam; attended the meeting with Relyon Plasma GmbH, Regensburg	CPDA
40	Dr. Neelima M Gupte	Hawaii, USA	5-9 August 2018	International Conference on Applications in Nonlinear Dynamics	CPDA
41	Dr. Rajesh Narayanan	Sao Paulo, Brazil	14-18 August 2018	Visited International Centre for Theoretical Physics	CPDA
42	Dr. Rajesh Narayanan	Sao Paulo, Brazil	18-25 August 2018	Visited Sao Carlos Physics Institute	CPDA
43	Dr. Yasir Iqbal	Beijing, China	27 August-14 September 2018	Workshop on Quantum Magnetism: Frustration, Low- Dimensionality, Topology	CPDA
44	Dr. Ramachandra Rao M S	Santa Clara, California, USA	6-12 September 2018	IIT Madras Technology Summit in USA	CPDA
45	Dr. James Frederick Libby	Beijing, China	9-14 September 2018	BESIII Physics and Software Workshop at Institute of High Energy Physics, Chinese Academy of Sciences	CPDA
46	Dr. Somnath Chanda Roy	England, UK	10-12 September 2018	Conference on Advanced Energy Material (AEM 2018), University of Surrey	CPDA
47	Dr. Ramaprabhu S	Camerino, Italy	16-19 September 2018	Joint Expert Meet and Bilateral Italy-India Workshop on Renewable Energy Technologies, at the crossroads of Global Energy Grids, University of Camerino	CPDA
48	Dr. Subramanian V	Michigan, USA	13-19 September 2018	23 rd International Workshop on Electromagnetic Nondestructive Evaluation (ENDE2018)	CPDA
49	Dr. Prafulla Kumar Behera	Geneva, Switzerland	20 September-8 October 2018	Visited for CMS experiment work	CPDA
50	Dr. Sudakar Chandran	Brussels, Belgium	24-28 September 2018	35 th European Photovoltaic Solar Energy Conference and Exhibition	CPDA
51	Dr. James Frederick Libby	England, UK	7-16 October 2018	Visited University of Oxford for UKIERI collaboration	CPDA
52	Dr. Subrahmanyam A	Platanias-Chania, Crete, Greece	14-19 October 2018	7 th International Symposium on Transparent Conductive Materials	CPDA
53	Dr. Dawood Kothawala	Durban, South Africa	22-28 October 2018	The Second Symposium of the BRICS Association on Gravity, Astrophysics and Cosmology (BRICS-AGAC)	CPDA



Sl. No.	Faculty Member	Country Visited	Date	Purpose of Visit	Funding from
54	Dr. Sivarama Krishnan	Daejeon, South Korea	29 October-2 November 2018	International Workshop Attosecond Physics at the Nanoscale	CPDA
55	Dr. Yasir Iqbal	Dresden, Germany	5-9 November 2018	International Workshop on Correlated Electronics in Transition-Metal Compounds: New Challenges	CPDA
56	Dr. Yasir Iqbal	Berlin, Germany	9-November 2018	Visited Free University of Berlin	CPDA
57	Dr. Prabhat Ranjan Pujahari	Sharjah, United Arab Emirates	11-13 November 2018	1 st Sharjah International Conference on Particle Physics, Astrophysics and Cosmology (FISICPAC 2018)	CPDA
58	Dr. Yasir Iqbal	Würzburg, Germany	12-13 November 2018	Visited Institute für Theoretische Physik und Astrophysik	CPDA
59	Dr. Prabha Mandayam	Singapore	17-23 November 2018	Collaborative visit to Yale – NUS College and Centre for Quantum Technologies (CQT) at National University of Singapore	CPDA
60	Dr. Prabhat Ranjan Pujahari	Geneva, Switzerland	25 November-10 December 2018	Visited CERN as an associated member	CPDA
61	Dr. Prem B Bisht	Singapore	26 November 2018	Photonics@SG2018 Conference	CPDA
62	Dr. P N Santhosh	Japan	26-29 November 2018	Visited to Photon Factory, KEK, Tsukuba	CPDA
63	Dr. Sivarama Krishnan	Germany	2-7 December 2018	Visited Leibniz Universität, Hannover	CPDA
64	Dr. Ramachandra Rao M S	Japan	3-12 December 2018	Chaired a session at the 2 nd International Green Innovation Symposium: Materials for Energy and Environment Sustainability, SIT, Tokyo	CPDA
65	Dr. Manoj Gopalakrishnan	United States of America	6-11 January 2019	2019 Stochastic Physics in Biology Gordon Research Conference, Ventura, CA	CPDA
66	Dr. Markandeyulu G	United States of America	14-18 January 2019	2019 Joint MMM-Intermag Conference, Washington DC	CPDA
67	Dr. Subrahmanyam A	Malaysia	28-29 January 2019	The 5 th Asian Workshop on Applied Plasma Science and Engineering (APSE), Kuala Lumpur	CPDA
68	Dr. James Frederick Libby	United Kingdom	4-11 February 2019	Brief visit for Project discussions at the University of Oxford	CPDA
69	Dr. Prafulla Kumar Behera	Switzerland	8-15 February 2019	Participated in the CMS Experiment work	CPDA
70	Dr. Prafulla Kumar Behera	Canada	18 February-1 March 2019	A brief visit to Lake Louise Winter Institute 2019, University of Alberta	CPDA
71	Dr. Sivarama Krishnan	Germany	16-28 February 2019	Visited Research Campaign at FLASH, Hamburg	CPDA
72	Dr. Yasin Iqbal	United States of America	4-8 March 2019	Visited American Physical Society March Meeting 2019, Boston, Massachusetts, USA	CPDA
73	Dr. Prasanta Kumar Tripathy	France	25-27 March 2019	61 st Anniversary Centre de Physique Théorique and Workshop on advances in String Theory and Related Topics, Paris	CPDA
74	Dr. M S Ramachandra Rao	France	25 March-10 April 2019	Visited to University of Montpellier	CPDA
75	Dr. James Frederick Libby	China	28-31 March 2019	BESIII 2019 Spring Physics and Software at Hunan Normal University, Changsha	CPDA

**Honours and awards obtained by faculty**

Sl. No.	Faculty Member	Award	Awarded by	Awarded for	Date of Award
i. Honours					
1	Dr. M. S. Ramachandra Rao	Institute Chair Professor	IIT Madras		April 2018
2	Dr. S. Ramaprabhu	Fellow	The Academy of Sciences, Chennai		January 2019
3	Dr. S. Ramaprabhu	Fellow	Royal Society of Chemistry		January 2019
4	Dr. M. S. Ramachandra Rao	MRSI-ICSC Superconductivity & Materials Science Annual Prize for the year 2019	MRSI-ICSC	Research	January 2019
5	Dr. P. N. Santhosh	Invitational Fellowship FY2019	JSPS	Research	January 2019
ii. Awards					
1	Dr. Ayan Mukhopadhyay	Award of the Ramanujan Fellowship			March 2018
2	Dr. Manu Jaiswal	Career Research and Development Award	Institute Research and Development Awards for 2018-2019	Early Career Research and Development	March 2019
3	Dr. Abhishek Misra	Early Career Research Award	DST-SERB	Research	March 2019

Design and Development Activities**New facilities added or major equipment procured**

Sl. No.	Equipment	Value (Rs. in lakh)
1	Optical Microscope	11
2	Van der Waals heterostructure assembly system	10

Patents**Patents filed**

Sl. No.	Faculty Member	Topic of Patent
1	Dr. Ramaprabhu Sundara	Hetero-atom induced ferromagnetism in antiferromagnetic hematite
2	Dr. Ramaprabhu Sundara	Method of synthesizing graphene quantum dots
3	Dr. Ramaprabhu Sundara Dr. Manu Jaiswal	Device and method to study electrochemical properties of membranes under strain
4	Dr. Ramaprabhu Sundara	Fe/Fe ₃ C encapsulated N-CNT electrode for electrochemical applications and method of preparation thereof
5	Dr. Prahallad Padhan	Apparatus and method developed for the deposition of complex oxide thin films inside the water cooled port of sputtering chamber using pulsed plasma
6	Dr. Manu Jaiswal	Crack engineered polymeric sensor device for vapor sensing and method of preparation thereof

4.16.4. Research and Consultancy**Sponsored Research Projects (ongoing and new)**

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Coordinators
1	Innovation in Science Pursuit for Inspired Research (INSPIRE) - INSPIRE Faculty Award	10 May 2013-10 May 2019	Department of Science & Technology (DST)	86.27	Dr. Dawood Kothawala
2	Quantum Information Theory - INSPIRE	1 August 2014 - 30 April 2019	DST	35.00	Dr. Prabha Mandayam



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Coordinators
3	Tracking structural and magnetic transitions in electron doped manganese oxides by powder neutron diffraction	1 January 2015 - 30 June 2019	University Grants Commission (UGC)	1.50	Dr. Nirmala R, Co-investigator: Dr. Santhosh P N
4	Nitrogen doped partially exfoliated multi walled carbon nanotubes-PtRu nanoparticle hybrids as high performance anode for direct methanol fuel cells	8 June 2016- 7 June 2019	DST	29.75	Dr. Ramaprabhu S; Co-investigator: Dr. Manu Jaiswal
5	Development of flexible perovskite solar cells using TiO ₂ nanostructures grown on Kapton substrates	9 June 2016 - 8 June 2019	DST	80.30	Dr. Somnath Chanda Roy; Co-investigator: Dr. Sudakar Chandran
6	First principles modeling of organic inorganic halide pervoskite thin film solar cells	23 May 2016 - 22 May 2019	Council of Scientific and Industrial Research (CSIR)	19.88	Dr. Birabar Ranjit Kumar Nanda
7	High-sensitivity piezo-resistive array of sensors based on flexible graphene-metal-polymer based composite layers	20 October 2016-19 October 2019	Uchhatar Avishkar Yojana-IIT Madras	464.58	Dr. Ramaprabhu S; Co-investigators: Dr. Balasubramaniam, Dr. Susy Varughese, Dr. Abhijit Deshpande, Dr. Lakshmana Rao
8	Femtosecond laser pulses for ultra-precision manufacturing of soft and hard materials (FsPUSH)	18 August 2016-17 August 2019	DST	349.17	Dr. Sivarama Krishnan; Co-investigators: Dr. Soundarapandia S, Dr. Ramesh Babu N, Dr. Anil Prabhakar, Dr. Balaji Srinivasan, Dr. Nilesh Jayantilal
9	Compact Muon Solenoid (CMS) upgrade operation and utilization	29 September 2016- 31 March 2020	DST	332.00	Dr. Prafulla Kumar Behera; Co-investigators: Dr. James Libby, Dr. Prabhat Pujahari
10	Scaling electronic dynamics in finite quantum systems from Angstrom to nanoscale	15 November 2016-14 November 2019	Max Planck Institute for Nuclear Physics	43.67	Dr. Sivarama Krishnan
11	Time-resolved spectroscopic investigation of carrier dynamic in organic semiconductor thin films	9 January 2017-8 January 2020	DST	49.08	Dr. Jayeeta Bhattacharyya; Co-investigator: Dr. Debductta Ray
12	Fabrication of polymer-based materials for thermoelectric applications	24 February 2017-23 February 2020	Impacting Research Innovation and Technology - IMPRINT	329.00	Dr. Dillip Kumar Satapathy; Co-investigator: Dr. Ravi Kumar NV
13	Probing interstellar and atmospheric anions through velocity map imaging	14 February 2017-13 February 2020	Indian Space Research Organisation (ISRO)	25.80	Dr. Aravind G
14	Effect of alcohols and polymers on bending modulus of reverse microemulsions and swelling of biopolymer thin films: effects of confinement and solvent-polymer interaction (CRS-M-233)	1 January 2017- 31 December 2019	UGC	1.35	Dr. Dillip Kumar Satapathy



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Coordinators
15	High-capacity Li-rich layered oxide cathode for quick charge battery: Enhancing the electrochemical performance for electric vehicle applications	31 March 2017- 30 March 2020	DST	158.14	Dr. Sudakar Chandran; Co-investigator: Dr. Birabar Ranjit Kumar Nanda
16	Effect of crystal symmetry and d/f-orbitals on the electronic properties of strongly correlated oxides and their interfaces	21 March 2017- 20 March 2020	DST	28.51	Dr. Birabar Ranjit Kumar Nanda
17	Effective harnessing of light-matter interaction in disordered photonic media	31 March 2017-30 March 2020	DST	47.85	Dr. Vijayan C; Co-investigator: Dr. Sivarama Krishnan
18	In situ investigations of swelling dynamics of confined glassy ionic polymers	31 March 2017-30 March 2020	DST	61.21	Dr. Dillip Kumar Satapathy
19	Indigenous low-cost compact optical non-contact device for in situ characterisation of soft-matter	19 August 2017-17 August 2021	IMPRINT	118.46	Dr. Sivarama Krishnan; Co-investigator: Dr. Dillip Kumar Satapathy
20	Single crystal growth magnetic, electronic and thermal transport studies of multi-functional materials: oxides, intermetallics and polymers-FIST	31 March 2017-30 March 2022	DST	385.00	Head of the Department
21	Seeded femtosecond nanoplasmas for accelerated neutral atom beams applied to nanolithography	28 March 2017- 27 March 2020	DST	49.78	Dr. Sivarama Krishnan
22	All oxide thin film solid state batteries with oxide based super-ionic conductor and oxide-National Post-Doctoral Fellowship	10 April 2017-9 April 2019	DST	19.20	Dr. Ramaprabhu S
23	Macroscopic and microscopic description of black holes in string theory	28 April 2017-27 April 2020	DST	25.53	Dr. Prasanta Kumar Tripathy; Co-investigator: Dr. Suresh Govindarajan
24	Scaling electronic dynamics in finite quantum systems from Angstrom to nanoscale	31 March 2017-30 March 2020	DST	40.23	Dr. Sivarama Krishnan
25	Durable fuel cells based on polymer coated nanocarbon composites (DUPONT)	15 May 2017-14 May 2020	Indo-French Centre for the Promotion of Advance Research	29.96	Dr. Ramaprabhu S
26	Construction of an electron-impact based anion source photodetachment experiments	1 November 2016- 31 October 2019	CSIR	9.00	Dr. Aravind G
27	From charm to beauty: Towards a precision measurement of the CKM Angle γ -UKIERI	1 March 2017- 28 February 2020	UGC	17.22	Dr. Jim Libby
28	2D semiconductor heterostructure devices for next generation electronics	5 June 2017- 4 June 2022	DST	86.27	Dr. K Lakshmi Ganapathi
29	Design and development of sensors for the detection of explosive agents	27 July 2017- 26 July 2020	Defence Research and Development Organisation (DRDO)	82.84	Dr. Somnath Chanda Roy; Co-investigator: Dr. Birabar Ranjit Kumar Nanda



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Coordinators
30	Development of grapheme based composite materials for solar energy applications	27 July 2017-26 July 2020	DST	30.70	Dr. Somnath Chanda Roy
31	Design and development of hydrogen storage device with Mg based alloy nanoparticles decorated frustule nitrogen doped graphene composite	1 September 2017-31 August 2019	DRDO	66.01	Dr. Ramaprabhu S; Co-investigator: Dr. Manu Jaiswal
32	Lithium-ion battery cycling for chemistry-controlled magnetic switching in maganite spinels - National Post-Doctoral Fellowship	4 August 2017- 3 August 2019	DST	19.20	Dr. Santhosh P N
33	Photovoltaic effect in oxygen vacancy-controlled $\text{Bi}_{1-x}\text{A}_x\text{FeO}_3$ -g(A= Ca_2^+ , K^+ , Cs^+) perovskite: Polarization modulated and nanoparticulate sensitized solar cells	4 August 2017- 3 August 2020	DST	45.28	Dr. Sudakar Chandran
34	Classical structures from primordial quantum fluctuations: inflationary vs bouncing scenarios	1 September 2017- 31 August 2019	DST	19.20	Dr. Sriramkumar L
35	Two-dimensional materials for thermoelectric applications: a first principle investigation	14 September 2017- 13 September 2019	DST	19.20	Dr. Birabar Ranjit Kumar Nanda
36	Development of new, low-cost and high-performance electrodes based on $\text{A}_4\text{Ti}_5\text{O}_{12}$ (A=Na and K) as anode and $\text{A}_4\text{M}_3(\text{PO}_4)_2\text{P}_2\text{O}_7$ (A=Na and K, M=Mn, Co, Fe and Ni) as cathodes for Na and K ion batteries	4 October 2017- 3 October 2019	DST	19.20	Dr. Sudakar Chandran
37	Surface dominated electronic transport in lateral and vertical two-dimensional layered topological insulator heterostructures— Ramanujan Fellowship	18 September 2017- 17 September 2022	DST	106.94	Dr. Pramoda Kumar Nayak
38	Random matrices: from products to embedded ensembles	19 June 2017- 18 June 2019	DST	19.20	Dr. Arul Lakshminarayan
39	Magnetocaloric effect and photocatalytic activity in nanoscale hierarchical rare-earth based materials—National Post-Doctoral Fellowship	16 October 2017- 15 October 2019	DST	19.20	Dr. Nirmala R
40	Development and characterization of 3d graphene foam as a thermal insulator for space applications	31 October 2017- 30 October 2019	ISRO	25.99	Dr. Manu Jaiswal
41	Fabrication of organic ferroelectric thin films for eco-friendly device applications	9 May 2017- 8 May 2019	CSIR	16.64	Dr. Murugavel P
42	Immobilization of Calnuc protein on ZnO nanostructures film for biosensor applications	29 December 2017-28 December 2020	Department of Biotechnology	45.97	Dr. Santhosh P N; Co-investigators: Dr. Murugavel P, Dr. Gopalakrishna A
43	Development of technology and processes to produce nanomaterials, nanocomposites, nanocoatings, nanolubricants and nanoceramics	16 April 2018- 15 April 2021	DST	1029.21	Dr. Ramachandra Rao M S; Co-investigators: Dr. Bhattacharya S S, Dr. Ramaprabhu S



Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakh)	Coordinators
44	Study of optical properties of undoped and doped ZnO micro-/nano-structures for UV detection	23 March 2018- 22 March 2020	DST	93.52	Dr. Ramachandra Rao M S; Co-investigators: Dr. Nandita Das Gupta
45	A novel paradigm for strongly correlated systems-Ramanujan Fellowship	5 June 2018- 4 June 2023	DST	38.00	Dr. Ayan Mukhopadhyay
46	Emergent phenomena in frustrated magnets and Heusler materials	6 July 2018- 5 July 21	DST	42.20	Dr. Panchanana Khuntia
47	Investigation of spin-Hall magnetoresistance (SMR) in highly spin-orbit coupled oxide/magnetic insulator heterostructures-DST SERB	16 July 2018- 15 July 2021	DST	28.60	Dr. Ramachandra Rao M S; Co-investigator: Dr. Sethupathi K
48	Highly porous 3d graphene composites for protecting electronic equipment from electromagnetic interference (EMI)	31 August 2018- 30 August 2020	Uchhatar Avishkar Yojana - IIT Madras	162.45	Dr. Subramanian V; Co-investigators: Dr. Ramaprabhu S, Dr. Balasubramaniam
49	Development of a low-cost portable optical reflectance spectrometer for mining and mineralogy	28 September 2018- 27 September 2019	Ministry of Mines	10.00	Dr. Sivarama Krishnan
50	Shear localization and yielding in glassy complex plasma	20 December 2018- 25 November 2019	DST	6.89	Dr. Ashwin Joy
51	Development of a diverse lab-on-a-chip platform for plastic electronics, microcatalysis and biosensing applications using microlithography by directed self-assembly driven by laser induced microbubbles	2 January 2019- 1 January 2022	IMPRINT	5.08	Dr. Basudev Roy
52	Exploring magnetic, magnetocaloric and magnetoresistive properties of $Ti(Fe_{1-x}Co_x)_2$ ($0 < x < 1$)	4 December 2018- 3 December 2021	Science and Engineering Research Board (SERB)	10.05	Dr. Nirmala R
53	Edge saturated Si_2BN nano-ribbon as high-capacity anode materials for next generation Mg ion batteries	29 November 2018- 28 November 2021	SERB	10.05	Dr. Birabar Ranjit Kumar Nanda
54	A novel non-perturbative approach for understanding heavy-ion collisions	11 March 2019- 10 March 2022	SERB	9.02	Dr. Ayan Mukhopadhyay
55	Unravelling radiation damage processes in biologically relevant mesoscopic systems	15 March 2019- 14 March 2021	Scheme for Promotion of Academic and Research	74.27	Dr. Sivarama Krishnan
56	Setting up silicon detector characterization facility	18 March 2019- 17 March 2022	SERB	39.95	Dr. Prafulla Kumar Behera
57	TMDC transistors interfaced with graphene electrodes on flexible substrates	25 March 2019- 24 March 2021	SERB	14.40	Dr. Manu Jaiswal
58	Van Der Waals heterostructures for non-volatile flash memory applications	19 March 2019- 18 March 2022	SERB	41.91	Abhishek Misra



Industrial consultancy projects (ongoing and new)

Sl. No.	Faculty Member	Title	Industry	Amount (Rs. in lakh)
1	Dr. Manu Jaiswal, Co-PIs: Dr. K L Ganapathi, Dr. S. Ramaprabhu	Graphene-based membranes for water purification applications (RBIC consultancy project)	Tata Steel	16.57
2	Dr. S. Ramaprabhu	Development of nanolubricant with coal mill gearbox oil as base lubricant	NTPC	86.25
3	Dr. S. Ramaprabhu	Development of partially exfoliated carbon nanotubes based Li-S battery and 2032 coin cells	DRDO	100.05
4	Dr. S. Ramaprabhu	Development of high-capacity metal oxide/carbon nanomaterial based anode material for sodium ion batteries	RCI, Hyderabad	9.9
5	Dr. Prem B Bisht	An efficient metal nanocomposite saturable absorber (Mensa) for broadband mode-locking applications	Intellectual Ventures	0.11
6	Dr. Subramanian V	Measurements at microwave frequencies	Common Code	5.00
7	Dr. Harishkumar N	Magnetic characterization of coreshell nanoparticles for biomedical application	Reddy's Laboratory Limited	6.49
8	Dr. Somnath Chanda Roy; Co-PIs: Dr. Vijayan C	Test for wavelength and irradiance measurement from light source	Airbus Group India Private Limited	5.83
9	Dr. Murugavel P, Co-PIs: Dr. Dillip Kumar Satapathy	Dielectric relaxation spectroscopic measurements at Physics Department facility	Common Code	5.00
10	Dr. Ramachandra Rao M S; Co-PIs: Dr. Bhattacharya S S, Dr. Ramaprabhu S	Testing of internal samples by various sophisticated instruments	Common Code	5.00
11	Dr. Ramachandra Rao M S; Co-PIs: Dr. Ramaprabhu S	Testing of external sample by various sophisticated instruments	Common Code	5.00
12	Dr. Somnath Chanda Roy; Co-PIs: Dr. Birabar Ranjit Kumar Nanda	Proof-of-concept design of photo-catalytic reactor and demonstration of recycling of carbon dioxide into fuel using solar energy	Oil and Natural Gas Corporation Limited	14.94
13	Dr. Dillip Kumar Satapathy; Co-PIs: Dr. Santhosh P N	XRD measurements at advanced X-ray scattering laboratory	Common Code	5.00

Faculty members' participation with other institution under MoU

Sl. No.	Faculty Member	Participation Details	University/Institution
1	Dr. L. Sriramkumar	Supervised the student, Rathul Nath Raveendran from IMSc on his doctoral thesis.	The Institute of Mathematical Sciences (IMSc), Chennai
2	Dr. L. Sriramkumar	Presently supervising the Ph.D. students, Akhil Antony and Sushovan Mondal on their first-year projects	IMSc, Chennai

Distinguished visitors to the department

Sl. No.	Visitor and Designation	Date of Visit	Purpose of Visit
1	Prof. G. P. Das, Indian Association for the Cultivation of Science, Kolkata	4 April 2018	Colloquium talk: The emerging world of 2D materials and their heterostructures
2	Prof. Akbar Jafari, Sharif University, Tehran	5 April 2018	Seminar: Superconducting proximity in 3D Dirac systems
3	Prof. Akbar Jafari, Sharif University, Tehran	6 April 2018	Delivered the lecture: Effective Hamiltonian of a topological insulator
4	Prof. K. Rama Koteswara Rao, Technische Universitaet Dortmund, Dortmund, Germany	9 April 2018	Seminar: Quantum information processing and hyperpolarization of nuclear spins using nitrogen-vacancy centers in diamond



Sl. No.	Visitor and Designation	Date of Visit	Purpose of Visit
5	Prof. Joe Silk, IAP (Paris), John Hopkins University and University of Oxford	11 April 2018	Colloquium talk: The limits of cosmology
6	Prof. Tim Senden, Director, and Prof. Chennupati Jagadish, Distinguished Professor, ANU Research School of Physics and Engineering	12 April 2018	Visited Physics Department and interacted with HoD and faculty members and lab tour
7	Dr. Aseem Paranjape, Inter-University Centre for Astronomy and Astrophysics, Pune	12 April 2018	Seminar: The locations of gravitational collapse: analytical insights and open issues
8	Dr. Devanarayanan V. P.	16 April 2018	Seminar: Development of surface plasmon resonance instrument with a novel opto-mechanical scanning mechanism
9	Prof. A. Subrahmanyam, IIT Madras	17 April 2018	Seminar: Kelvin Probe: Non-contact and non-destructive surface analytical tool: basic principles
10	Dr Ram Iyer, Allen Institute, Seattle, USA	18 April 2018	Seminar: The computational properties of a simplified cortical column model
11	Prof. G Baskaran, Institute of Mathematical Sciences Chennai	19 April 2018	Seminar: Superconductivity in twisted bilayer grapheme
12	Dr. Subhankar Bedanta, NISER, Bhubaneswar	19 April 2018	Seminar: Magnetism at the interfaces and in nanostructures
13	Dr. Pramod Padmanabhan, Center for Theoretical Physics of Complex Systems Institute for Basic Science, South Korea	26 April 2018	Seminar: Using supersymmetry to study condensed matter systems
14	Dr. George Thomas, IMSc, Chennai	27 April 2018	Seminar: Coupled systems as quantum thermodynamic machines
15	Dr. Madhuparna Karmakar	27 April 2018	Seminar: Superconductors and superfluids: conventional, unconventional and beyond
16	Dr. Sayantan Sharma, IMSc, Chennai	2 May 2018	Seminar: Glimpses of QCD phase diagram from lattice
17	Dr. Gopalakrishnan Balasubramanian, Max-Planck Institute of Biophysical Chemistry, Göttingen, Germany	2 May 2018	Seminar: Single spins in diamond – precision metrology at the nanoscale
18	Dr. V Balakrishnan, Professor Emeritus (Retired), Physics, IIT Madras	10 May 2018	Seminar: Recurrences in dynamical systems
19	Dr. Nirmal Raj, University of Notre Dame, Notre Dame, Indiana, USA	4 June 2018	Seminar: Multiscatter frontier of dark matter direct detection: To the Planck mass and beyond
20	Dr. L. Theerthagiri, IMSc Chennai	29 June 2018	Seminar: Realizing resonating valence bond states via Dicke subradiance
21	Dr. Ranjan Singh, NTU, Singapore	11 July 2018	Research collaborations
22	Dr. Suboth Patil, Neils Bohr Institute, University of Copenhagen, Denmark	3 July 2018	Seminar: Scales of gravity and tensor bounds on the hidden universe
23	Dr. Bharat Ratra, Kansas State University, USA	13 August 2018	Talk: The "standard" model of cosmology and open questions
24	Dr. Karthik Shankar, University of Alberta, Edmonton, Canada	16 August 2018	Talk: Exploiting nanophotonic effects to enhance the performance of state-of-the-art photocatalytic and photovoltaic devices
25	Dr. Jianping Hu, VIT, Vellore Campus	31 August 2018	Talk: High frequency nuclear magnetic resonance probes—design techniques and applications
26	Dr. Vasu Siddeswara Kalangi, The University of Manchester, UK	3 September 2018	Talk: Molecules at confined interfaces and capillaries



Sl. No.	Visitor and Designation	Date of Visit	Purpose of Visit
27	Dr. Guruvinder Singh, Sydney University	12 September 2018	Research collaboration
28	Dr. Sumanta Chakraborty, Indian Association for the Cultivation of Science, Kolkata	18 September 2018	Talk: Thermodynamics, null surfaces and space time torsion
29	Dr. Aarti Nagarajan, University of Bonn, Germany	19 September 2018	Talk: Mass calibration of the Sunyaev-Zel'dovich effect using APEX-SZ galaxy clusters
30	Prof. Claude Pruneau, Wayne State University, USA	20 September 2018	Colloquium talk: Probing the perfect liquid with correlation functions
31	Dr. Rajesh Kumar Kushawaha, Physical Research Laboratory, Ahmedabad	24 September 2018	Talk: Chasing the ultrafast electron and nuclear dynamics in molecular system: towards molecular movies
32	Dr. Navin Manaswi	24 September 2018	Talk: Machine learning and applications to physics
33	Dr. Rishi Khatri, TIFR, Mumbai	27 September 2018	Talk: The information hidden in the shape of the CMB spectrum
34	Dr. Debajyoti Sarkar, Institute for Theoretical Physics (ITP), University of Bern, Switzerland	27 September 2018	Talk: Connecting Fisher information to bulk entanglement in holography
35	Dr. Bidisha Roy, Walter Schottky Institute of TU Munich, Germany	27 September 2018	Talk: Some interesting optical manifestations in quantum confined excitonic systems
36	Prof. Indumathi, Institute of Mathematical Sciences, Chennai	3 October 2018	Colloquium talk: India-based neutrino observatory—facts and fiction, Lakshmi Raman Memorial Lecture
37	Dr. Arnab Pal, Tel Aviv University, Israel	4 October 2018	Seminar talk: First passage under restart
38	Dr. Narayana Thota, IIT, New Delhi	5 October 2018	Seminar talk: Earth abundant thin film absorbers and solar cells
39	Dr. Srivatsan Chakram, University of Chicago	16 October 2018	Seminar talk: Random access quantum information processing using multimode circuit quantum electrodynamics
40	Dr. Amitabh Virmani, Chennai Mathematical Institute	17 October 2018	Seminar talk: Aretakis instability
41	Dr. Elena Surovyatkina, Potsdam Institute for Climate Impact Research (Pik), Germany	18 October 2018	Seminar talk: Monsoon forecast for Central India: evidence from observations
42	Dr. K. Srinivasan, IGCAR, Kalpakkam	23 October 2018	Seminar talk: Investigations on discrete Wigner Functions of multi-qubit quantum systems
43	Prof. Abhishek Dhar, ICTS, Bengaluru	24 October 2018	Colloquium talk: Puzzles in the theory of heat conduction in low-dimensional systems
44	Dr. Srivatsan Balakrishnan, UIUC	24 October 2018	Seminar talk: Universality at large transverse spin in defect CFT
45	Dr. Soumyajoti Biswas, Max Planck Institute Gottingen, Germany	26 October 2018	Seminar talk: Statistical physics of fracture and breakdown: models and forecasting
46	Dr. Vivek Mishra, Oak Ridge National Lab USA	29 October 2018	Seminar talk: Pairing beyond the Fermi surface
47	Prof. M. S. Ramachandra Rao, Indian Institute of Technology Madras	31 October 2018	Colloquium talk: The way modern physics has shaped experimental condensed matter physics and nanoscience
48	Dr. Gerald Gerlach, Technische Universität, Dresden, Dresden, Germany	1 November 2018	Seminar talk: Properties of and demands on sensors



Sl. No.	Visitor and Designation	Date of Visit	Purpose of Visit
49	Dr. Prithvi Narayan, IIT Palakkad	8 November 2018	Seminar talk: Sachdev-Ye-Kitaev (SYK) like model and Chord Diagrams
50	Prof. Srinivas Raghu, Stanford University	12 November 2018	Colloquium talk: Presence of quantum diffusion in two dimensions
51	Dr. Yuichiro Abe, Springer Nature	15 November 2018	Showcasing Springer Materials, including material property data, crystal structures and phase diagrams of a large collection of materials
52	Mr. Swagat Saurav Mishra, Inter-University Centre for Astronomy and Astrophysics, Pune	22 November 2018	Seminar talk: Initial conditions for inflation in an FRW universe
53	Dr. Ramesh Thamankar, VIT, Vellore	26 November 2018	Seminar talk: Single molecular electronics: a new paradigm
54	Dr. Frederic Bossan, Managing Director, XENOCSS, SA, France	30 November 2018	Seminar talk: Small/wide angle X-ray scattering (SAXS/WAXS) laboratory solution for material science
55	Dr. Sujay Ashoke, IMSc	4, 6 and 10 December 2018	Pedagogical Lecture Series on title: $N=2$ Supersymmetric gauge theories
56	Dr. Arunava Gupta, University of Alabama	6 December 2018	Seminar talk: Improved magnetic properties and spin Seebeck effect in spinel ferrite thin films grown on near-lattice-matched substrates
57	Dr. Anirban Chakraborti, Jawaharlal Nehru University	7 December 2018	Seminar talk: Predicting the unpredictable: A case study of financial market crashes
58	Dr. Diptiman Sen, IISc Bangalore	11-12 December 2018	Seminar talk: Floquet Hamiltonians and driven systems
59	Dr. Daniel Grumiller, Institute for Theoretical Physics, TU Wien, Austria	12 December 2018	Seminar talk: Quantum null energy condition in two dimensions
60	Dr. Sumanta Das, Niels Bohr Institute, University of Copenhagen	13 December 2018	Seminar talk: Light matter interactions in waveguides: from correlated photon transport to quantum internet nodes
61	Dr. Srini Krishnamurthy, SRI International	15-25 December 2018	Lecture and collaborative visit
62	Dr. Tobias Müller, University of Würzburg, Germany	17 December 2018	Seminar talk: Dynamical measurement of the interaction strength in helical Luttinger liquids
63	Prof. Amit Goyal, RENEW - University at Buffalo	19 December 2018	Visited the department and had discussion with faculty members
64	Dr. Ammasi Periasamy, University of Virginia, USA	4 January 2019	Seminar talk: Metabolic mapping of cancer cells and tissue: multiphoton FLIM-FRET microscopy
65	Dr. Shankar Ramamurti, Yale University, USA	4 January 2019 7 January 2019 8 January 2019 10 January 2019	Pedagogical Lecture Series: Topic: XY model Topic: Gauge theories Topic: Gauge theories Topic: KT transition
66	Mr. Jayadev Vijayan, Max Planck Institute of Quantum Optics, Germany	9 January 2019	Seminar talk: Observing quantum magnetism under a microscope
67	Dr. Shankha Banerjee, Durham University	10 January 2019	Seminar talk: Constraining certain Higgs couplings at the HL-LHC and beyond
68	Dr. Saranya Ghosh, Physik. Institut III. A, RWTH Aachen University	11 January 2019	Seminar talk: Studies of the Higgs boson in the diphoton decay channel and the observation of the $t\bar{t}H$ production



Sl. No.	Visitor and Designation	Date of Visit	Purpose of Visit
69	Mr. Athreya Shankar, JILA, NIST and University of Colorado Boulder	16 January 2019	Seminar talk: Near ground-state cooling a record number of trapped ions
70	Dr. Maxwell Chertok, University of California, Davis	16 January 2019	Seminar talk: The search for a light pseudoscalar Higgs Boson at CMS: yesterday, today, and tomorrow
71	Dr. N. Meenakshi Sundaram, Vivekananda College, Madurai	17 January 2019	Seminar Talk: Investigation on the electrical and transport properties of phosphorene antidot nanoribbons for nanoscale applications
72	Prof. Mahendra Verma, IIT, Kanpur	23 January 2019	Colloquium talk: Are all macroscopic phenomena derivable from microscopic laws?
73	Dr. Yoshiyuki Kawazoe, Tohoku University, Sendai, Japan	25 January 2019	Seminar talk: Ab initio methods better than the present-day standard
74	Ms. Shilpa Kastha, Chennai Mathematical Institute and IMSc	31 January 2019	Seminar talk: Parametrized tests of the multipole structure of compact binaries using gravitational wave observations
75	Dr. Arun Sehrawat, Quantum Information Group, Physics Department, HRI, Allahabad, India	5 February 2019	Seminar talk: Allowed region of the mean values of angular momentum observables and their uncertainty relations
76	Ms. Ranjani Seshadri, IISc Bangalore	5 February 2019	Seminar talk: Cornering the electrons on a topological insulator- higher order TIs (topological insulator)
77	Dr. Shikha Bhadoria, Max Planck Institute for Nuclear Physics, Germany	5 February 2019	Seminar talk: Laser-driven shock acceleration of quasi-mono energetic ions in the ultra-relativistic regime: QED effects, radiation reaction and pair plasma formation
78	Dr. Utkarsh Mishra, University of Electronics and Technology of China	6 February 2019	Seminar talk: Effect of disorder on quantum revivals in long-range pairing Kitaev chain
79	Dr. Subhas Mukhopadhyay, Macquarie University, Sydney	6 February 2019	Seminar talk: Trends for wearable and medical devices
80	Dr. Kausik Majumdar, Indian Institute of Science Bangalore	7 February 2019	Seminar talk: Two-dimensional excitons in layered materials and their heterojunctions
81	Dr. Alexander Soloviev, TU Wien, Austria	11 February 2019	Seminar talk: Semi-holography for heavy ion collisions- strings, fields, bits and fundamental interactions
82	Dr. Surendra Pal Singh, University of Arkansas, Fayetteville, USA	12, 13 and 27 February 2019	Pedagogical Lecture Series: Coherence properties of light from optical parametric oscillators
83	Prof. E. V. Sampathkumaran, TIFR	20 February 2019	Colloquium talk: Geometrically frustrated magnetism
84	Dr. Matteo Baggioli, Universidad Autonoma de Madrid (UAM), Madrid, Spain	20 February 2019	Seminar talk: Holographic viscoelastic phases of matter: from fluids to solids and more
85	Dr. Subhro Bhattacharjee, International Centre for Theoretical Sciences (ICTS), Bengaluru	21 February 2019	Seminar talk: Spin liquids in rare earth pyrochlores: quantum spin ice and beyond
86	Dr. L. Natarajan, University of Mumbai	26 February 2019	Seminar talk: X-ray spectroscopy of highly charged few-electron ions
87	Dr. Johannes Reuther, Free University of Berlin	27 February 2019	Seminar talk: Functional renormalization group - a new approach to frustrated quantum magnetism
88	Dr. Swetamber Das, Max Planck Institute for the Physics of Complex Systems	28 February 2019	Seminar talk: Stickiness in a three-dimensional volume-preserving map
89	Dr. Prabal K Maiti, IISc Bangalore	4 March 2019	Seminar talk: Structure, dynamics and thermodynamics of confined water



Sl. No.	Visitor and Designation	Date of Visit	Purpose of Visit
90	Dr. Mayukh R Gangopadhyay, Saha Institute of Nuclear Physics, Kolkata	5 March 2019	Seminar talk: Cosmic inflation: cold or warm?
91	Dr. Nilanjana Kumar, IMSc, Chennai	6 March 2019	Seminar talk: Realization of Higgs couplings beyond the standard model
92	Dr. Amit Dutta, IIT Kanpur	11 March 2019	Seminar talk: Aperiodically and quasi-periodically driven closed integrable quantum systems
93	Dr. Rohini M. Godbole, IISc Bangalore	12 March 2019	Seminar talk: My life in science
94	Prof. Rohini Godbole, IISc, Bangalore	13 March 2019	Lakshmi Raman Memorial Lecture; title: Story of collider physics: past and future
95	Dr. Surendra Pal Singh, University of Arkansas, Fayetteville, USA	13 March 2019	Seminar talk: Orbital angular momentum carrying light beams
96	Dr. Debashis Ghoshal, SPS, JNU, New Delhi	13 March 2019	Seminar talk: Assembling matrix models p's by p's
97	Dr. Debashis Ghoshal, SPS, JNU, New Delhi	14 March 2019	Seminar talk: A lecture on p-adic AdS/CFT
98	Dr. Suvadip Das, University of Michigan, Ann Arbor	19 March 2019	Seminar talk: Electronic and optical properties of two-dimensional α -PbO from first principles
99	Prof. Michael Urban, Institut de Physique Nucleaire and Universite Paris-Sud, France	20 March 2019	Colloquium talk: Superfluidity in neutron stars, and what we can learn about it from ultracold atoms
100	Dr. Navaneetha K. Ravichandran, Boston College, Boston	21 March 2019	Seminar talk: Microscopic view of energy transport in solids
101	Dr. Paramita Dutta, Uppsala University	25 March 2019	Seminar talk: Signatures of topology, Rashba spin-orbit interaction and unconventional superconductivity in the quantum transport through superconducting hybrid junction

4.16.6. Other Activities of the Department

Results obtained in research work (from M.S. and Ph.D thesis) of the scholar/faculty

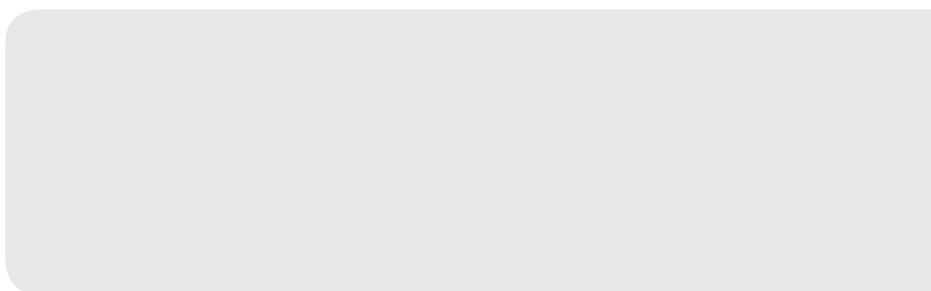
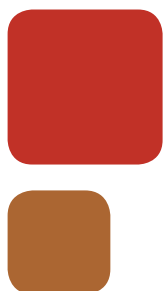
- Aneesh (PH13D082) made significant contribution on WGMs (whispering gallery modes) of microcavities through his Ph.D. thesis.

International collaboration achievements by the department

- One journal paper has been published with collaborative research with the scientists at ORC, Southampton

Faculty visit

Sl. No.	Faculty Member	Purpose of Visit	Date and Venue
1	Dr. R. Nirmala	For a collaborative project	Visited the research group of Prof A. K. Nigam, DCMFMS, Tata Institute of Fundamental Research, Mumbai, 26-31 December 2018
2	Dr. Prafulla Kumar Behera	Research collaboration	University of Cantabria, Spain, 20-22 June 2018



Sophisticated Analytical Instrument Facility

5.1. Introduction

The Sophisticated Analytical Instrument Facility (SAIF), established with financial support from the Department of Science and Technology, Government of India, provides sophisticated instruments and equipment to students, scientists, researchers and faculty members from IIT Madras, apart from academia, educational institutions, national laboratories, R&D establishments and industries from all over India in general and south India in particular. Periodically,

SAIF conducts workshops, seminars and conferences to disseminate information on new trends in sophisticated instrumentation and methods in addition to providing training and hands-on experience. Students from educational institutions, colleges and schools visit SAIF regularly to gain exposure to the use of sophisticated instruments for analysis.

5.2. New lab established

500 MHz Solid State FT-NMR Facility

5.3. Faculty and their activities

5.3.1. Faculty

Name and Qualifications	Major Areas of Specialisation
Professor	
Prof. S.S. Bhattacharya Ph.D. (Head)	Nanocrystalline materials—synthesis and characterization, superplasticity—theoretical and experimental, metal forming
Adjunct Professor	
Prof. S. Subramanian, Ph.D.	Nuclear magnetic resonance spectroscopy, electron spin resonance spectroscopy
Senior Technical Officer	
C. Baby, Ph.D.	Nuclear magnetic resonance spectroscopy, fluorimetry
Technical Officers	
K.V. Rama, Ph.D.	Analytical chemistry, ICP-OES, thermal and elemental analyses
K.P. Paranjothi, Ph.D.	Mass spectroscopy, electronics and instrumentation
Sudhadevi Antharjanam, Ph.D.	Single crystal x-ray diffractometry, optical spectroscopy
Junior Technical Superintendent	
N.K. Gopinath, M.Sc., M.Phil.	Materials science
Junior Technicians	
P. Thirupathi, IEEE	Electronics and instrumentation



Name and Qualifications	Major Areas of Specialisation
A. Varalakshmi, M. Sc.	Chemistry
P. V. Narayanan, M. Sc.	Physics

5.3.2. Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

Sl. No.	Coordinator(s)	Title	Period
Workshop			
1.	Dr. C. Baby and Dr. P. K. Sudhadevi	National Workshop on Optical Spectroscopy	2-3 July 2018

5.3.3. Short-term courses/workshops/seminars/symposia/conferences/training attended by faculty members in academic institutions and public sector undertakings

Sl. No.	Faculty Member	Title	Institution	Period
Workshop				
1.	Dr. K. V. Rama, Dr. C. Baby and N. K. Gopinath	Recent Developments in Thermal Analysis	SETARAM @MME IIT Madras	18 September 2018

5.3.4. Special lectures delivered by the faculty in other institutions

Sl. No.	Faculty Member	Topic of Lecture	Institution	Date
1.	Dr. C. Baby	High Resolution NMR Spectroscopy	Biotechnology, IIT Madras	17 October 2018
2.	Dr. C. Baby	NMR Relaxation Mechanism	Biotechnology, IIT Madras	24 October 2018
3.	Dr. C. Baby	Two-dimensional NMR Spectroscopy and its Applications	Biotechnology, IIT Madras	31 October 2018
4.	Dr. C. Baby	Triple Resonance (3D) NMR Spectroscopy and Protein Structure Determination	Biotechnology, IIT Madras	7 November 2018
5.	Dr. C. Baby	High-Resolution NMR Spectroscopy	Department of Chemistry, Annamalai University, Chidambaram	3 December 2018
6.	Dr. C. Baby	Thermal Analysis Techniques	SRM Institute of Science and Technology, Chennai	11 December 2018
7.	Dr. C. Baby	Nuclear Magnetic Resonance Spectroscopy	Sathyabama Institute of Science and Technology, Chennai	30 January 2019
8.	Prof. S. Subramanian	Science Popularisation	CSIR-CLRI	9 April 2018
9.	Prof. S. Subramanian	The Future of Magnetic Resonance (NMR and EPR) in the Biological and Medical Fields: An Overview	Humboldt Academy, Pune Chapter	31 January 2019
10.	Prof. S. Subramanian	Basics of NMR and 1D NMR	University of Kerala	25 February 2019
11.	Prof. S. Subramanian	Introduction to 2D NMR of Small Molecules	University of Kerala	26 February 2019
12.	Prof. S. Subramanian	NMR Hamiltonian and the Various Internal Interactions	University of Kerala	27 February 2019
13.	Prof. S. Subramanian	Problem Solving in NMR	University of Kerala	28 February 2019



5.4. Design and Development Activities

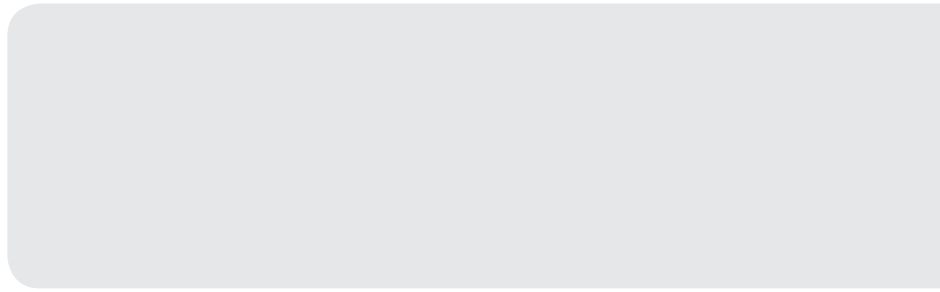
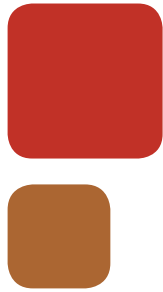
5.4.1. New facilities added or major equipment procured

Sl. No.	Equipment	Value (Rs. in lakh)
1	500 MHz Solid State NMR Facility	400

5.5. Other Activities of the Department

Major infrastructure development made in the department

A 500 MHz Solid State FT-NMR Facility has been set up. This is now being used, by students and research scholars from IIT Madras as well as academic institution, Govt R&D institutions and industries from across the Country.



Centres of Special Facilities

6.1. Centre for Continuing Education

6.1.1. Introduction

The Centre for Continuing Education (CCE) was established in June 1986. The centre supports faculty members in meeting the following objectives of IIT Madras:

- Providing knowledge-based technological services to satisfy the needs of society and industry
- Helping build national capabilities in science, technology, humanities, management, education and research
- Effectively participating and contributing to the institute's commitment of providing a broad base of learning opportunities through the following major activities:
 1. Conducting academic programmes (M.Tech. and Ph.D.) under the Quality Improvement Programme (QIP) (sponsored by the AICTE)
 2. Conducting short-term courses (STCs) under QIP (sponsored by the AICTE)
 3. Writing books under the Book Writing Scheme
 4. Conducting continuing education programmes (CEPs) for professionals from industry
 5. Developing and conducting user-oriented programmes (UOPs) for specific industries through which their engineers acquire higher degrees (M.Tech.)
 6. Developing and conducting web-enabled M.Tech programmes for industries
 7. Conducting courses under National Programme on Technology-Enhanced Learning (NPTEL)
 8. Recording important activities through the facilities in the Central Photographic Section
 9. Conducting conferences/seminars/workshops/symposia
 10. Allotment of ISBN numbers for textbooks and other publications of faculty members
 11. Conducting online short-term CEPs for industries
 12. Conducting courses under Global Initiative of Academic Networks (GIAN)
 13. Conducting courses under IIT PAL

6.1.2. Quality Improvement Programme

The faculty development activities under AICTE that are funded by the Ministry of Human Resources Development (MHRD) are geared to ensure quality, relevance, excellence and equity in technical education by supporting activities under the QIP Scheme. Deputation to the academic programmes (M.Tech. and Ph.D.) of the institute facilitates the

career development of faculty members of AICTE-approved technical institutions in the country.

Since the inception of the programme till 2018-2019, 674 faculty members from other institutions have obtained Ph.D.

degrees and 610 faculty members have obtained M.Tech. degrees.

Period	Ph.D.			M.Tech		
	Admitted	Number on Roll	Awarded	Admitted	No. on Roll	Awarded
2018-2019	11	57	10	-	6	--
Since inception	674	—	550	643	—	610

Short-Term Training Programmes under QIP (AICTE-STC)

The AICTE supports the short-term courses organised under QIP for faculty members of engineering institutions. These courses open up avenues in which the institute's faculty members, with rich experience in new and upcoming areas, can share their expertise with others. Under this

programme, 18 courses (with a total duration of 18 weeks) were conducted during 2018-2019 with 518 teachers of engineering institutions participating. From 1970-1971 to 2018-2019, 421 programmes were conducted and 10,389 teachers from various engineering colleges participated and benefited. The details of the courses conducted in 2018-2019 are given below.

Short-Term Courses under QIP (AICTE-STC-2018-19)

Sl. No.	Coordinators	Department	Title Project No	Date	Participants
1.	Dr. Benny Raphael	Civil Engineering	Workshop on Construction Automation and Robotics CCE/QIP/03/BR/CE/18-19	11-16 May 2018	41
2.	Dr. Shaikh Faruque Ali, Dr. A. Arockiarajan	Applied Mechanics	Introduction to Smart Materials with Energy-harvesting Application CCE/QIP/18/SFA&AA/AM/18-19	2-7 September 2018	33
3.	Dr. Rajesh Kumar	Humanities and Social Sciences	English Language Teaching: Addressing the Global Demand and Accessing Indian Classrooms Preparedness CCE/QIP/04/RK/HSS/18-19	1-6 October 2018	45
4.	Prof. Srinivasan Chandrasekaran, Prof. S. K. Bhattacharyya	Ocean Engineering	Analysis and Design of Structures with Applications to Ships and Offshore Structures CCE/QIP/09/SC&SKB/OE/18-19	8-13 October 2018	08
5.	Dr. V. Subramanian, Dr. C. V. Krishnamurthy	Physics	Frontiers in Microwave CCE/QIP/01/VS&CVK/PH/18-19	22-27 October 2018	37
6.	Dr. C. Lakshmana Rao	Applied Mechanics	Applied Impact Mechanics CCE/QIP/12/CLR/AM/18-19	31 October-5 November 2018	29
7.	Dr. S. Mathava Kumar, Dr. Raghuram Chetty	Civil Engineering, Chemical Engineering	Membrane Technologies for Water and Wastewater Treatment CCE/QIP/05/SMK&RC/CE&CH/18-19	12-17 November 2018	27
8.	Dr. S. M. Shiva Nagendra, Prof. M. P. Maiya	Civil Engineering, Mechanical Engineering	Human Comfort and Indoor Air Quality CCE/QIP/13/SMSN&MPM/CE&ME/18-19	20-25 November 2018	36
9.	Dr. N. Sujatha	Applied Mechanics	STTP on Biomedical Optics and Instrumentation CCE/QIP/14/NS/AM/18-19	3-8 December 2018	31
10.	Dr. Saurabh Saxena, Dr. S. Aniruddhan, Dr. Nagendra Krishnapura	Electrical Engineering	Phase-locked Loops CCE/QIP/16/SS&SA&NK/EE/18-19	17-22 December 2018	33



Sl. No.	Coordinators	Department	Title Project No	Date	Participants
11.	Dr. Rama Shanker Verma	Biotechnology	Recent Advances in Biotechnology Related to Tissue Regeneration CCE/QIP/02/RSV/BT/18-19	7-11 January 2019	27
12.	Dr. Somashekhar S. Hiremath	Mechanical Engineering	Advanced Mechanical Micromachining Techniques for Miniaturization of Products and Processes CCE/QIP/07/SSH/ME/18-19	14-19 January 2019	31
13.	Dr. Sarith P Sathian	Applied Mechanics	Nano-fluidics: Theory, Computation and Applications CCE/QIP/08/SPS/AM/18-19	28 January-2 February 2019	24
14.	Dr. Amitava Ghosh, Dr. Anil Meena, Dr. G. L. Samuel	Mechanical Engineering	Recent Advancement in High-Speed Machining Technology and Part Inspection CCE/QIP/20/AG&AM&GLS/ME/18-19	4-9 March 2019	29
15.	Dr. G. Rajesh	Aerospace Engineering	Advanced Methods: Compressible Fluid Flow Analysis CCE/QIP/24/GR/AE/18-19	11-16 March 2019	10
16.	Dr. Soumendhra Nath Kuiry, Dr. Balaji Narashimhan	Civil Engineering	Hydrologic-Hydraulic Modeling of Flash Flood CCE/QIP/21/SNK&BN/CE/18-19	18-22 March 2019	21
17.	Dr. Prasad Patnaik B S V, Dr. R. Jayaganthan, Dr. R. Velmurugan	Applied Mechanics, Engineering Design, Aerospace Engineering	Mechanics of Impact and Blast: Introduction, Modeling and Prediction (MIB:IMP) CCE/QIP/22/PPBSV&RJ&RV/AM&ED&AE/18-19	25-30 March 2019	27
18.	Dr. C. Lakshmana Rao	Applied Mechanics	Applied Impact Mechanics CCE/QIP/12/CLR/AM/18-19	31 October-5 November 2018	29
Total number of participants					518

3.2.3. Continuing Education Programmes (CEPs)

Several short-term courses (STCs) were organised for professionals from industry and R&D establishments on a need basis. The programmes were tailor-made to suit the requirements of industries. CEPs are divided in two

categories: Internal CEPs and External CEPs. From the date of inception (1980) to 2018, 1,604 STCs have been conducted, benefitting 2,89,761 participants. Seventy to eighty such programmes are generally organised every year. During 2017-2018, 70 STCs were conducted and 59,791 participants attended these programmes. The following STCs were conducted during 2017-2018:

List of Internal CEPs 2018-19

Sl. No.	Department/s	Coordinator/s	Title of the Proceedings	Duration	Number of Participants
1.	Management Studies	Prof. Thenmozhi and Prof. T. J. Kamalanabhan	Project Leadership and Managerial Development Programme (L&T Program)	16-25 April 2018	30
2.	Management Studies	Dr. Nandan Sudarsanam	Introduction to Data Analytics	20 January-22 June 2018	21
3.	Management Studies	Dr. Richa Agrawal	Workshop on Theory Development for Model Specification	4-8 April 2018	10
4.	SAIF	Dr. C. Baby (Technical Officer) and Dr. P.K. Sudha (Technical Officer)	National Workshop on Optical Spectroscopy	2-3 July 2018	32
5.	Management Studies	Prof. Thenmozhi and Prof. T. J. Kamalanabhan	Project Leadership and Managerial Development Programme (L&T Program)	7-16 May 2018	31

Sl. No.	Department/s	Coordinator/s	Title of the Proceedings	Duration	Number of Participants
6.	Civil Engineering	Dr. Benny Raphael	Workshop on Construction Automation and Robotics	11-12 May 2018	8
7.	Central Electronics Centre	Prof. V. Jagadeesh Kumar, Head, CEC, and Ms. N. Karthiyayini	Calibration Philosophy: Concepts, and Measurement Uncertainty	14-16 May 2018	7
8.	Metallurgical and Materials Engineering	Prof. Uday Chakkingal	Processing of High Strength Steels for Automotive Applications	18-19 May 2018	18
9.	Electrical Engineering	Dr. Radha Krishna Ganti	Summer Projects and Workshop 2018	2-22 June 2018	42
10.	Biotechnology	Prof. T. S. Sampath Kumar and Prof. Mukesh Doble	Workshop on Medical Biomaterials	29-30 June 2018	23
11.	Engineering Design	Dr. C. S. Shankar Ram	Vehicle Handling Dynamics	1 April-31 May 2018	8
12.	Management Studies	Prof. R. P. Sundarraj	Digital Marketing	10 June-4 July 2018	33
13.	Engineering Design	Prof. C. S. Shankar Ram	Applied Vehicle Dynamics - 2	11-12 July 2018	22
14.	Management Studies	Dr. Saji K Mathew and Prof. G Arun Kumar	India Immersion Program-Victoria University Wellington, New Zealand	28 June 2018	30
15.	Central Electronics Centre	Prof. V. Jagadeesh Kumar, Head, CEC and Ms. N. Karthiyayini	Awareness Programme on ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories	28-29 June 2018	7
16.	Applied Mechanics	Prof. Lakshmana Rao C	Applied Impact Mechanics	31 October-5 November 2018	1
17.	Engineering Design	Dr. Shankar Ram	Fundamentals of Automotive Systems	16-19 July 2018	
18.	Engineering Design	Prof. Venkatesh Balasubramanian	Anand Manufacturing Excellence	15 June 2018-31 March 2019	11
19.	Management Studies	Prof. R. P. Sundarraj	Business Solution with R-Part 1	11-13 June 2018	25
20.	Office of International Relations, IITM	G. R. Kavitha, General Manager and Vani Samuel, Liaison Officer	AOTULE 2018	21-23 November 2018	72
21.	Ocean Engineering	Prof. Srinivasan Chandrasekaran and Prof. S.K. Bhattacharyya	Analysis and design of structures with applications to ship and offshore structures	8-13 October 2018	4
22.	Mechanical Engineering	Prof. A. Seshadri Sekhar	Short course on Condition Monitoring	6-8 August 2018	
23.	Humanities and Social Sciences	Chiungwen Chang, Visiting faculty	Basic Chinese (Weekend)	1 September-24 November 2018	4
24.	Mechanical Engineering	Prof. C. Sujatha	Signal Processing Training	26-27 July 2018	16
25.	NPTEL, RBC-DSAI (IITM)	Prof. Andrew Thangaraj and Prof. Balaraman Ravindran	Certificate in Technology and Management	15 June 2018-April 2019	
26.	Management Studies	Prof. T. J. Kamalanabhan and Dr. Rupashree Baral	Supervisory development program	20-25 August 2018	23
27.	Management Studies	Dr. Rupashree Baral and Prof. T J Kamalanabhan	Nav Disha – Development training programme for Indane distributors	5-6 September 2018	40



Sl. No.	Department/s	Coordinator/s	Title of the Proceedings	Duration	Number of Participants
28.	Ocean Engineering	Dr. R. Sharma, Dr. R. Vijaykumar and Prof. S. K. Bhattacharyya	Structural Analysis and Design of Pressure Vessels	24-28 December 2018	14
29.	Electrical Engineering	Dr. Saurabh Sexena, Dr. S. Aniruddhan and Dr. Nagendra Krishnapura	Short-term course on PLLs	17-22 December 2018	5
30.	Management Studies	Prof. T. J. Kamalanabhan	PLMDP - Project Leadership and Management Development Program	17-26 September 2018	26
31.	Management Studies	Dr. Rupashree Baral and Prof. T J Kamalanabhan	NAV DISHA - Development Training Program for INDANE Distributors	3-4 October 2018	38
32.	Electrical Engineering	Dr. Lakshminarasamma	Digital Controller Course for Power Converters	29-30 November 2018	18
33.	Mechanical Engineering	Dr. Ratna Kumar Annabattula	Introduction to Data Science	29 September-15 December 2018	40
34.	Mechanical Engineering	Dr. Narasimhan Swaminathan and Dr. Ratna Kumar Annabattula	Mechanical Design	3 February- 29 September 2018	50
35.	Management Studies	Prof. T. J. Kamalanabhan and Dr. Rupashree Baral	Supervisory Development Program	8-13 October 2018	24
36.	Management Studies	Prof. Saji K. Mathew	Information Systems Research in the Digital Era	30 November 2018	16
37.	Management Studies	Dr. Rupashree Baral and Prof. T J Kamalanabhan	Nav Disha – Development training programme for Indane distributors	30-31 October 2018	39
38.	Centre for Social Innovation and Entrepreneurship	Prof. R. Nagarajan, Dean, I&AR	Winter School on Social Entrepreneurship (MS 6013)	3 December 2018-14 January 2019	16
39.	Biotechnology	Prof. Mukesh Doble and Prof. Sathyanarayan N Gummadi	Winter Workshop on Bioprocess Engineering	17-21 December 2018	12
40.	Management Studies	Prof. T. J. Kamalanabhan	PLMDP - Project Leadership and Management Development Program	12-21 November 2018	28
41.	Computer Science and Engineering/ Robert Centre for Data Science and AI	Dr. Harish Guruprasad	Course on Artificial Intelligence and Machine Learning	26 November-8 December 2018	30
42.	Management Studies	Dr. Rupashree Baral and Prof. T J Kamalanabhan	Nav Disha – Development training programme for Indane distributors	29 November 2018	42
43.	Management Studies	Dr. Rupashree Baral and Prof. T J Kamalanabhan	Nav Disha – Development training programme for Indane distributors	12-13 December 2018	31
44.	Engineering Design	Prof. Asokan T	Training programme on Robotics Automation	4 January-16 February 2019	25
45.	Central Electronics Centre	Prof. V. Jagadeesh Kumar, Head, CEC and Dr. C. R. Jeevandoss	Photometric tests and EMI/EMC testing	12-15 February 2019	20
46.	Management Studies	Prof. T J Kamalanabhan and Dr. Rupashree Baral	Supervisory development programme	28 January- 2 February 2019	30
47.	Civil Engineering	Dr. Soumendra Nath Kuiry	Hydrologic-Hydraulic Modeling of Flash Floods	18-22 March 2019	20
Total					1,042

List of External CEPs 2018-19

Sl. No.	Department/s	Coordinator/s	Title of the Proceedings	Duration	Number of Participants
1	Aerospace Engineering	Prof. P. Sriram and Prof. H.S.N. Murthy	HAL Trainees (Technical) Program - 2018 A Batch	1 January-30 June 2018	35
2	NPTEL	Prof. Andrew Thangaraj	IITM-NPTEL Online Certification	1 January-30 April 2018	87,020
3	Engineering Design	Dr. C.S. Shankar Ram	Applied Vehicle Dynamics - 1	13 June-6 July 2018	22
4	Chemical Engineering	Prof. Rajagopalan Srinivasan	Human Factors	26-27 July 2018	34
5	Ocean Engineering	Prof. Srinivasan Chandrasekaran	Computer-Aided Structural Analysis	12-15 June 2018	52
6	Engineering Design	Prof. Venkatesh Balasubramanian	Anand Manufacturing Excellence	15 June 2018-31 March 2019	11
7	Central Electronics Centre	Prof. V. Jagadeesh Kumar, Head, CEC and Ms. N. Karthiyayini	Understanding the requirements of ISO/IEC 17025: 2005 General requirements for the competence of testing and calibration laboratories and internal audit	31 July-3 August 2018	4
8	Management Studies	Prof. R.P. Sundarraj	Business Solutions Using R-based Analytics	7-8 August 2018	22
9	Chemical Engineering	Prof. Rajagopalan Srinivasan	Human Factors	24-25 September 2018	33
10	Management Studies	Dr. Usha Mohan	Optimization Methods Training	27-28 September 2018	
11	Ocean Engineering	Prof. P. Krishnankutty and Dr. R. Vijaykumar	Short-term lab course on Experimental Hydrodynamics	29 October-10 November 2018	60
12	Electrical Engineering	Prof. Shanthi Pavan	Continuous-time Data Sigma Data Converter Design	10 August-10 December 2018	20
13	Civil Engineering	Dr. Ashwin Mahalingam	Mentoring and Augmenting Planning Skills 8.1	17 September 2018-31 January 2019	18
14	Management Studies	Dr. Lata Dyaram and Dr. L. Prakash Sai	Management Development Program	10-12 October 2018	29
15	NPTEL	Prof. Andrew Thangaraj	IITM-NPTEL Online Certification Exam	1 August-31 September 2018	52,212
16	NPTEL	Prof. Andrew Thangaraj	IITM-NPTEL Online Certification Exam	1 July-31 October 2018	1,09,689
17	Engineering Design	Prof. C. S. Shankar Ram	Vehicle Dynamics	14 November-12 December 2018	20
18	Electrical Engineering	Prof. Shanthi Pavan	High Performance Continuous-time Delta Sigma Data Converter Design	29-30 November 2018	22
19	Management Studies	Prof. R P Sundarraj	Social Media Analytics	10-12 January 2019	30
20	Civil Engineering	Prof. Koshy Varghese	Project Management /Project Monitoring/Stakeholder Management Capital Projects	1 February 2019	25
21	Electrical Engineering	Prof. Shanthi Pavan	High End Data Converter Design	5-6 March 2019	15
22	Management Studies	Dr. Arshinder Kaur	Information sharing and risk in supply chain	12 March 2019	20
23	Computer Science	Prof. V. Kamakoti	Serba Data Analytics CoE & Chennai	20 March-5 April 2019	10



3.2.4. User-Oriented Programs (UOPs)

The UOPs are designed to suit the requirements of industrial organisations. Two-year M.Tech programmes are being organised to meet the specific needs of the associated

industries. So far, 23 programmes have been conducted or are being conducted by the Departments of Civil Engineering, Ocean Engineering, Mechanical Engineering, Engineering Design and Management Studies.

List of User-Oriented Programs (UOPs)

Sl. No.	Department/s	Coordinator/s	Title of the Proceedings	Project No
1	Civil Engineering	Dr. K. Ramamurthy and Prof. Koshy Varghese	Construction Technology & Management (CT&M)	CCE/CEP/UoP/19A/KR&KV/CE/16-17
2	Civil Engineering	Dr. K. Ramamurthy and Dr. Koshy Varghese	UoP M. Tech (CT&M) - 20th Batch	CCE/CEP/UoP/20/KR&KV/17-19
3	Ocean Engineering	Dr. Nallayarasu and Prof. S. K. Bhattacharyya	M. Tech Offshore Technology	CCE/CEP/UoP/12/OE/ SN-SKB/11-12
4	Management Studies	Prof. G. Srinivasan and Dr. Rahul Marathe	VLM Project	CCE/CPE/UoP/18/VLM/15-16
5	Civil Engineering	Dr. R G Robinson	PG Diploma Programme on Metro Rail Technology and Management	CCE/CEP/UoP/21/RGR/CE/17-18
6	Civil Engineering	Prof. K. Ramamurthy and Prof. Koshy Varghese	CT&M	CCE/CEP/UoP/22/KR&KV/CE/18-19
7	Civil Engineering	Dr. R. G. Robinson	PG Diploma Programme on Metro Rail Technology and Management	CCE/CEP/UoP/23/RGR/CE/18-19

3.2.5. Web-Enabled M.Tech Programmes for Industries

IIT Madras has been actively interacting with leading industries through R&D, consultancy projects and continuing educational programmes. Several projects have been undertaken towards development of products and processes. Based on approval and guidelines of the Senate and the needs of industries, IIT Madras has come up with M.Tech programmes in the web with adequate opportunity for student and teacher interaction. Post-class interaction is facilitated by an effective course management platform. Candidates have to take approved core and elective courses of their choice and can complete the entire M.Tech programme at their own pace. On completion of each course, a certificate is awarded, and on finishing the required credits in different categories, the candidate becomes eligible for a master's degree. The candidate may also do a set of laboratory experiments and projects as defined by the curriculum. Seven programmes

jointly worked out with industries by the concerned departments have been approved by the Senate. The details are given in the table below.

The web-enabled M.Tech (Automotive Technology) course was started in May 2017. Five automotive industries sponsored 29 students for this course in the first year. This was followed by two other courses offered by the Department of Electrical Engineering, namely M.Tech (VLSI) with 27 students and M.Tech (Communication Systems Engineering) with 49 students. The second batch of students joined the M.Tech (Automotive Technology) programme in November 2018. Two more automotive industries sent their candidates for this programme for the second batch. The second batch of students joined the M.Tech (VLSI) and M.Tech (Communication Engineering) programmes in September 2018. A new web-enabled programme titled M.Tech (Information Security) was started in September 2018 with 33 students.

List of Senate-Approved Web-Enabled M.Tech Programmes for Industries

Sl. No.	Department	Title
1.	Aerospace Engineering	Mathematical Methods for Aerospace Engineers
2.	Aerospace Engineering	Aero Dynamics and Aircraft Performance
3.	Computer Science and Engineering	M.Tech in Computer Science and Engineering with specialisation in Information Security
4.	Electrical Engineering	Master's in Communications Systems Engineering
5.	Electrical Engineering	Master's in VLSI
6.	Mechanical Engineering	Automotive Technology
7.	Metallurgical and Materials Engineering	Industrial Metallurgy

3.2.6. Global Initiative of Academic Networks (GIAN)

Government of India approved a new programme titled Global Initiative of Academic Networks (GIAN) in Higher Education aimed at tapping the talent pool of scientists and entrepreneurs internationally to encourage their engagement with the institutes of higher education in India

so as to augment the country's existing academic resources, accelerate the pace of quality reform, and elevate India's scientific and technological capacity to global excellence. Under this scheme, 24 courses as listed below were conducted along with accomplished researchers and technologists from all over the globe between 1 April 2017 and 31 March 2018. The status of proposals for GIAN courses from IIT Madras as on 31 March 2018 is indicated in the following tables.

Sl. No.	Department	Host Faculty	International Faculty	GIAN Course Title	Duration	Number of Participants
1	Chemistry	Prof. P Selvam	Prof. Michael Anderson, The University of Manchester, United Kingdom	Nanoporous Materials in Cataalysis – Fundamentals and Applications	27 April-6 May 2018	43
2	Civil Engineering	Prof. Balaji Narasimhan	Prof. David G Rossiter, The University of Manchester, United Kingdom	Spatial Modelling and Analysis of Environmental Systems Using Open Source Tools	11-23 June 2018	35
3	Chemical Engineering	Dr. R Vinu	Prof. Eliseo Ranzi, Politecnico di Milano	Mechanistic Modeling of Thermochemical Conversion of Hydrocarbons and Solid Fuels	28 May-1 June 2018	43
4	Mechanical Engineering	Dr. Sujatha Srinivasan	Prof. Marcus Pandey, The University of Melbourne, Australia	Computational Musculoskeletal Biomechanics	1-10 September 2018	35
5	Civil Engineering	Dr. S Mathava Kumar	Prof. Huo Hao NGO, University of Technology Sydney, Australia	Membrane Bioreactors for Sustainable Wastewater Treatment and Bioenergy Production	14-20 November 2018	35
6	Management Studies	Dr. Saji K. Mathew	Prof. Richard Watson, Terry College of Business, University of Georgia, United States of America	Digital Business: The Innovation Challenge of the Next Decade	26-30 November 2018	68
7	Chemical Engineering	Prof. Sridhar Kumar Narsimhan, Dr. Guhan Jayaraman	Prof. Nadav Bar, Norway	Synthetic Biology: Design, Simulation and Control of Genetic Circuits in Microbial Cell Factories	3-14 December 2018	13
8	Mathematics	Prof. Rama R, Dr. Kalpana Mahalingam	Dr. David M. Smith, Fraunhofer Institute for Cell Therapy and Immunology Germany	Smart Molecules in Research: Self-Assembly of Programmable Molecular Building Blocks as Fundamental Tools in Basic and Applied Research	3-7 December 2018	16
9	Mathematics	Dr. Priyanka Shukla	Prof. Manuel Torrilhon, RWTH Aachen University Germany	Kinetic Theory of Non-Equilibrium Gas Flows: Theory and Computations	10-14 December 2018	21
10	Chemistry	Prof. P Selvam, Applications In Catalysis, Nanomedicine and Optics	Prof. Michel Wong Chi Man, Institut Charles Gerhardt Montpellier (ICGM) France	Self-Assembled Nanoporous And Hybrid Silica Materials:	18-27 February 2019	28
11	Ocean Engineering	Dr. Jitendra Sangwai	Prof. Abhijit Dandekar, University of Alaska Fairbanks United States of America	Flow Assurance in the Petroleum Industry	4-16 March 2019	166
12	Ocean Engineering	Prof. V. Sriram	Prof. Pierre Ferrant, Ecole Centrale de Nantes France	Nonlinear Wave-Structure Models in Offshore and Naval Industry	27 March-2 April 2019	40



3.2.7. Conferences

IIT Madras has instructed faculty members (vide circular no. F.R.150/3/2011 dated 31 March 2011) to register all

national and international conferences, workshops, seminars and symposiums organised by them with CCE. The following programmes were registered with CCE in 2018-2019:

Sl. No.	Organising Chairman, Department	Organising Secretary, Department	Title	Duration	Participants
1	Dr. Divya A, Humanities and Social Sciences	Dr. Avishek Parui, Humanities and Social Sciences	National Symposium on Victorian Indian Identities	6-7 June 2018	50
2	Prof. Sannasiraj SA, Ocean Engineering		Setting up question paper for Andhra Pradesh Public Service Commission (APPSC)		-
3	Prof. V. Kamakoti, Computer Science and Engineering		National workshop, SANJOG 2018	8-10 June 2018	30
4	Prof. Guhan Jayaraman, Biotechnology		Regional Workshop on Bio-entre Premiership: Recombinant Protein Production Course	18-23 June 2018	
5	Dr. G. Saravana Kumar, Engineering Design		PDMA – India NPD Conference 2018	22-23 December 2018	180-200
6	Dr. G. Saravana Kumar, Engineering Design		Digital MFG – Faculty Development Workshop	13 June 2018	30
7	Prof. Mangala Sunder Krishnan, Chemistry	Prof. Edamana Prasad Chemistry	International conference, Technology For Education (T4E) 2018	10-13 December 2018	100
8	Prof. B. S. Murty, Metallurgical and Materials Engineering		International Workshop on Materials Characterization	25-28 July 2018	80
9	Prof. S. A. Sannasiraj, Ocean Engineering		National one-day workshop on Coastal Developments in India: A Look Back and Future	22 June 2018	
10	Prof. R. Gnanamoorthy, Mechanical Engineering	Prof. Shankar Krishnapillai, Dr. Piyush Shakya, Mechanical Engineering	1 st International Conference on Mechanical Power Transmission	11-13 July 2018	120
11	Dr. R. Vijayakumar, Ocean Engineering		National One-day Workshop on Recent Trends in Ship Design and Building	26 June 2018	
12	Dr. A. Murugaiyan, Metallurgical and Materials Engineering		Institutional Seminar on Amalgam 2018 – Annual Tech Festival of MME	24-25 February 2018	110
13	Dr. Mahalakshmi M Ravi, Institute Hospital		National Conference on BRIDGE-2018	7 July 2018	200
14	Prof. Guhan Jayaraman, Biotechnology		Regional three-day workshop on Synthetic Biology	26-28 July 2018	
15	Prof. R. Sundaravadivelu, Ocean Engineering		Institutional Training on Deep Sea Technology for RIL	29-30 June 2018	
16	Prof. B. V. S. S. S. Prasad, Mechanical Engineering		International Conference on ASME Gas Turbine India Conference 2019		



Sl. No.	Organising Chairman, Department	Organising Secretary, Department	Title	Duration	Participants
17	Prof. B. S. Murty, Metallurgical and Materials Engineering	Prof. N. K. Mukhopadhyay IIT BHU	26 th International Symposium on Metastable, Amorphous and Nanostructured Materials (ISMANAM 2019)	8-12 July 2019	250
18	Dr. Venkatakrisnan P, Chemistry	Dr. Md Mahiuddin Baidya, Chemistry	CIHS-2018 (Chemistry in-House Symposium 2018)	28 September 2018	300
19	Dr. Ligy Philp, Civil Engineering		ADBI-UTokyo school Workshop on Leadership Capacity Development in Fecal Sludge Management	24-26 September 2018	0
20	Prof. S. Mohan, Civil Engineering		Regional Workshop on Advanced Wastewater Treatment System for Industries	4 September 2018	40
21	Prof. Krishnan Balasubramaniam, Mechanical Engineering	Dr. Prabhu Rajagopal, Mechanical Engineering	First IGNITE: Junior NDE Symposium 2018	3-4 November 2018	50
22	Prof. Suresh Babu M, Humanities and Social Sciences		DoHSS Academic Conference 2019 – Identity and Citizenship	31 January-2 February 2019	
23	Prof. R. Sarathi, Electrical Engineering	Prof. Mahesh Kumar, Electrical Engineering	4 th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON 2019)	21-23 December 2019	
24	Prof. S. A. Sannasiraj, Ocean Engineering		Dr. R. Sharma, Dr. R. Vijayakumar, Prof. S. K. Bhattacharyya, Ocean Engineering	First National Symposium on Marine Design and Construction 2018 (NSMDC 2018)	28-29 December 2018
25	Prof. S. Sundar, Mathematics	Dr. S. R. Manam, Mathematics	National Symposium on Mathematics and Applications	22 December 2018	50
26	Prof. V. Kamakoti, Computer Science and Engineering		International Workshop on Indo-Taiwan Workshop on Artificial Intelligence	1-2 November 2018	
27	Prof. Rajagopalan Srinivasan, Chemical Engineering	Prof. Niket Kaisare, Chemical Engineering	International Symposium on Process Safety 2019	14-16 February 2019	
28	Dr. N. Harish Kumar, Physics		FSCT Workshop for the passionate school(+1) students on the theme, Science and Engineering – A journey	2, 3, 5 November 2018	250
29	Dr. Krishna Jaganathan, Electrical Engineering	Dr. Avhishek Chatterjee, Electrical Engineering	National Workshop on JTG/ IEEE Information Theory Society Summer School	25-28 June 2019	120
30	Prof. R. Sundaravadivelu, Ocean Engineering	Prof. V. Sundar, Prof. K. Murali, Prof. S. A. Sannasiraj, Ocean Engineering	National Conference on Applications of Geosynthetics in Ports, Waterways and Coasts	24 November 2018	50
31	Prof. R. Sarathi, Electrical Engineering		International Conference on Smart Cities (ICSC 2019)	20-21 January 2019	100
32	Prof. B. S. Murty, Metallurgical and Materials Engineering		National Workshop on Advances in Nanotechnology	22-23 December 2018	



Sl. No.	Organising Chairman, Department	Organising Secretary, Department	Title	Duration	Participants
33	Prof. S. Mahalingam, Biotechnology		International Conference on 3 rd PAN IIT Biotech International Conference on Cancer Precision Medicine and Personalized Therapeutics	31 January-2 February 2019	
34	Prof. S. A. Sannasiraj, Ocean Engineering	Prof. V. Sundar, Ocean Engineering	National Workshop on Training to ALHW Field Engineers for Shoreline Monitoring at Lakshadweep	3-5 December 2018	-
35	Dr. Anoop T V, Mathematics		National Workshop on AIS on Geometric Measure Theory and PDE	3-15 June 2019	
36	Prof. Mahesh Panchagnula, Applied Mechanics		Winter Course on Computational Brain Research	2-9 January 2019	300
37	Prof. S. S. Bhattacharya, Metallurgical and Materials Engineering		Joint Indo-German (IITM-INT KIT) Workshop on Recent Advances in Nanoscience and Nanotechnology	25-27 March 2019	20
38	Prof. P. Shanmugam, Ocean Engineering		National Conference on Coastal and Ocean Vulnerability Assessment using Geospatial Technology under NRDMS	22 April-12 May 2019	30
39	Dr. K. G. Pradeep, Metallurgical and Materials Engineering		Two-day Workshop on Atom Probe Tomography	8-9 March 2019	
40	Dr. Malathy D, Humanities and Social Sciences	Dr. Subash S, Dr. Anup Kumar, Humanities and Social Sciences	XIV Annual Conference of the Forum for Global Knowledge Sharing (FGKS)		
41	Dr. N. Lakshman, Metallurgical and Materials Engineering		Institutional Seminar on Amalgam 2019 – Annual Technical Festival of MME, IITM	2-3 March 2019	
42	Dr. A Boominathan, Civil Engineering	Dr. Subhadeep Banerjee, Civil Engineering	International Symposium on Geotechnical Aspects of Heritage Structures	16-18 September 2019	

3.2.8 NPTEL: A joint initiative of the IITs and IISc, funded by MHRD

NPTEL, implemented using information and communication technology (ICT), is India's largest technical dissemination

programme involving seven IITs (Bombay, Delhi, Guwahati, Kanpur, Kharagpur, Madras and Roorkee) and IISc Bangalore. Together, several web and video-based material for science and engineering courses have been developed. IIT Madras is the coordinating institute for this project.

Courses completed (discipline-wise video and web)

Discipline	Video (Completed)	Web (Completed)	Grand Total (Completed till April 2018)
Aerospace Engineering	37	17	54
Biotechnology	45	16	61
Chemical Engineering	76	35	111
Chemistry and Biochemistry	57	17	74
Civil Engineering	97	57	154
Computer Science and Engineering	136	32	168
Engineering Design	7	8	15

Discipline	Video (Completed)	Web (Completed)	Grand Total (Completed till April 2018)
Electrical Engineering	111	24	135
Humanities and Social Sciences	108	25	133
Management	84	13	97
Mathematics	83	25	108
Mechanical Engineering	170	67	237
Metallurgy and Material Science	50	13	63
Ocean Engineering	26	1	27
Physics	47	16	63
Textile Engineering	9	14	23
Electronics and Communication Engineering	83	27	110
Nanotechnology	2	3	5
Atmospheric Science	3	1	4
Environmental Science	0	3	3
General	11	0	11
Basic courses (Sem 1 and 2)	31	17	31
Mining Engineering	4	1	4
Architecture	11	0	11
Agriculture	16	1	16
Multidisciplinary	11	0	11
Special Series	4	0	4
Total	991	433	1,428

Number of courses (video and web) completed by each institute

Institute	Video	Web	Grand Total
(Till April 2018)	37	17	54
IISc Bangalore	82	39	121
IIT Bombay	94	46	140
IIT Delhi	67	38	105
IIT Guwahati	70	81	151
IIT Kanpur	239	75	314
IIT Kharagpur	318	48	366
IIT Madras	309	76	385
IIT Roorkee	113	30	143
IIT Ropar	1	0	1
IIST Shibpur	1	0	1
IISER Pune	2	0	2
IIT Patna	3	0	3
IIIT Bombay	1	0	1
Total	1,300	433	1,733

NPTEL courses are used extensively by faculty members and students across the world to further their knowledge on various subjects in different disciplines. The learning material is supplemented with references and recommended reading material, and contains self-assessment quizzes for students. The courses developed for NPTEL can be viewed at <http://nptel.ac.in> and on YouTube (as a separate channel, at <http://www.youtube.com/iit>).

Transcripts and MP3 versions of video lectures (as of April 2019)

Edited transcripts (in the form of PDF files), audio extract of video lectures (in the MP3 format) and subtitled text (in the

form of srt files) are all hosted at the ICT home page, the URL of which is <http://textofvideo.nptel.iitm.ac.in>. These may be downloaded by users free of charge. All NPTEL video lectures are transcribed and edited so that students can access the content in a video lecture as textual material. The process of verifying the text transcripts is going on. The same text is also used for subtitling the video lectures. The audio of a video lecture is extracted as an MP3 file, which is small in size compared with the corresponding video lecture. This file, coupled with the text transcript, serves as a good educational resource. So far, more than 49,051 lectures have been transcribed through a manual transcription process, and more than 48,006 videos are available with subtitles in English.



The availability of complete text material for technology courses will enable the lectures to be subtitled in Hindi and other regional languages. This will help non-native English speakers and students in rural colleges throughout India learn the concept through a partial or complete translation of the spoken content in their first language.

Translation of text transcripts to local languages

Translation of English text transcripts of NPTEL courses is being carried out in eight Indian regional languages viz., Bengali, Gujarati, Hindi, Kannada, Malayalam, Marathi, Tamil and Telugu. Once verified by language experts, notes of language transcripts are made available. Twenty courses are currently available in different languages in our portal.

Statistics of NPTEL usage

NPTEL has created a small analytics team that is looking into the data that has been collected during course runs over the past five years. The Analytics teams look into the enrollment, course assignment, and exam registration and final exam scores to identify the trends and patterns visible from them. The course enrollment data trends show that NPTEL learner base has been consistently increasing with close to 2 lakh new learners getting enrolled in the last two semesters. A similar growth has also been seen in the exam registration that has crossed 2 lakh in the current offering (January-June 2019).

A careful analysis of the exam data shows that the students' contribution within NPTEL Local Chapters (i.e. micro NPTEL learning units within an institution) is close to 80-85 per cent in the past couple of semesters. The increased awareness about NPTEL and policy support for integrating Massive Open Online Courses (MOOCs) in regular curriculum can be attributed to this increased contribution. With more number of NPTEL Local Chapters getting created, we are expecting a steady contribution from colleges in the upcoming year as well.

NPTEL online courses

Online learning has been going through a major revitalisation in the last few years, with major worldwide players such as Coursera (www.coursera.org) and edX (www.edx.org) offering free education for anyone who is interested. These courses have been named Massive Open Online Courses (MOOCs) and are quite popular today. NPTEL has recently embarked on a project of offering online courses through its new portal (<https://onlinecourses.nptel.ac.in/>). The portal is powered by Google India. This new effort has been termed NPTEL Online Certification or NOC in short.

MOOCs are essentially an asynchronous platform and a process for teaching using pre-recorded lectures, resource video materials, lecture notes, assignments and quizzes, which are usually online and provide self-assessment at regular intervals during learning. The learning happens in fixed time duration, and therefore, the simultaneous participation of teachers and a large number of students may be termed synchronous. This learning is, thus, similar to that which takes

place in a classroom although the Internet enables it and the size of the class is much larger. The extended classrooms on the Internet facilitate the development of new methodologies and are well suited to the current mobile-Twitter-Facebook-YouTube-Instagram generation of students. When offered through supplementary DVDs and mobile-delivered content, considering students in non-urban and rural areas, they enable quality and equitable access to a much larger population of students and can lead to a significant rise in the Gross Enrolment Ratio.

NPTEL Online Certification

The objective of 'enabling students obtain certificates for courses' is to make them employable in industry or pursue a suitable higher education programme. Four-week, eight-week and 12-week online courses, typically on topics relevant to students (typically in their final years of higher education), basic core courses in sciences and humanities and relevant exposure to tools and technologies are being offered through an online portal. Enrollment in these courses and the learning process involve no cost. At the end of each online course, an in-person, proctored certification exam is conducted, and a certificate is provided through participating institutions and industry, when applicable. To date, 1,300-plus courses have been offered under NPTEL online certification.

Methodology

The following are the features of a typical online course:

1. Clear assumptions about prerequisites
2. Clear learning outcomes
3. Duration of four weeks (10 hrs), eight weeks (20 hours) and 12 weeks (30-40 hours)
4. Two to four hours of lectures every week
5. Lectures broken up into short modules
6. Each module with a clear description of its contents and expected learning outcomes
7. Objective/subjective/programming assessments every week as decided by the faculty member
8. A discussion forum where students can raise questions and get their doubts answered
9. An announcements section in which announcements are posted
10. A progress page where a student can view his or her scores and an analytics page for the course instructor that provides an overview of the student's performance and interest in the course
11. LIVE interactive sessions from course instructors

The content of online courses will be peer reviewed to assess if it meets all the requirements.

Certification process

NPTEL began the initiative of offering certification for courses in March 2014. The process of certification is as follows:

1. Subject Matter Experts (SMEs), faculty members of IITs or partner institutes, with input from industry create new content in the MOOCs format or use course content that has already been created for NPTEL and offer the entire course for certification or slice up the content and use parts of it to make a 20-hour course.
2. The course is uploaded on the portal and opened for enrollment, which is free.
3. Every week, about 2-3 hours of video content is released, along with an assignment based on this, which is evaluated and provides the student with a score.
4. Teaching Assistants (TAs) and faculty members support the discussion forum, answering questions and clearing doubts.
5. Registration for the online-proctored certification exam is opened (which is optional), in collaboration with an exam partner, and nominal fees of Rs. 1100 per course is charged.
6. The certification exam is conducted on pre-announced dates (preferably Saturdays/Sundays) after the course has been run, giving the student flexibility in terms of the date of the exam.
7. Certificates (hard copies, e-verifiable on a website) are issued. The scores on the certificates are combinations of scores for assignments and final scores. These certificates are issued by the CCEs of IITs (in partnership with industry bodies, if applicable).
8. Now certificates are being used by select universities for transfers, for making the student more employable or for enhancing her or his growth in the current place of work.

From March 2014 till now

- 18 exam runs; 1,045 courses completed
- Ongoing: 291 courses for January-April 2019
- Upcoming: 360+ courses for July-December 2019

Certification completed

Number of courses	Exam period	Course Run	Enrolled	Registered	Certified
291	April 2019	January-April 2019	15,85,479	2,04,038	Results yet to be announced
269	October 2018	July-December 2018	13,11,846	1,61,228	1,24,319
226	1-April	January-April 2018	9,17,644	87,020	66,136
94	1-October	July-October 2017	4,59,274	26,725	23,957
65	17-September	July-September 2017	5,81,064	43,702	39,433
66	17-April	January-April 2017	3,14,042	23,419	19,341
64	17-March	January-March 2017	2,19,899	23,598	19,064
31	16-October	July-October 2016	1,44,769	8,250	6,832
73	16-Sep	July-September 2016	2,45,124	23,176	19,988
	16-April	January-April 2016	90,925	4,265	3,574
29	16-March	January-March 2016	1,50,766	13,080	11,736
18	15-November	July-November 2015	38,037	1,722	1,398
18	15-September	July-September 2015	1,22,782	5,562	4,629
27	15-July	May-June 2015	26,408	2,425	1,848
15	15-May	February-May 2015	31,684	1,659	853
12	15-March	January-March 2015	78,924	2,262	1,856
2	14-November	September-November 2014	58,947	1,653	1,549
1	14-July	March-August 2014	53,807	1,380	1,182



Tentative list for upcoming July-December 2019 semester

Seq	Discipline	Courses	Duration	Hour
1	Aerospace Engineering	Design of fixed wing Unmanned Aerial Vehicles	8 Weeks	20 hrs
		Introduction to Aerospace Engineering	12 Weeks	30 hrs
		Introduction to Ancient Indian Technology	8 Weeks	20 hrs
		Introduction to Rocket Propulsion	8 Weeks	20 hrs
		Mechanics and Thermodynamics of Air-Breathing Propulsion	12 Weeks	30 hrs
		Vibration and Structural Dynamics	8 Weeks	20 hrs
2	Agriculture and Food Engineering	Dairy and Food Process and Products Technology	12 Weeks	30 hrs
		Farm Machinery	12 Weeks	30 hrs
		Fundamentals of Food Process Engineering	12 Weeks	30 hrs
		Irrigation and Drainage	12 Weeks	30 hrs
		Organic Farming for Sustainable Agricultural Production	8 Weeks	20 hrs
		Thermal Operations in Food Process Engineering: Theory and Applications	12 Weeks	30 hrs
3	Architecture	Thermal Processing of Foods	12 Weeks	30 hrs
		Architectural Acoustics	8 Weeks	20 hrs
		Contemporary Architecture and Design	8 Weeks	20 hrs
		Culturally Responsive Built Environments	8 Weeks	20 hrs
		Disaster Recovery and Build Back Better	8 Weeks	20 hrs
4	Biotechnology and Bioengineering	Role of Craft and Technology in Interior - Architecture	8 Weeks	20 hrs
		Basic Biotechnology	8 Weeks	20 hrs
		Bioenergy	8 Weeks	20 hrs
		Biomedical nanotechnology	4 Weeks	10 hrs
		Biomicrofluidics	4 Weeks	10 hrs
		Computer Aided Drug Design	8 Weeks	20 hrs
		Drug Delivery: Principles and Engineering	12 Weeks	30 hrs
		Functional Genomics	4 Weeks	10 hrs
		Fundamentals of Micro and Nanofabrication	12 Weeks	30 hrs
		Human Physiology	12 Weeks	30 hrs
		Industrial Biotechnology	12 Weeks	30 hrs
		Introduction to Biostatistics	8 Weeks	20 hrs
		Introduction to Mechanobiology	8 Weeks	20 hrs
		Introduction to Proteogenomics	12 Weeks	30 hrs
		Introduction to Proteomics	8 Weeks	20 hrs
Nanotechnology in Agriculture	8 Weeks	20 hrs		
5	Chemical Crystallography	Plant Cell Bioprocessing	12 Weeks	30 hrs
		Plant Developmental Biology	4 Weeks	10 hrs
6	Chemical Engineering	Principles of Downstream Techniques in Bioprocess	12 Weeks	30 hrs
		Chemical Crystallography	12 Weeks	30 hrs
		Chemical Engineering Thermodynamics	12 Weeks	30 hrs
		Chemical Process Intensification	12 Weeks	30 hrs
		Chemical Process Safety	12 Weeks	30 hrs
		Chemical Reaction Engineering-I	12 Weeks	30 hrs
		Continuum Mechanics and Transport Phenomena	12 Weeks	30 hrs
		Flow through porous media	12 Weeks	30 hrs
		Fluid and Particle Mechanics	12 Weeks	30 hrs
		Fundamentals of Particle and Fluid Solid Processing	12 Weeks	30 hrs
		Heat Transfer	12 Weeks	30 hrs
6	Mechanical Engineering	Introduction to Polymer Physics	12 Weeks	30 hrs
		Mass Transfer Operations II	12 Weeks	30 hrs
		Mechanical Unit Operations	12 Weeks	30 hrs

Seq	Discipline	Courses	Duration	Hour
7	Chemical Engineering	Natural Gas Engineering	8 Weeks	20 hrs
		Phase Equilibrium Thermodynamics	8 Weeks	20 hrs
		Technologies For Clean And Renewable Energy Production	8 Weeks	20 hrs
		Unit Operations of Particulate Matter	4 Weeks	10 hrs
	Chemistry and Biochemistry	Analytical Chemistry	12 Weeks	30 hrs
		Bioinorganic Chemistry	4 Weeks	10 hrs
		Biophysical Chemistry	12 Weeks	30 hrs
		Coordination Chemistry	12 Weeks	30 hrs
		Introductory Organic Chemistry I	12 Weeks	30 hrs
		Mechanisms in Organic Chemistry	8 Weeks	20 hrs
		Metals in Biology	8 Weeks	20 hrs
		NMR Spectroscopy for Chemists and Biologists	12 Weeks	30 hrs
		Non-Linear Dynamic	12 Weeks	30 hrs
		Organic Chemistry in Biology and Drug Development	12 Weeks	30 hrs
		Principles of Organic Synthesis	12 Weeks	30 hrs
		Quantum Computing	12 Weeks	30 hrs
		Reagents in Organic Synthesis	12 Weeks	30 hrs
		Spectroscopic Techniques for Pharmaceutical and Biopharmaceutical Industries	12 Weeks	30 hrs
		Stereochemistry	8 Weeks	20 hrs
Thermodynamics: Classical to Statistical	12 Weeks	30 hrs		
Ultrafast Optics and Spectroscopy	12 Weeks	30 hrs		
8	Civil Engineering	Advanced Concrete Technology	12 Weeks	30 hrs
		Concrete Technology	12 Weeks	30 hrs
		Design of Reinforced Concrete Structures	12 Weeks	30 hrs
		Design of Steel Structures	12 Weeks	30 hrs
		Environmental Geotechnics	12 Weeks	30 hrs
		Fluid Mechanics	8 Weeks	20 hrs
		Foundation Engineering	12 Weeks	30 hrs
		Geosynthetics Testing Laboratory	4 Weeks	10 hrs
		Geotechnical Engineering Laboratory	4 Weeks	10 hrs
		Glass in Buildings: Design and Applications	12 Weeks	30 hrs
		Glass Processing Technology	12 Weeks	30 hrs
		GPS Surveying	4 Weeks	10 hrs
		Integrated Waste Management for a Smart City	12 Weeks	30 hrs
		Maintenance and Repair of Concrete Structures	12 Weeks	30 hrs
		Masonry Structures	12 Weeks	30 hrs
		Matrix Method of Structural Analysis	8 Weeks	20 hrs
		Photogeology in Terrain Evaluation (Part-1 and 2)	8 Weeks	20 hrs
		Principles of Construction Management	8 Weeks	20 hrs
		Project Planning and Control	8 Weeks	20 hrs
		Reinforced Concrete Road Bridges	4 Weeks	10 hrs
		Remote Sensing and Digital Image Processing of Satellite Data	8 Weeks	20 hrs
		Remote Sensing and GIS	8 Weeks	20 hrs
		Strength of Materials	12 Weeks	30 hrs
		Structural Analysis-I	12 Weeks	30 hrs
Structural Dynamics for Civil Engineers – SDOF Systems	4 Weeks	10 hrs		
Sustainable Materials and Green Buildings	12 Weeks	30 hrs		
Wastewater Treatment and Recycling	12 Weeks	30 hrs		
9	Computer Science and Engineering	Advanced Computer Architecture	8 Weeks	20 hrs
		An Introduction to Programming Through C++	12 Weeks	30 hrs
		Applied Natural Language Processing	12 Weeks	30 hrs
		Arithmetic Circuit Complexity	12 Weeks	30 hrs
		Artificial Intelligence Search Methods for Problem Solving	12 Weeks	30 hrs



Seq	Discipline	Courses	Duration	Hour
	Computer Science and Engineering	Blockchain Architecture Design and Use Cases	12 Weeks	30 hrs
		C Programming and Assembly Language	4 Weeks	10 hrs
		Cloud Computing	8 Weeks	20 hrs
		Computer Vision	12 Weeks	30 hrs
		Database Management System	8 Weeks	20 hrs
		Data Science for Engineers	8 Weeks	20 hrs
		Deep Learning	12 Weeks	30 hrs
		Deep Learning – Part 1	12 Weeks	30 hrs
		Demystifying Networking	4 Weeks	10 hrs
		Design and Analysis of Algorithms	8 Weeks	20 hrs
		Discrete Mathematics	12 Weeks	30 hrs
		Discrete Mathematics	12 Weeks	30 hrs
		Ethical Hacking	12 Weeks	30 hrs
		Fuzzy Systems and Applications	12 Weeks	30 hrs
		Hardware Modeling Using Verilog	8 Weeks	20 hrs
		Introduction to Haskell Programming	8 Weeks	20 hrs
		Introduction to Internet of Things	12 Weeks	30 hrs
		Introduction to Machine Learning	12 Weeks	30 hrs
		Introduction to Machine Learning	8 Weeks	20 hrs
		Introduction to Operating Systems	8 Weeks	20 hrs
		Introduction to Parallel Programming in Open MP-Part 2	4 Weeks	10 hrs
		Introduction to Programming in C	8 Weeks	20 hrs
		Machine Learning for Engineering and Science Applications	12 Weeks	30 hrs
		Modern Algebra	8 Weeks	20 hrs
		Natural Language Processing	12 Weeks	30 hrs
		Object-oriented Analysis and Design	8 Weeks	20 hrs
		Operating System Fundamentals	12 Weeks	30 hrs
		Practical Machine Learning with Tensorflow	8 Weeks	20 hrs
		Problem Solving Through Programming in C	12 Weeks	30 hrs
		Programming in C++	8 Weeks	20 hrs
		Programming In Java	12 Weeks	30 hrs
		Programming, Data Structures and Algorithms Using Python	8 Weeks	20 hrs
		Python for Data Science	4 Weeks	10 hrs
		Reinforcement Learning	12 Weeks	30 hrs
		Scalable Data Science	8 Weeks	20 hrs
		Social Networks	12 Weeks	30 hrs
		Software Engineering	12 Weeks	30 hrs
		Software Project Management	12 Weeks	30 hrs
		Software testing	12 Weeks	30 hrs
		Spatial Informatics	8 Weeks	20 hrs
		Switching Circuits and Logic Design	12 Weeks	30 hrs
		Synthesis of Digital Systems	12 Weeks	30 hrs
	The Joy of Computing using Python	12 Weeks	30 hrs	
	Theory of Computation	8 Weeks	20 hrs	
	Control Systems	12 Weeks	30 hrs	
10	Design Engineering	Ergonomics in Automotive Design	4 Weeks	10 hrs
		Ergonomics Workplace Analysis	4 Weeks	10 hrs
		System Design for Sustainability	12 Weeks	30 hrs
11	Earth Sciences	Geomorphic Processes: Landforms and Landscapes	8 Weeks	20 hrs
		Global Navigation Satellite Systems and Applications	4 Weeks	10 hrs
		Structural Geology	12 Weeks	30 hrs
12	Electrical Engineering	Advanced Linear Continuous Control Systems: Applications with MATLAB Programming and Simulink	8 Weeks	20 hrs
		Analog Communication	12 Weeks	30 hrs

Seq	Discipline	Courses	Duration	Hour
	Electrical Engineering	Analog Electronic Circuit	12 Weeks	30 hrs
		Basic Electric Circuits	12 Weeks	30 hrs
		Computational Electromagnetics	12 Weeks	30 hrs
		Control Engineering	12 Weeks	30 hrs
		Dc Microgrid	8 Weeks	20 hrs
		Digital Circuits	12 Weeks	30 hrs
		Digital Image Processing	12 Weeks	30 hrs
		Digital Signal Processing	12 Weeks	30 hrs
		Digital Switching - I	8 Weeks	20 hrs
		Electrical Distribution System Analysis	8 Weeks	20 hrs
		Electrical Machines - I	12 Weeks	30 hrs
		Electrical Machines - I	12 Weeks	30 hrs
		Electrical Measurement and Electronic Instruments	12 Weeks	30 hrs
		Fabrication Techniques for MEMs- Based Sensors: Clinical Perspective	12 Weeks	30 hrs
		Fiber-Optic Communication Systems and Techniques	12 Weeks	30 hrs
		Fundamentals of Electric Drives	8 Weeks	20 hrs
		Fundamentals of Electrical Engineering	12 Weeks	30 hrs
		Infrared Spectroscopy for Pollution Monitoring	4 Weeks	10 hrs
		Introduction to Computer Vision	12 Weeks	30 hrs
		Introduction to Smart Grid	8 Weeks	20 hrs
		Introduction to Wireless and Cellular Communications	12 Weeks	30 hrs
		Linear System Theory	12 Weeks	30 hrs
		Mapping Signal Processing Algorithms to DSP Architectures	12 Weeks	30 hrs
		Microelectronics: Devices to Circuits	12 Weeks	30 hrs
		Microwave Engineering	12 Weeks	30 hrs
		Microwave Theory and Techniques	12 Weeks	30 hrs
		Neural Networks for Signal Processing - I	12 Weeks	30 hrs
		Op-Amp Practical Applications: Design, Simulation and Implementation	12 Weeks	30 hrs
		Pattern Recognition and Application	12 Weeks	30 hrs
		Power Electronics	12 Weeks	30 hrs
		Power System Analysis	12 Weeks	30 hrs
		Principles and Techniques of Modern Radar Systems	12 Weeks	30 hrs
		Principles of Communication Systems - Part II	8 Weeks	20 hrs
		Principles of Modern CDMA/MIMO/OFDM Wireless Communications	8 Weeks	20 hrs
	Sensors and Actuators	12 Weeks	30 hrs	
13	Humanities and Social Sciences	Applied Linguistics	12 Weeks	30 hrs
		Appreciating Linguistics: A Typological Approach	12 Weeks	30 hrs
		Artistic Exploration in Scientific Research and Technology	4 Weeks	10 hrs
		Body Language: Key to Professional Success	4 Weeks	10 hrs
		Cognition, Transformation and Lives	4 Weeks	10 hrs
		Consumer Psychology	8 Weeks	20 hrs
		Developing Soft Skills and Personality	8 Weeks	20 hrs
		Development Research Methods	8 Weeks	20 hrs
		Disability Studies: An Introduction	8 Weeks	20 hrs
		Energy Economics and Policy	8 Weeks	20 hrs
		Ethics in Engineering Practice	8 Weeks	20 hrs
		Feminism: Concepts and Theories	12 Weeks	30 hrs
		Folk and Minor Art in India	8 Weeks	20 hrs
		Gender Justice and Workplace Security	4 Weeks	10 hrs
		German-I	12 Weeks	30 hrs
		German-II	12 Weeks	30 hrs
		History of English Language and Literature	12 Weeks	30 hrs
		Indian Fiction in English	12 Weeks	30 hrs
		Intermediate Level of Spoken Sanskrit	8 Weeks	20 hrs



Seq	Discipline	Courses	Duration	Hour
	Humanities and Social Sciences	International Economics	8 Weeks	20 hrs
		Interpersonal Skills	4 Weeks	10 hrs
		Introduction to Film Studies	12 Weeks	30 hrs
		Introduction to Japanese Language and Culture	8 Weeks	20 hrs
		Learning English Language	12 Weeks	30 hrs
		Patent Drafting for Beginners	4 Weeks	10 hrs
		Patent Law for Engineers and Scientists	12 Weeks	30 hrs
		Population Studies	4 Weeks	10 hrs
		Positive Psychology	8 Weeks	20 hrs
		Psychology of Everyday	4 Weeks	10 hrs
		Short Fiction in Indian Literature	12 Weeks	30 hrs
		Soft Skills	12 Weeks	30 hrs
		Technical English for Engineers	8 Weeks	20 hrs
		Technology Design and Inclusion	4 Weeks	10 hrs
		Text, Textuality and Digital Media	12 Weeks	30 hrs
		The Psychology of Language	8 Weeks	20 hrs
		The Victorian Gothic Short Story	4 Weeks	10 hrs
		Visual Perception and Art: A Survey Across the Cultures	4 Weeks	10 hrs
		Water, Society and Sustainability	4 Weeks	10 hrs
		14 Management	Applied Econometrics	12 Weeks
	Business Analytics and Data Mining Modeling Using R Part II		4 Weeks	10 hrs
	Business Analytics and Text Mining Modeling Using Python		8 Weeks	20 hrs
	Corporate Social Responsibility		8 Weeks	20 hrs
	Cost Accounting		4 Weeks	10 hrs
	Data Analysis and Decision Making - III		12 Weeks	30 hrs
	Decision-Making Using Financial Accounting		8 Weeks	20 hrs
	Decision-Making Under Uncertainty		4 Weeks	10 hrs
	E-Business		12 Weeks	30 hrs
	Economics of Health and Healthcare		8 Weeks	20 hrs
	Educational Leadership		8 Weeks	20 hrs
	Financial Accounting		8 Weeks	20 hrs
	Financial Derivatives and Risk Management		12 Weeks	30 hrs
	Game Theory		8 Weeks	20 hrs
	Human Resource Development		12 Weeks	30 hrs
	Innovation, Business Models and Entrepreneurship		8 Weeks	20 hrs
	Intellectual Property Rights and Competition Law		8 Weeks	20 hrs
	Knowledge Management		8 Weeks	20 hrs
	Leadership		4 Weeks	10 hrs
	Management Accounting		12 Weeks	30 hrs
	Marketing Management-I		8 Weeks	20 hrs
	Marketing Research and Analysis		8 Weeks	20 hrs
	Patent Search for Engineers and Lawyers		8 Weeks	20 hrs
	Performance and Reward Management		12 Weeks	30 hrs
	Practitioners Course in Descriptive, Predictive and Prescriptive Analytics		8 Weeks	20 hrs
	Project Management		8 Weeks	20 hrs
	Project Management for Managers		12 Weeks	30 hrs
	The Ethical Corporation		8 Weeks	20 hrs
	Toyota Production System	8 Weeks	20 hrs	
	Training of Trainers or Managerial Skills for Interpersonal Dynamics	12 Weeks	30 hrs	
	Working Capital Management	12 Weeks	30 hrs	
	15 Mathematics	Calculus of One Real Variable	8 Weeks	20 hrs
		Calculus of Several Real Variables	8 Weeks	20 hrs
		Higher Engineering Mathematics	12 Weeks	30 hrs

Seq	Discipline	Courses	Duration	Hour
16	Mathematics	Integral Transforms and their Applications	12 Weeks	30 hrs
		Introduction to Abstract and Linear Algebra	8 Weeks	20 hrs
		Introduction to Abstract Group Theory	8 Weeks	20 hrs
		Introduction to Fuzzy Set Theory, Arithmetic and Logic	12 Weeks	30 hrs
		Introduction to R Software	8 Weeks	20 hrs
		Introduction to Rings and Fields	8 Weeks	20 hrs
		Mathematical Finance	12 Weeks	30 hrs
		Mathematical Methods for Boundary Value Problems	4 Weeks	10 hrs
		Matrix Analysis with Applications	8 Weeks	20 hrs
		Numerical Methods	8 Weeks	20 hrs
		Operations Research	4 Weeks	10 hrs
		Stochastic Processes	12 Weeks	30 hrs
		A short lecture series on Contour Integration in the Complex Plane	4 Weeks	10 hrs
		Advanced Concepts in Fluid Mechanics	12 Weeks	30 hrs
		Aircraft Propulsion	12 Weeks	30 hrs
	Mechanical Engineering	Applied Ergonomics	12 Weeks	30 hrs
		Applied Thermodynamics for Engineers	12 Weeks	30 hrs
		Computer Numerical Control (CNC) of Machine Tools and Processes	4 Weeks	10 hrs
		Concepts of Thermodynamics	12 Weeks	30 hrs
		Convective Heat Transfer	12 Weeks	30 hrs
		Design for Quality, Manufacturing and Assembly	8 Weeks	20 hrs
		Dynamic Behaviour of Materials	12 Weeks	30 hrs
		Energy Conservation and Waste Heat Recovery	12 Weeks	30 hrs
		Engineering Fracture Mechanics	12 Weeks	30 hrs
		Engineering Mechanics	12 Weeks	30 hrs
		Engineering Metrology	12 Weeks	30 hrs
		Fluid Machines	8 Weeks	20 hrs
		Fundamentals of Artificial Intelligence	12 Weeks	30 hrs
		Fundamentals of Conduction and Radiation	12 Weeks	30 hrs
		Fundamentals of Gas Dynamics	12 Weeks	30 hrs
Fundamentals of Manufacturing Processes	12 Weeks	30 hrs		
Fundamentals of Surface Engineering: Mechanisms, Processes and Characterizations	12 Weeks	30 hrs		
Heat Exchangers: Fundamentals and Design Analysis	12 Weeks	30 hrs		
Industrial Safety Engineering	12 Weeks	30 hrs		
Manufacturing of Composites	8 Weeks	20 hrs		
Manufacturing Systems Technology	12 Weeks	30 hrs		
Mathematical Modeling of Manufacturing Processes	12 Weeks	30 hrs		
Noise Management and Control	12 Weeks	30 hrs		
Plastic Working of Metallic Materials	12 Weeks	30 hrs		
Principles of Metal Forming Technology	8 Weeks	20 hrs		
Product Design Using Value Engineering	4 Weeks	10 hrs		
Refrigeration and Air-conditioning	8 Weeks	20 hrs		
Robotics	8 Weeks	20 hrs		
Selection of Nanomaterials for Energy Harvesting and Storage	4 Weeks	10 hrs		
Smart Materials and Intelligent System Design	4 Weeks	10 hrs		
Solid Mechanics	12 Weeks	30 hrs		
Steam Power Engineering	8 Weeks	20 hrs		
Turbulent Combustion: Theory and Modelling	12 Weeks	30 hrs		
Two-Phase Flow with Phase Change in Conventional and Miniature Channels	4 Weeks	10 hrs		
Work System Design	12 Weeks	30 hrs		
Design Practice	8 Weeks	20 hrs		



Seq	Discipline	Courses	Duration	Hour
17	Metallurgical and Materials Engineering	Advanced Materials and Processes	12 Weeks	30 hrs
		An Introduction to Materials: Nature and Properties (Part 1: Structure of Materials)	8 Weeks	20 hrs
		Biomaterials for Bone Tissue Engineering Applications	8 Weeks	20 hrs
		Corrosion - Part I	8 Weeks	20 hrs
		Corrosion - Part II	8 Weeks	20 hrs
		Fundamentals and Applications of Dielectric Ceramics	8 Weeks	20 hrs
		Fundamentals of Electronic Device Fabrication	4 Weeks	10 hrs
		Nanotechnology, Science and Applications	8 Weeks	20 hrs
		Physics of Materials	12 Weeks	30 hrs
		Structural Analysis of Nanomaterials	4 Weeks	10 hrs
		Thermo-Mechanical and Thermo-Chemical Processes	8 Weeks	20 hrs
		Transport Phenomena in Materials	12 Weeks	30 hrs
		Welding Metallurgy	12 Weeks	30 hrs
		Welding of Advanced High Strength Steels for Automotive Applications	4 Weeks	10 hrs
18	Multidisciplinary	(TALE 2: Course Design and Instruction of Engineering Courses)	8 Weeks	20 hrs
		Accreditation and Outcome-Based Learning	8 Weeks	20 hrs
		Designing Learner-Centric e-Learning in STEM Disciplines	4 Weeks	10 hrs
		Designing Learner-Centric MOOCs	4 Weeks	10 hrs
		Ecology and Environment	8 Weeks	20 hrs
		Foundations of Learning Sciences	4 Weeks	10 hrs
		Health Research Fundamentals	8 Weeks	20 hrs
		Introduction to Environmental Engineering and Science—Fundamental and Sustainability Concepts	12 Weeks	30 hrs
		Introduction to Learning Analytics	4 Weeks	10 hrs
		Introduction to Research	8 Weeks	20 hrs
		Manage TB	8 Weeks	20 hrs
		Neuroscience of Human Movements	12 Weeks	30 hrs
		Numerical Methods for Engineers	12 Weeks	30 hrs
		Stress Management	4 Weeks	10 hrs
Sustainable and Affordable Sanitation Solutions For Small Towns: Policy, Planning and Practice	4 Weeks	10 hrs		
Teaching and Learning in General Programs: TALG	4 Weeks	10 hrs		
19	Ocean Engineering	HSE Practices for Offshore and Petroleum Industries	12 Weeks	30 hrs
20	Physics	Computational Physics	12 Weeks	30 hrs
		Experimental Physics	12 Weeks	30 hrs
		Introduction to Electromagnetic Theory	8 Weeks	20 hrs
		Introduction to Statistical Mechanics	8 Weeks	20 hrs
		Numerical Methods and Simulation Techniques for Scientists and Engineers	8 Weeks	20 hrs
		Path Integral Methods in Quantum Physics	8 Weeks	20 hrs
		Physics of Turbulence	12 Weeks	30 hrs
		Solar Photovoltaics Fundamentals, Technology and Applications	8 Weeks	20 hrs
		Solid State Physics	12 Weeks	30 hrs
		Theoretical Mechanics	8 Weeks	20 hrs
21	Textile Technology	Waves and Oscillations	12 Weeks	30 hrs
		Principles of Combing, Roving Preparation and Ring Spinning	12 Weeks	30 hrs
		Science and Technology of Weft and Warp Knitting	12 Weeks	30 hrs
		Science of Clothing Comfort	12 Weeks	30 hrs
		Textile Finishing	12 Weeks	30 hrs
		Yarn Manufacture I: Principle of Carding and Drawing	8 Weeks	20 hrs

Role of CCE of IIT in NOC

Each online course is conducted administratively under the CCE of the IIT whose faculty member is offering the course for certification. All financial transactions and contracts are done through the CCE. The final course completion certificate and scorecard from the proctored exam is also issued by the Chairman of the CCE and NPTEL jointly.

CSR

Aricent, Capgemini and Tata Technologies have partnered with NPTEL through IITM-OAA to sponsor scholarships for students in financial need to aid payment for the certification exams.

Use of NPTEL video and web material as GATE preparation aids

NPTEL has taken up the task of mapping every question in the GATE question papers (2014-2016) to NPTEL reference material, readily available within existing NPTEL courses.

State	Number of Local Chapters
Andaman and Nicobar	1
Andhra Pradesh	212
Arunachal Pradesh	1
Assam	8
Bihar	16
Chhattisgarh	26
Daman and Diu	2
Delhi	14
Ethiopia	2
Goa	9
Gujarat	90
Haryana	35
Himachal Pradesh	7
Jammu and Kashmir	13
Kabul	1
Jharkhand	24
Karnataka	150
Kerala	140

The Local Chapters have helped spread awareness about NPTEL, gauge the needs of colleges in the academic environment, fill the gaps and identify how more students across colleges can benefit from the certification courses. It is through the LCs that NPTEL is able to interact with colleges and award fee waivers to deserving candidates from economically poor background.

Feedback on NPTEL

Feedback from many students, teachers and other users of NPTEL is collected regularly. Several feedback forms have been designed for this purpose, with varying degrees of detail.

NPTEL Workshops

Workshops are routinely conducted for students and faculty members of other institutes to create awareness about NPTEL. Four types of workshops are conducted by NPTEL:

Question papers in 21 disciplines have been mapped so far with the help of postgraduate student volunteers, and the answers have been further validated by faculty members specialising in the area. Both the students and the faculty members have been paid honorarium.

NPTEL Local Chapters

NPTEL has been actively organising Local Chapters (LCs) in colleges. The LCs provide a platform for continuous engagement with the colleges involved and serve as direct point of contact that will act as champions of NPTEL in these colleges. These chapters are a recent initiative of NPTEL but have received a tremendous response. We have LCs outside India too, in Afghanistan and Ethiopia.

Today, there are 2,526 colleges across India that have NPTEL Local Chapters; details are given below.

State	Number of Local Chapters
Lakshadweep	1
Madhya Pradesh	77
Maharashtra	487
Mizoram	2
Manipur	1
Meghalaya	2
Odisha	25
Puducherry	14
Punjab	39
Rajasthan	50
Sikkim	2
Tamil Nadu	415
Telangana	138
Tripura	6
Uttar Pradesh	366
Uttarakhand	29
West Bengal	121
Grand Total	2,526

- NPTEL awareness workshops for students
- NPTEL awareness workshops for faculty members
- NPTEL course-specific workshops for faculty members
- NPTEL MOOCs workshop for faculty members

The participants at these workshops are from various institutes, so the information reaches a large number of colleges. Typically, the issues addressed include: What is NPTEL? How is the content procured? How can the content be used by students and faculty members? What are the special features of NPTEL? Suggestions are invited from the participants for improvements to enhance the learning experience.



Year	Workshops Conducted
2017	62
2018	72
2019 (up to March 2019)	26
Total	160

Faculty is informed how to adapt the content for their classes. More than 2,00,000 teachers and students have attended these workshops. Last year, several MOOCs workshops were conducted across the country to familiarise faculty members with the MOOCs' form.

Collaboration with Industry

The next step in empowering the students is to make them job ready. To achieve this, NPTEL has been collaborating with the industry. The industry may do any one of the following:

- Co-offer a course with an IIT faculty
- Sponsor a course
- Provide CSR funds, which go towards providing fee waivers to deserving students

With the growing number of colleges partnering with NPTEL, the CSR initiative from the industries will create a wider impact on the students who are otherwise devoid of quality education due to their economic conditions.

We are also working with the industry in providing workshops to NPTEL certification toppers to bridge the gap between academia and industry.

Process: A memorandum of understanding (MoU) is signed with the organisation to formalise the partnership between the industry/corporate and NPTEL. This alliance is aimed at those segments of a company (if not the entire organisation itself), to whom NPTEL services will be beneficial and who could be a value addition to NPTEL too.

We currently have signed MoUs with the following industry partners:

1. Indian Institute of Industry Interaction Education and Research
2. Ether Services
3. Infoziant System Private Limited
4. Aricent Technologies (Holding) Limited
5. Springrole India Private Limited
6. Hilti India
7. Rajlee Electronics and Innovation Private Limited
8. Our World Together Foundation
9. NLC India Limited Neyveli
10. Sri Satya Surya Engineering and Trading Services Private Limited
11. Basukala ITI
12. Tech Mahindra Limited

13. Patient Planet Health Services Private Limited
14. Archons Solutions Private Limited
15. Fronius India Private Limited
16. Medicove Health Guard India Private Limited

NPTEL portals for various workflows

The following portals have been created:

- <http://nptel.ac.in> - This portal was given a better design and the NPTEL office continues to add new features to this website.
- <http://nptel.ac.in/noc> - This portal is for candidates to check scores and details regarding courses
- <http://nptel.ac.in/LocalChapter> - For NPTEL Local Chapters with login for single point of contact (SPOCs) and mentors
- <http://nptel.ac.in/IndustryAssociate/> - For industry associates
- <http://nptelonlinecourses.iitm.ac.in/> - Exam registration link
- <http://nptel.ac.in> - This portal was given a better design, and the NPTEL office continues to add new features to this website.
- <http://nptel.ac.in/noc> - For candidates to check scores and details regarding courses

Virtual Class Rooms over the National Knowledge Network

This facility was used for the following:

- Video conferences were conducted for different departments for Empowered Expert Committees (EECs).
- Classes for M.Tech web-enabled programmes connecting industrial partners were conducted.
- Video-recording equipment and integration support for NITTR.
- Video conference to review the progress of construction projects in respect of second and third generation IITs with CPWD and NBCC.
- Meeting for technical evaluation of equipment for virtual classroom on behalf Directorate of Technical Education (DOTE) in Electronics Corporation of Tamil Nadu Ltd (ELCOT).
- Video conference/Intranet for PEDES IEEE 2019 International Conference.

- Fifth Board Meeting of HEFA for FY 2018-19 Review of infra works and status of HEFA loan in IITs.
- Technical assistance for National Centre for Epidemiology for creating virtual classroom.
- Technical assistance for Directorate of Technical education, Government of Tamil Nadu in progress.
- NPTEL – meetings with IITs for tutoring process for recording, preparing question papers for upcoming online exam.
- Conference support for Department of Civil Engineering, Biotech, Applied Mechanics.
- Conference on research progress with DRDO
- The dedicated virtual classroom MSB 359 continues to be the studio of NPTEL to record NPTEL videos for Swayam – MOOCs.
- VC session for CSR activities
- VC with IITR for IMESD 2018
- Aero India Exhibition 2019
- Critical equipment of virtual classroom in MSB 360 is removed and facilitating GIAN and NPTEL video recordings
- STSI – Student exchange programme for Hokkaido University, Japan - Prof. Amit Kumar, IIT Madras
- MHRD meeting for Swayam Project
- NPTEL online classes – Monthly meeting connecting all IITs and partnering institutions
- Technical assistance in creating virtual classroom for NITTR
- Online classes for M.Tech web-enabled courses with the support of NIC headquarters for Network and Multi-Party Conference facility.
- VC/Meetings and video conferences
- Upgrade of virtual classroom – IIT Hyderabad
- Review of progress under IMPRINT-1 and UAY
- Honourable Prime Minister’s address on contribution of the information technology (IT) industry and workforce to India’s prowess in the technology and digital space.
- Technical assistance for national institutes and other government bodies
- NPTEL - meetings with IITs
- Online classes for M.Tech online courses in three disciplines connecting industrial partners (CCE)
- VC sessions with government departments
- Commissioning of virtual classrooms
- Technical assistance for purchase of equipment for government departments
- VC sessions on Project Review-LC3 Project-EPFL Switzerland, IIT Delhi, TARA Delhi and project mates from Cuba
- Evaluation of software-based video conferencing and software for multi-site locations
- Uploading of large lecture video files of Swayam Prabha DTH on Google Drive

RAMANUJAN BLOCK

RAMANUJAN BLOCK





6.2. Centre for Industrial Consultancy and Sponsored Research

6.2.1. Introduction

The Centre for Industrial Consultancy & Sponsored Research (ICSR) was set up in 1973 to foster and promote sponsored research activities as well as relationships with industries. It facilitates active participation of the faculty in various interactive programmes organised for the benefit of industries and the institute. The Centre also plays a proactive role in managing the intellectual property and its commercialisation that are generated by the institute. In addition, the Centre provides administrative support to carry out consultancy and sponsored research projects, particularly for the recruitment of project staff, maintenance of accounts and purchase of equipment and materials.

Some of the major activities of the ICSR are:

- Sponsored research programmes
- Consultancy projects: research based/retainer/institutional
- Collaborative projects with organisations and industries in foreign countries
- Industrial Associateship Scheme/Industry Relationship
- ISRO-IITM Space Technology Cell joint projects
- IGCAR-IITM Cell joint projects
- HAL-IITM joint projects
- NIOT-IITM Ocean Technology Cell
- Patenting and technology transfers
- Faculty and student entrepreneurship and incubation
- Positive messaging and outreach program
- Support scheme through research group

Dean : Prof. Ravindra Gettu

Associate Dean : Prof. Kamakoti Veezhinathan (since 24 January 2019)

Institute Staff

Dr. V. Suresh : Senior Techno Economic Officer

Ms. Vijayalakshmi K : Deputy Registrar i/c

Ms. Vijayakumari : Superintendent (Purchase)

Shri K. C. Chandrajit : Junior Superintendent (IP)

Smt. Hemalatha Hariharan : Senior Assistant (Recruitment)

6.2.2 Sponsored Research

A total of 284 projects of value totalling to Rs. 32,649.13 lakh were sanctioned to the institute during 2018-19.

Sl. No.	Agency Name	Number of Projects	Value (Rs. in lakh)
1	Department of Science & Technology	99	10,034.50
2	Uchhatar Avishkar Yojana - IIT Madras	22	4,508.84
3	Ministry of Electronics & Information Technology	5	4,344.98
4	Ministry of Human Resource and Development	3	2,751.80
5	Department of Biotechnology	14	1,966.47
6	Manipur State Power Distribution Company Limited	1	1,414.34
7	Scheme for Promotion of Academic and Research	17	927.63
8	Impacting Research Innovation and Technology - IMPRINT	13	824.38
9	Defence Research and Development Organisation	2	638.02
10	Science and Engineering Research Board	30	604.62
11	Grantwood Technologies Private Limited	1	560.00

Sl. No.	Agency Name	Number of Projects	Value (Rs. in lakh)
12	Wellcome Trust UK	1	355.32
13	Advanced Research Centre for Powder Metallurgy & Materials, International	2	354.12
14	Tata Sons Limited	1	340.00
15	Indian Space Research Organisation	8	279.69
16	Department of Heavy Industry	1	279.15
17	Inter-University Centre for Astronomy and Astrophysics	1	245.31
18	Council of Scientific and Industrial Research	10	209.81
19	Biotechnology Industry Research Assistance Council	8	197.26
20	Naval Research Board	5	178.27
21	Indian Council for Medical Research	3	167.32
22	University Grants Commission	1	150.00
23	Ministry of Environment, Forest and Climate Change	1	123.49
24	North Eastern Electric Power Corporation Limited	1	111.59
25	Ministry of Mines	3	109.61
26	National Health Mission	1	107.33
27	Indo-German Science & Technology Centre	1	87.80
28	Indian Rare Earths Limited	1	78.68
29	Armament Research Board	1	71.91
30	Indo-French Centre for the Promotion of Advanced Research	1	67.10
31	Air Force Office of Scientific Research	2	56.52
32	Indo-French Centre for the Promotion of Advance Research	1	51.19
33	Tamil Nadu Handicrafts Development Corporation Limited	1	47.00
34	Samagra Shiksha Abhiyan	1	41.52
35	Max Planck Institute for Nuclear Physics	1	37.70
36	Aeronautics Research & Development Board	1	36.81
37	Central Power Research Institute	1	35.20
38	Board of Research in Nuclear Sciences	1	34.98
39	University of Glasgow	1	34.09
40	Indo-US Science & Technology Forum	3	33.00
41	Department of Electronics & Information Technology	1	32.50
42	Indian Institute of Tropical Meteorology	1	25.52
43	Velankani Group	1	15.00
44	Indian National Science Academy	1	13.80
45	Indian Council of Agricultural Research	1	11.50
46	National Human Rights Commission	1	11.23
47	Indian Council of Social Science & Research	1	11.00
48	Western Digital Corporation	1	10.00
49	The Royal Academy of Engineering, UK	1	8.15
50	Ministry of Corporate Affairs	1	5.81
51	Department of Atomic Energy	1	4.32
52	Centre for Cooperation in Science & Technology among Developing Societies	1	1.65
53	UK-India Social Innovation Challenge	1	1.30
	Grand Total	284	32,649.13

This includes international collaborative and industry-sponsored projects. About 247 faculty members served as coordinators for projects sanctioned in 2018-2019. The value of the ongoing sponsored projects during 2018-2019 is Rs. 141,410.77 lakh. About 414 faculty members were actively involved in these ongoing sponsored research projects.



6.2.3. Consultancy Programmes

A total of 651 consultancy assignments amounting to Rs. 16,767.92 lakh were initiated during 2018-19.

Type of Consultancy	Number of Projects	Value (Rs. in lakh)
Institutional consultancy	434	7,867.86
Research-based industrial projects	163	7,875.37
Retainer consultancy	38	344.68
Internal testing	8	140.00
External testing	8	540.00
Enhancements in previously approved projects		3,106.86
Total	651	19,874.77

Two hundred and eighteen faculty members were actively involved in consultancy projects. The total value of ongoing consultancy projects during 2018-2019 stands at Rs. 30,985.15 lakh.

Corporate Social Responsibility: The Corporate Social Responsibility (CSR) activities, as defined in Schedule VII of

the Companies Act 2013, have many areas in which the Indian Institute of Technology Madras (IITM) is actively involved with industries. Seventeen projects were assigned in the 2018-19 financial year with the value of Rs. 2,607.22 lakh.

Type of Consultancy	Number of projects	Value (Rs. in lakh)
Corporate Social Responsibility	17	2,607.22
CSR – Enhancements in previously approved projects		355.21
Total		2,962.43

6.2.4. New Faculty Scheme

The institute provides grants for new faculty members to initiate research in their area of specialisation at IIT Madras. This funding also helps them to get sponsored research grants to continue and establish their research activities at IIT Madras. In the case of proposals requiring special equipment, institute support up to Rs. 30 lakh is possible.

During the year, 14 proposals were approved for funding under the New Faculty Scheme for a total sum of Rs. 359.26 lakh.

6.2.5. Industrial Associateship Scheme

A total of 104 industry partners (21 large scale, 58 medium scale and 25 small scale) were members of this scheme in 2017. The members use the library facilities and are encouraged to interact with IIT Madras faculty for R&D support.

6.2.6. Other Programmes

ISRO-IITM Space Technology Cell joint projects

These are ongoing activities sponsored by the ISRO where research projects of interest to ISRO are being taken up at IIT Madras. Twenty one ongoing projects totaling to a value of Rs. 707.58 lakh were continued and eight new projects of worth Rs. 279.69 lakh were taken up during 2018-2019.

IGCAR-IITM Cell

Seven new projects were initiated during this period for a total value of Rs. 169.70 lakh.

NIOT-IITM Cell

National Institute of Ocean Technology (NIOT)-IIT Madras (NIOT-IITM) Cell has been set up in IIT Madras to initiate further NIOT-sponsored research activities at IIT Madras and has been functional since 2010-2011.

Technologies for Social Development

IIT Madras has ongoing activities for transfer of technologies of immediate relevance to society. For this purpose, the following schemes have been taken up:

- (1) Rural Technology Action Group (funded by Planning Commission)
- (2) Centre for Social Innovation & Entrepreneurship (CSIE)

A write-up on the activities of the above projects is given in Annexure – 1 (a) and (b).

6.2.7. Distinguished Visitors to the Centre

The delegations from many organisations visited IIT Madras for discussions on possible collaborative research work. The visitors included the following:

- Airport Authority of India

- FLSmidth Private Limited
- KONE Elevator India Private Limited
- Volvo Eicher Commercial Vehicles
- BHEL Trichy
- Mahindra & Mahindra Limited
- ONGC Energy Centre
- Director Shipbuilding, Mazagon Dock Limited
- Maruti Suzuki
- Cummins India
- Minda Industries Limited
- Railway Designs and Standard Organisations (RDSO)
- Ashok Leyland
- Ecogreen Cleantech Private Limited
- Daimler India Commercial Vehicles Private Limited
- Automotive Research Association of India
- SLR Metaliks Limited
- Tata Motors
- Dassault Aviation
- GE Healthcare

MoUs/Agreements signed

IIT Madras signed MoUs or agreements with the following organisations/institutions in 2018-19:

Agreements

- ❖ CDAC
- ❖ ISRO Propulsion Complex, Mahendragiri
- ❖ Titan company Limited
- ❖ GE India Industrial Private Limited
- ❖ Helyxon Healthcare solution Private Limited
- ❖ ESPN Digital Media (I) Private Limited
- ❖ Honeywell Technology Solutions Lab Private Limited
- ❖ Tata Steel Limited
- ❖ IGCAAR
- ❖ Alfa TKG Co. Limited
- ❖ ABAN Infrastructure Limited
- ❖ Xilinx
- ❖ Tata Consultancy Services Limited
- ❖ Sotacarbo Societa Technologie Avanzate Low Carbon Spa (SOTACARBO)
- ❖ CoEV
- ❖ Analog Devices Inc.
- ❖ Hitachi India Private Limited
- ❖ United Nations Development Programme
- ❖ Dvara Trust (IFMR Trust)
- ❖ CSIR Structural Engineering Research Centre (CSIR-SERC)
- ❖ Padmasree Enterprises
- ❖ John F Welch Technology Centre
- ❖ GE India Industrial Private Limited
- ❖ Tamil Nadu e-Governance Agency
- ❖ Queensland University of Technology
- ❖ K7 Computing P Limited
- ❖ Saint Gobain India Private Limited
- ❖ Bharat electronics Limited
- ❖ Volvo-Rasta
- ❖ DFID (Department for International Development)
- ❖ MyGov
- ❖ National Institute of Ocean Technology (NIOT)
- ❖ ESPN Digital Media India
- ❖ Ankqur Ecosystems Private Limited
- ❖ Southern Railway Headquarters Hospital
- ❖ Vaayuneer Sciences Private Limited
- ❖ IBM India Private Limited
- ❖ Institute of Biotechnology / Biomedical Sciences
- ❖ Sipwise Beverages Private Limited
- ❖ National Institute of Advanced Industrial Science and Technology (AIST)
- ❖ CBCI Society for Medical Education and St. John's Research Institute (SJRI)
- ❖ National Institute of Electronics and Information Technology
- ❖ SRF Limited
- ❖ Tech Mahindra Limited
- ❖ Gyandata Private Limited
- ❖ John F Welch Technology Centre
- ❖ SEA6 Energy Private Limited
- ❖ BigCat Wireless Private Limited
- ❖ National Agro Foundation (NAF)
- ❖ GAVS Technologies India Private Limited
- ❖ Applied Materials Private Limited
- ❖ Essel Green Mobility Limited
- ❖ FLSmidth Private Limited
- ❖ Bird Eye Energy Technologies Private Limited
- ❖ Dr. Reddy's Laboratories Limited
- ❖ Ordinance Development Centre
- ❖ Okabe Manufacturing Co Limited
- ❖ Phylion Battery Co. Limited
- ❖ Cadence Design Systems (India) Private Limited
- ❖ Yottec
- ❖ Government of Odisha (Ports & IWT)
- ❖ Tardid Technologies Private Limited
- ❖ Nuvoco Vista Corporation Limited
- ❖ Northwestern University



- ❖ Greyatom Edutech Private Limited
- ❖ Mendu Enterprise Private Limited
- ❖ Advanced Manufacturing Technology Development Centre (AMTDC)
- ❖ Queensland University of Technology
- ❖ Airport Authority of India
- ❖ The Regents of the University of California
- ❖ Nitto Denko India
- ❖ Chennai Petroleum Corporation Limited
- ❖ Queen's University Belfast
- ❖ Nuclear Power Corporation of India Limited
- ❖ Chief Engineer, Indian Coast Guard
- ❖ Honeywell Technology Solutions Lab Private Limited
- ❖ Kapindra Precision Engineering Private Limited
- ❖ Padmaseetha Technologies Private Limited
- ❖ TVS Motor Company Limited
- ❖ GE India Industrial Private Limited
- ❖ Chevron Energy Technology Company
- ❖ Healthcare Technology Innovation Centre (HTIC)
- ❖ Continental Automotive Components (India) Private Limited
- ❖ Renault Nissan Technology and Business Centre India Private Limited
- ❖ Saint Gobain India Private Limited (SGRI)
- ❖ Indian Oil Corporation and Center for Battery Engineering and Electrical Vehicle (C-BEEV)
- ❖ Merkel Haptic Systems Private Limited
- ❖ The Nature Conservancy
- ❖ Apollo Hospitals Educational and Research Foundation
- ❖ National Institute for Materials Science
- ❖ Robert Bosch Engineering and Business Solutions Private Limited
- ❖ Mazagaon Dock Shipbuilders
- ❖ Technology and Action for Rural Advancement (TARA)
- ❖ RI-TCoE and Chakra Network Solutions Private Limited
- ❖ Highways Research Station
- ❖ Total Marketing Services
- ❖ CSIR-Central Leather Research Institute
- ❖ Tata Steel Limited
- ❖ Biotechnology Industry Research Assistance Council (BIRAC)
- ❖ Micromatic Grinding Technologies Limited
- ❖ Caterpillar India Private Limited
- ❖ French Alternative Energies and Atomic Energy Commission
- ❖ Wadhvani Institute of Artificial Intelligence
- ❖ WiSig Networks Private Limited
- ❖ The Voltas Limited
- ❖ Reliance Industries Limited

Technology Transfer/Royalty

Sl. No.	Party Name	Receipts Amount (Rs.)
1	Ankqur Ecosystem Private Limited	4,00,000
2	Daksha Imaging Technologies	40,000
3	Detect Technologies Private Limited	23,68,000
4	Diamond Bay Technologies	26,00,000
5	Enability Foundation For Rehabilitation	15,000
6	FIB-SOL Life Technologies Private Limited	60,000
7	GE Industrial Private Limited	20,97,615
8	Kapindra Precision Engineering	1,18,000
9	MedloTek Health Systems Private Limited	1,09,000
10	Planys Technologies Private Limited	20,000
11	Purius Nanosystems Private Limited	20,000
12	QuNu Labs Private Limited	4,00,000
13	Rathi Aerospace Labs Private Limited	3,36,000
14	Shira Medtech Private Limited	40,000
15	Sree Chitra Thirunal Institute for Medical Sciences and Technology	18,350
16	Swadha Energies Private Limited	2,92,923
17	SynkroMax Biotech Private Limited	25,000
18	Unilumen Photonics Private Limited	25,000
19	Weaver Technologies	5,000
	Total	89,89,888

6.2.10 Research Fund

To promote research activities at IIT Madras, the Board of ICSR decided to use its corpus to support several new initiatives. A part of the earnings of ICSR from consultancy projects are invested in term deposits, and the interests earned through these projects are used to support various schemes such as 3.Exploratory Research Projects (ERP), New Faculty Initiation Grant (NFIG), R&D Award, IP Cell activities and others. From an initial amount of Rs.50 crore, the corpus has been increased to Rs.100 crore.

The broad allocation for expenses for this financial year (2018-2019) is given below:

1. R&D Award: 50 per cent from the Institute Fund and 50 per cent from Research Fund; seven awards for a total value of Rs. 230 lakh
2. Innovation ecosystems: To support student projects and pre-incubation activities, Rs.110 lakh has been provided.
3. Exploratory Research Projects: To support projects from any faculty, who has a “breakthrough” idea and wishes to initiate work without waiting for their proposal to be sanctioned by the funding agency; maximum of Rs. 10 lakh for a duration of 12 months; 29 projects for a total value of Rs. 204.56 lakh
4. New Faculty Initiation Grant: A start-up grant up to maximum of Rs. 5 lakh; national and international travel

permitted for new faculty members; 21 projects for a total value of Rs. 105 lakh

5. Patenting and commercialisation activities by IP Cell: A maximum amount of Rs. 50 lakh earmarked per year
6. Maintenance of capital equipment and operation of these facilities: This will be supported by ICSR initially for a value of Rs. 25 lakh, which will be used for hiring a technical person for maintaining and operating select central research facilities. Maintenance funds for capital equipment will require further steps on the modalities and will be considered in the near future; 15 projects for a total value of Rs. 131.02 lakh

6.2.11 Positive Messaging and Outreach Programme

IIT Madras is one of the few high-ranking academic institutions in India that are prompt, active and well connected on social media. Our Facebook page has over 1,57,817 likes and is extremely well updated with a response time of just nine hours, and actively engages over 34,000 people every week. IIT Madras’ tweets have 150K impressions every month on an average. We have noteworthy LinkedIn impressions of 100K. We are also ahead of the curve in our presence across other social media platforms such as Instagram, Google Plus and Pinterest. A monthly e-newsletter is sent to all stakeholders of IIT Madras.

Rural Technology Action Group, IIT Madras

Activities during 2018-19

Highlights of project activities

- **Electronic jacquard handloom:** With the fund of Rs. 47 lakh from Tamil Nadu Handicrafts Development Corporation Limited, Rural Technology Action Group (RuTAG) of IIT Madras (IITM) established a Common Facility Centre in Pathamadai Fine Mat Weavers Cooperative Society, Tirunelveli, Tamil Nadu. Two units of fine mat-weaving electronic jacquard handloom developed by Dr. S. Ganesan, RuTAG were installed in October 2018. Training the weavers in operation of these looms and using software to create intricate designs have been completed. This loom increases their productivity by 300 per cent and enables easy weaving of intricate designs in mats, while being ergonomically comfortable.



Weavers operating RuTAG loom to produce intricate designs

- **Low-cost air quality monitoring system:** This system, developed by Prof. S. M. Shiva Nagendra of Civil Engineering, IIT, was installed in Rameswaram to measure air quality parameters. It was inaugurated by Mr. Veera Raghava Rao, Collector, Ramanathapuram district and State Minister for Information Technology Dr M Manikandan on 14 October 2018. It was also appreciated by Honorable Governor of Tamil Nadu, Shri Banwarilal Purohit.



Honorable Governor of Tamil Nadu appreciating the air quality monitoring system in Rameswaram

- **Ten spindle dual drive charkha:** This charkha developed initially by IIT Delhi has been modified by Dr. S. Ganesan, RuTAG for better productivity and operation. Trials were conducted in Coimbatore in presence of officials from Kerala Khadi and Village Industries Board on 22 November 2018.



Spinner testing ten spindle charkha

- **Small-scale paddy thresher:** Summer interns under the mentorship of Prof. Shankar Krishnapillai, Mechanical Engineering, IITM fabricated a paddy thresher for small/ marginal farmers and tested it in Coimbatore with local paddy varieties on 2 February 2019.



Trials of small-scale paddy thresher

- **Eight sanitary napkin production units set up in North East Region:** Under S&T Technology Interventions in the North Eastern Region (STINER) initiative by Ministry of Development of North Eastern Region and Office of Principal Scientific Adviser to the Government of India, RuTAG facilitated the setting up of seven reusable cloth pad units by Eco Femme and Jatan Sansthan and one disposable compostable pad unit by Vatsalya Foundation in the North Eastern Region.



Disposable compostable pad unit, Meghalaya



Reusable cloth pad unit, Nagaland

Summer internship programme

- During April-June 2018, 17 students from various engineering institutions from the PALS network and IIT Madras interned for eight weeks under the mentorship of IITM faculty members and other resource persons. Two students from Management Studies interned to explore supply chain for two RuTAG projects.

Topic	Mentor	Topic	Mentor
Design of improved kilns	Prof. T. Renganathan, IITM	Conduct a survey among rural college level students on oral English communication	Prof. S. Pushpavanam, IITM
Appropriate recycling technology for scattered plastic waste in rural and urban areas	Prof. Susy Varughese, IITM	Thermochemical treatment of sanitary waste: (i) Solar disinfection and (ii) Pyrolysis	Prof. Indumathi Nambi, IITM



Topic	Mentor	Topic	Mentor
Robots for inspection and cleaning of lines and tanks	Prof. Prabhu Rajagopal, IITM	Development of chemical free-point of use-pilot scale-electrochemical based polishing water disinfection and wastewater treatment unit	Prof. Indumathi Nambi, IITM
Design of paddy thresher for small farmers	Prof. Shankar Krishnapillai, IITM	Understanding large-scale infrastructure projects in a rural development context	Prof. Thillai Rajan, IITM
Waste water management strategy for Rameswaram	Vivekananda Kendra, Kanyakumari	Developing supply chain for charcoal and allied value-added products in India	Dr. K. Sundararajan, RuTAG
Business development for mat-weaving community in Pathamadai Context	Dr. K. Sundararajan, RuTAG		

Workshops/contests conducted

- **Tech2Farm, Mechanica 2018:** Mechanical Engineering Association, IITM organised its flagship event, Tech2Farm in Mechanica 2018 on 10-11 March 2018, in association with RuTAG, NGO Creativiti Council, Thrissur and Rural Technology Business Incubator (RTBI), IITM. RuTAG funded the prototypes developed in this event over November 2017-March 2018 to develop a scalable prototype for agricultural technologies such as deweeder, palm tree climber, support for banana trees, nutmeg harvester, and pepper harvester cum collector. Five winning teams were supported by RTBI for future development.
- **Eight training workshops for sanitary napkin awareness/production:** Under STINER initiative, RuTAG has facilitated one pilot awareness workshop and seven training sessions for over 125 women in awareness and stitching cloth pads/making disposable pads over April 2018-February 2019.
- **Proposal Writing Workshop:** In collaboration with PALS, RuTAG organised a one-day workshop on Ideation and Proposal Formulation for 30 faculty members from seven engineering colleges across Tamil Nadu on 9 November 2018 in IIT Madras.
- **Weavers design and weaving workshop:** Twenty weavers were trained to create/ customise designs and weave new patterns on korai grass fine mats in Pathamadai, Tamil Nadu over November 2018-February 2019.

Participation in events

- Consultative workshop with academic and other institutions organised by Rural Development and Panchayati Raj Department, Government of Tamil Nadu for Establishment of Centres of Excellence at State Institutes of Rural Development & Panchayati Raj (SIRD & PR) and Strengthening of Regional Institutes of Rural

Development & Panchayati Raj (RIRD & PRs) on 9 August 2018.

- Indo Universal Collaboration for Engineering Education's Virtual Academy Webinar on Technologies in Rural Contexts: Interventions of Rural Technology Action Group at IIT Madras on 20 September 2018.
- Vidarbha Innovative Platform's consultative meeting held in Nagpur on 20 October 2018. The meeting was organised by Agrindus Institute, Wardha, 12 technical institutions in Vidarbha region and the Vidarbha Industrial Association for brainstorming for identification of about 15 venues of innovation suited for student projects.
- Kerala Start-Up Mission's Seeding Kerala event in ELEVATE-Social and Rural Enterprises sector was held in Kozhikode on 26 November 2018. The delegates included lead investors and co-investors from the sectors, well-wishers (non-profit organisations, rural incubators, academia and policy makers) and startups.
- CSR Workshop by Indian Oil Corporation Limited Southern Region Pipelines Division at Madurai on 7 December 2018 addressed the role of engineers in S&T and need of identification and development of appropriate technology solutions using RuTAG projects as case studies.
- 4th International Conference on Creativity and Innovation at/for/from/with Grassroots in IIM Ahmedabad from 28-30 January 2019; panelists in panel discussions on Scaling Up in Rural Innovation: Challenges and Opportunities and Integrating Women's Knowledge, Creativity and Innovations in the Innovation Ecosystem.
- IITM and IITMs RTBI Brainstorming Workshop on Agriculture: Sustainability, Technologies and Policy, 15-16 February 2019, IIT Madras. Initiation of new projects funded by RuTAG

Sr. No.	Topic	Principal Investigator	Initiating agency
1	Modifications in 10 spindle charkha developed by IIT Delhi	Dr. S. Ganesan, RuTAG Technical Adviser	Kerala Khadi and Village Industries Board
2	Small-scale paddy thresher	Prof. Shankar Krishnapillai, Mechanical Engineering, IITM	Ms. Karpagam and Mr. Sriram, farmers in Kanchipuram
3	Processing of lac from stick-lac in a one-step, wash-free process	Prof. Saumendra Kumar Bajpai, Applied Mechanics, IITM	Sahayog Community Coordination Network, Visakhapatnam, AP
4	Study to improve the lac washing process	Prof. A. P. Baburaj, Applied Mechanics, IITM	Sahayog Community Coordination Network, Visakhapatnam, AP
5	Optimization of areca sheath usage in manufacture of dinnerware	Prof. Basavaraja Madivala Gurappa and Prof. Sridharakumar Narasimhan, Chemical Engineering, IITM	Oorgaa Dinnerware Private Limited, Davangere, Karnataka
6	Investigations on feasibility to use nanocellulose pellicle formed in fermented biotea in sanitary napkins	Prof. T. S. Chandra, Biotechnology and Prof. Susy Varughese, Chemical Engineering, IITM	IIT Madras
7	Development of low-cost portable solar refrigerator	Kumaraguru College of Technology, Coimbatore	
8	Animal intrusion detection and alarm system for small animals	RVS College of Engineering and Technology, Coimbatore	Farmers in Kanchipuram and Coimbatore
9	Development of Braille note-taker and printer	Mepco Schlenk Engineering College, Sivakasi	National Institute for Empowerment of Persons with Multiple Disabilities (NIEPMD), Chennai
10	Solar-powered cooling bags for flower vendors	Bannari Amman Institute of Technology, Erode	
11	Development of air quality system using low-cost sensors	Prof. S. M. Shiva Nagendra, Civil Engineering, IITM	Vivekananda Kendra, Kanyakumari
12	Design improvements in household mini oil expeller for cold pressed oil	Prof. Shankar Krishnapillai, Mechanical Engineering, IITM	Gandhigram Trust, Dindigul
13	Improving shelf life of Padhaneer	Rajalakshmi Engineering College, Chennai	Tamil Nadu Khadi and Village Industries Board

Centre for Social Innovation and Entrepreneurship

Introduction

The Centre for Social Innovation and Entrepreneurship (CSIE) at IIT Madras was founded in August 2010 with a focus on teaching and research in the field of social enterprise in India. The centre promotes social entrepreneurship through education, research and dissemination of research output. It has successfully reached out to a number of high schools, higher educational institutions and social entrepreneurs internationally through various project activities. It undertakes research projects and livelihood improvement projects to build capacities of social entrepreneurs and enrich knowledge in this sector. For all these initiatives, CSIE works closely with institutions, builds partnerships and helps them build capacities to create awareness, identify and nurture aspiring social entrepreneurs.

Mission

To build an environment that will facilitate the creation of social enterprise knowledge through research, and empower students to apply their entrepreneurship abilities to develop solutions for greater social impact.

This is achieved by:

Education: Offering academic programmes on social innovation and entrepreneurship for students across disciplines and degrees at IIT Madras and outside

Research: Providing an enabling environment for both students and faculty researchers interested in social enterprise research within the IIT campus

Consultancy and Outreach: Encouraging young innovators and entrepreneurs by assisting in the development of socially beneficial products and ideas

Collaboration: Creating an ecosystem of social entrepreneurship and extending the same to other technology institutions, including IITs.



2010-13 Education & Research	2013-15 Education, Research & Outreach	2015-19 Education & Research
<ul style="list-style-type: none"> • Minor Course of IITM • Research 	<ul style="list-style-type: none"> • Minor Course • IdeaSpark • Camp for School Students • FDP/SDP • Reserach 	<ul style="list-style-type: none"> • Elective Course • Certificate Course • International Summer/ Winter School • IdeapSpark • Camps for School Students • FDP/SDP/CBP • Research • Consultancy • Livelihood Enhancement

Impact till date

Education

- Five batches of innovation and social entrepreneurship courses; around 200 students from IIT Madras enrolled; about 10 students have started enterprises
- Three International Summer/Winter Schools on Social Entrepreneurship; 62 students participated
- Four certificate courses; about 100 participants enrolled

Outreach

- Three faculty development programmes, one student development programme, eight entrepreneurship awareness camps and three business plan workshops conducted; reached out to 25 colleges, 93 faculty and 970 students from engineering colleges
- Six school camps, 500 students from different schools in Tamil Nadu participated
- Three Idea Spark Editions; 600 students participated; 60 ideas discovered
- Involve, a social enterprise based on peer-to-peer learning model for government schools, rendered incubation support

Research

- Nine research papers presented in international conferences and one book chapter published
- Capacity Building and Livelihood Promotion
- Strengthened management capacities of 98 farmer producer companies (FPCs) and 22 non-governmental organisations (NGOs) through eight capacity-building programmes through which 263 farmers benefited and developed eight case studies on best practices of FPCs.
- Developed a social media platform to promote korai mats; more than 2,500 followers, two retailer connects, and Rs. 1,50,000 worth of sales facilitated through exhibit space at IIT Madras and international conferences

- Established a Common Facility Centre (CFC) for Pathamadai Korai Mats under the Revival of Languishing Crafts initiative by Tamil Nadu Government

Governance Structure

The Governance Committee (GC) consists of representatives from the sponsors ('84 batch), IIT Madras faculty members and the partnering agency. The members of GC are:

- Dr. R. Nagarajan, Project Coordinator, CSIE, Professor; Head, Chemical Engineering
- Prof. L. S. Ganesh, Professor, Management Studies
- Prof. Ashwin Mahalingam, Associate Professor, Civil Engineering
- Prof. Devendra Jalihal, Professor, Electrical Engineering
- Prof. L. Prakash Sai, Professor, Management Studies
- Prof. Mahesh Panchagnula, Dean, International and Alumni Relations; Professor, Applied Mechanics
- Dr. V. Kalyanaraman, Project Consultant, RuTAG, IIT Madras
- Dr. Tamaswati Ghosh, CEO, IIT Madras Incubation Cell
- Mr. Joseph Thomas, Development Office, IIT Madras
- Mr. Rangarajan Ganesan, Advisor, Center for Technology and Policy (C-TAP), IIT Madras

Staff

- James Rajanayagam, Senior Project Advisor, CSIE
- Gangaram Sandeep Kumar, Project Officer, CSIE
- Aishwarya Raman, Senior Project Officer, CSIE
- Krishnaveni P, Senior Project Assistant, CSIE

Activities

Education

Education in the field of social entrepreneurship was identified as one of the primary objectives of CSIE. The centre believes that by educating students in the field of social entrepreneurship, we are creating a ready-source of talent for the sector.

International Winter School on Social Entrepreneurship:

The CSIE, along with the Department of Management Studies (DoMS), conducted the third edition of International Winter School on Social Entrepreneurship from 3-14 December 2018. The curriculum for the winter school was designed in such a way that it evolved the entrepreneurial elite of the participants through theories, case discussions, field visits and interactions with entrepreneurs. Two weeks' intensive course enhanced inter-cultural communication and knowledge sharing with a mix of participants from Australia, Germany and Japan along with students of IIT Madras. Apart from the exposure to the academic way of exploring social entrepreneurship, the participants had a chance to experience nature along the Western Ghats through field visits, while deriving practical knowledge in parallel from rural entrepreneurs. Assessment of the knowledge gained across the courses was examined by the critical analysis of a social entrepreneurial case study chosen by the participants themselves. The course received a highly positive feedback from the budding social entrepreneurs.

"The two-week intensive course on social entrepreneurship run by CSIE was thought-provoking, challenging and inspiring. The course explores the fundamentals of social entrepreneurship, the practical measurements of value and impact, all the way through to the philosophical foundations behind addressing social need. It was a jam-packed fortnight learning from subject matter experts and practicing social entrepreneurs, alongside an engaged international cohort, highly recommend for those generally interested in the sector or looking to deepen their understanding."

-Bonnie Grace Graham, Swinburne University of Technology, Australia

"The Winter School on Social Entrepreneurship helped me get a clear understanding of social entrepreneurship and now I feel better equipped to work on my ideas."

-Akash Kumar, IIT Madras

The resource persons of the schools include faculty members of IIT Madras, experts, social entrepreneurs from the industry and government.

The two-week Winter School includes classroom lectures, field visits for orientation and immersion, interactions with accomplished social entrepreneurs, discussions on case studies and documentaries, apart from self-study and peer-learning opportunities.

Participants had to give presentations and submit reports as part of the course.

Social Enterprise Education Program (SEEP) and UK-India Social Entrepreneurship Education Network

CSIE is actively engaged in UK-India Social Entrepreneurship Education Network (UKISEEN) through University of Southampton. The network is engaged in education promotion activities conducted through conferences, seminars, workshops, competitions and related projects.

As part of the UKISEEN project, CSIE along with Madras School of Social Work (MSSW) organised a one-day National Conference on Social Entrepreneurship at MSSW on Friday, 7 September 2018 on the theme, Evaluating Roles of Government, Industry and Academia in Promoting and Sustaining Social Enterprises. Various speakers from the industry, academic and government machinery participated in the conference. The conference was followed by a poster presentation competition by the student teams. CSIE also launched the second edition of the UK-India Social Innovation Challenge (UKISIC) on the same day; the theme of the competition was Waste Management.

A total of 37 teams participated in the competition, out of which 12 applications qualified for the finals. After a thorough evaluation by selected judges, the top three applications were selected. The competitors had to submit a business model for a social enterprise, which tackles the issue of waste management. Twelve projects made it to the final round. The top-ranked projects are listed below:

First Place: Recycling of demolished waste concrete using solar energy – IIT Madras Team

Second Place: Eco-friendly construction blocks from C&D debris using the innovative CO₂ sequestration technique – Kongu Engineering College, Erode, Tamil Nadu

Third Place: Catalytic degradation of Kraft lignin by ultraviolet light and ultrasound – IIT Madras Team

For details, visit <http://www.ukiseen.org>

Consultancy

CSIE undertakes consultancy assignments to provide business development support to social enterprises (including FPCs) and undertakes impact assessment for philanthropic projects.

Capacity Building of Producer Companies (PCS)

For better management practices and sustainable growth

Funding source: CSR grant from Tamil Nadu Newsprint & Papers Limited

Objective: To build capacities of farmer producer companies (FPCs) to equip them to make active role in the agricultural supply chain network



Activities

- Capacity-building programmes conducted regionally at Trichy and Bhavanisagar
- Exploratory field visit to an FPO in Krishnagiri
- Comparative analysis of social capital led business performance in two FPCs

Widened areas of engagement

Tamil Nadu Women Development Corporation together with State Institute of Rural Development and Panchayat

Raj (SIRD & PR) are in dialogue with CSIE to engage it as Knowledge Partner for Tamil Nadu Rural Transformation Project (TNRTP), an innovative project that aims at rural transformation through rural enterprise promotion, access to finance and employment opportunities in the selected blocks of Tamil Nadu.

- Presented CSIE's activities and research on FPOs to Additional Chief Secretary, Rural Development and Panchayat Raj
- Made visits to SIRD, Maraimalainagar to establish potential focus areas for CSIE in TNRTP

	Capacity building programme – FPOs	Capacity building programme – FPOs
Programme dates	2-3 August 2018	27-28 February 2019
Number of participants	38	20
Number of participating organisations	18 Farmer producer organisations (FPOs) and five non-governmental organisations (NGOs)	8 FPOs, 11 NGOs and representatives from Department of Agriculture
Profile of participants	FPOs and NGOs	FPOs and NGOs
Speakers	Lead-agribusiness incubators, data science experts, representatives from banks, food technologists, lawyers and CEOs of representative FPOs	Scientists, bankers, chartered accountants, commodity trading consultants, executive coaches

Business Development and Livelihood enhancement of Pathamadai weavers' community

Funding source: Tamil Nadu Handicrafts Development Corporation Ltd., RmKV Silks CSR

Objective: To improve the livelihood of the weavers in Pathamadai by penetrating technology developed by Rural Technology Action Group -RuTAG and business development by establishing market linkage.

Activities

The top portion of the Pathamadai Cooperative Society at Pathamadai has been completely renovated and converted into a Common Facility Centre.

2 RuTAG developed electronic jacquard machines have been installed enabling the weavers to utilise the space and resources.

CSIE conducted a marketing session for the participants of the technical training programme on 3 January 2019 with an emphasis on social media marketing which was also the end of the training session of the women weavers on the RuTAG's newly built electronic jacquard handlooms.

CSIE sponsored three participants to enhance their skills in design and development using latest software. New designs such as deer, flower and Mahatma Gandhi were introduced.

Commercialisation and Transfer of Technologies developed by Shri Murugappa Chettiar Research Center (MCRC)

Funding source: MCRC

Objective: To identify the technologies, which are market-ready for transfer and to connect potential entrepreneurs to take up the selected technologies

Activities

- Capacity-building workshops for scientists to instill market perspective
- Enabling business model development and evaluating market readiness of technologies
- Handholding support to test commercial feasibility of technologies
- Shortlisted technologies and rendering focal points for market readiness
- Field visits to survey adoption costs and market acceptance
- Identified two potential entrepreneurs for scaling up the technology products

Delivered: CSIE-facilitated interaction with three entrepreneurs for two technologies: Fortified Panchagavya (FP) and Biochar during the Phase 1 of the project. As a result, one entrepreneur has commenced production of FP on a trial basis. CSIE has received additional funding from MCRC to undertake the Phase 2 of the project involving technology transfer.

Skill Development Project at Nagapattinam

Funding source: CSR project by Chennai Petroleum Corporation Limited (CPCL)

Funding source: CPCL

Objective: Skill development of the youth in three villages in Nagapattinam district, namely Panangudi, Vellapakkam and Goparajapuram.

Activities

- CSIE has completed the baseline survey of skills requirement of youth
- Shortlisted tailoring and IT skills as the choices of the youth after the survey
- First centre is expected to be launched in the first quarter of FY 2019-20.

Outreach

CSIE offers one to three day/s entrepreneurship awareness programmes, capacity-building programmes to high school students, students and faculty members from higher educational institutions and social entrepreneurs.

3.4.1. Business Plan Workshop

Title: Business Plan workshop for college students

Funding Source: Fee from participating students

Seventy students from local engineering colleges participated in Business Plan workshop conducted by CSIE along

with Tagore Engineering College for two days that had lectures, interactions with successful business persons and competitions at the end.

3.4.2 Gandhi Hazare Award – Technology to reduce corruption

Funding Source: Independent alumnus of IIT Madras, Dr. Sarma Gullapalli (1964 batch)

Forty-five students from IIT Madras have formed 20 teams and participated in the Gandhi Hazare Award themed, Reducing corruption using technology. Six out of the 20 entries have reached the finals. The teams had to submit abstracts, full papers and videos as part of the competition. The total prize money for the competition is Rs. 40,000

Corpus Fund to CSIE by the Batch of 1982 IIT Madras

CSIE would like to thank the 1982 batch for extending their support by giving a corpus fund of Rs. 10 lakh. This is the initial corpus fund and CSIE is looking forward to raise more corpus funds as a



International Winter School on Social Entrepreneurship, December 2018



UKISEEN National Conference on Social Entrepreneurship at MSSW, Chennai



Capacity building programmes for FPOs



6.3. Central Electronics Centre

6.3.1. Introduction

The Central Electronics Centre (CEC) was established in 1971 with the main objective of servicing and maintaining the wide variety of sophisticated electronic equipment at the institute. A key attribute of this centre is a blend of an academic environment and an industry-like working atmosphere.

The centre is housed in a dust-free environment. The CEC has a team of qualified, experienced and talented staff members, trained in India and Germany in various aspects of electronic instrumentation, testing and calibration. The infrastructural facilities and equipment have been continually enhanced over the years using Government of India funds and successive Indo-German collaborative projects.

When the centre was established, in 1971, a critical need for training service engineers for maintaining electronic equipment was foreseen, and an 18-month training programme, the first of its kind in the country, was started in the same year. Later, the period of the training programme was extended to 24 months. In view of the large demand for trained personnel both within the institute and outside, conducting such long-term training programmes has become one of the important activities of the centre.

The centre has diversified its activities and now offers the following services:

- Servicing and maintenance of electronic equipment/instruments
- Training programmes for manpower development
- Calibration of electronic test and measuring instruments
- Testing of electronic products
- Development of custom-built equipment

- Consultancy services to industries in the above-mentioned areas
- Servicing and maintenance of personal computers and printers
- Arranging public address system for institute functions

So far, the CEC has provided expertise and services in the above-mentioned areas to more than 230 industries/organisations inside and outside the country.

The CEC has been playing a key role in the area of renewable energy by conducting training programmes related to solar photo-voltaics (SPV). Forty SPV training programmes have been conducted, and more than 860 personnel have been trained. The project was sponsored by the Indian Renewable Energy Development Agency (IREDA), New Delhi. SPV laboratory (indoor and outdoor) facilities have been established to promote developmental activities in this area. The CEC is active in diverse projects involving SPV technology.

As and when requests are received from industries, the centre conducts the short-term training programmes on calibration requirements and uncertainty calculations for electro-technical, thermal and mechanical parameters.

As the centre has expanded its activities, most of the laboratories have been upgraded. In 2001, the CEC received the ISO 9001:2000 quality certification from RWTÜV, Germany for having established quality systems in its services. Also, the centre received NABL accreditation in 2004 for testing and calibration laboratories in accordance with ISO/IEC 17025:2005 standard. The ISO and NABL accreditations are actively maintained through adherence to the specified processes and procedures as per the latest standards. In the area of testing, the Centre has also obtained the accreditation from Bureau of Indian Standards (BIS).

6.3.2. Activities

Short-term Courses

Sl. No.	Coordinator(s)	Title	Period
Short-term Course for Industries			
1.	Prof. V. Jagadeesh Kumar and Ms. N. Karthiyayini	Calibration Philosophy: Concepts, Requirements and Measurement Uncertainty	14-16 May 2018
2.	Prof. V. Jagadeesh Kumar and Ms N. Karthiyayini	Awareness Programme on ISO/IEC 17025:2017-General Requirements for the Competence of Testing and Calibration Laboratories	28-29 June 2018
3.	Prof. V. Jagadeesh Kumar and Ms. N. Karthiyayini	Understanding the requirements of ISO/IEC 17025:2017-General Requirements for the Competence of Testing and Calibration Laboratories	31 July-3 August 2018
4.	Prof. V. Jagadeesh Kumar and Dr. C. R. Jeevandoss	Photometric Tests and EMI/EMC Testing for the Technical Staff of CETL, Kakkalur	12-15 February 2019



Sl. No.	Coordinator(s)	Title	Period
5.	Prof. V. Jagadeesh Kumar and Dr. C. R. Jeevandoss	Safety Testing Training Course for Technical Staff of CSIR- CIMFR, Dhanbad	13-14 March 2019
6.	Prof. V. Jagadeesh Kumar and Ms N. Karthiyayini	Calibration Philosophy: Concepts, Requirements and Measurement Uncertainty	26-28 March 2019

Training attended by the staff members in public sector undertakings

Sl. No.	Faculty Member	Title	Institution	Period
1.	N. Karthiyayini, Technical Officer	Medical Device Calibration	NABL-organised programme conducted in Bengaluru	5-6 April 2018
2.	Dr. K. Sulochana, Technical Officer	Medical Device Calibration	NABL-organised programme conducted in Bengaluru	5-6 April 2018
3.	Dr. K. Sulochana, Technical Officer	Awareness Program on Transition of ISO/ IEC 17025:2017	NABL-organised programme conducted in Chennai	7-8 April 2018
4.	Dr. C. R. Jeevandoss, IE	Awareness Program on Transition of ISO/ IEC 17025:2017	NABL-organised programme conducted in Chennai	5-6 May 2018
5.	N. Karthiyayini, Technical Officer	Awareness Program on Transition of ISO/ IEC 17025:2017	NABL-organised programme conducted in Chennai	5-6 May 2018
6.	N. Bharathidasan	Electrical Safety Basic and importance of Electrical safety on Electrical, Medical and Home Appliances		12 June 2018
7.	PVS Chandra	Weathering 101: Introduction to Light Stability	Q Lab, Chennai	27 June 2018
8.	K. K. Muthuswamy, Technical Superintendent	Awareness Program on Changes on ISO/ IEC 17025:2005 in ISO/IEC 17025:2017	NABL-organised programme conducted in Chennai	18 June 2018
9.	G. Saravanan, Technical Superintendent	Awareness Program on Changes on ISO/ IEC 17025:2005 in ISO/IEC 17025:2017	NABL-organised programme conducted in Chennai	18 June 2018
10.	P Sadasivam, Junior Technical Superintendent	ISO Internal Auditor Course	TUV	9-10 October 2018
11.	G. Saravanan, Technical Superintendent	ISO Internal Auditor Course	TUV	9-10 October 2018
12.	PVS Chandra	Estimation of Uncertainty in Measurement	BIS, Chennai	12-16 November 2018
13.	N. Bharathidasan	Estimation of Uncertainty in Measurement	BIS, Chennai	12-16 November 2018

6.3.3. Design and Development Activities

New facilities added or major equipment procured

Sl. No.	Equipment	Value (Rs. in lakh)
1	AC/DC Measurement/Transfer Standard	20,80,000
2	Digital Vibration Controller	3,60,750
3	Precision LCR Meter	8,58,894
4	VST Apparatus	63,248
5	USB-Based Spectrum Analyser	1,99,420

Industrial consultancy projects (ongoing and new)

Sl. No.	Faculty Member	Title	Industry	Amount (Rs.)
1		Tests on Voice Coil Samples	Merkel Haptic Systems Private Limited, IITM Research Park, Chennai	10,620
2		Tests on Light Fittings as per LM 79	Baliga Lighting Equipments Private Limited, Chennai	14,160
3		Temperature Raise Test for Ballast	K-Lite Industries, Chennai	17,700
4		Testing of LED Products	K-Lite Industries, Chennai	1,07,380
5		Testing of LED Products	Valeo Lighting Systems India Private Limited, Chennai	28,320
6		ESD Test as per IEC61000 (15KV)	Exide Industries Limited, Chennai	30,680
7		Tests on K-Lite Luminaires	K-Lite Industries, Chennai	28,320
8		Tests on Light Fittings as per LM 79	Grapes Consumer Lighting Service, Puducherry	14,160
9		Testing of Printer, Quick Label Make, Model 120	Arcdev Agencies, Chennai	53,100
10		Tests on Light Fittings as per LM 79 and Impact Tests	Sri Subadra Energy Innovations Private Limited, Bengaluru	17,700
11		Surge Test on LED Ballast	K-Lite Industries, Chennai	5,900
12		Testing of LED Products	District Rural Development Authority, Cuddalore	70,800
13		Testing of LED Products	District Rural Development Authority, Vellore	76,464
14		Tests on Electromagnets for DRDO	EMD Electronic Instruments Limited, Chennai	1,13,280
15		Tests on Electromagnets for DRDO	EMD Electronic Instruments Limited, Chennai	1,35,700
16		Environment Tests on Power Backup for DC-Operated DC Power Supply	Sun Industrial Automation and Solutions, Chennai	75,520
17	The Head, CEC	Testing of LED Light Fittings	District Rural Development Authority, Cuddalore	70,800
18		BIS Testing of LCD Monitor as per IS: 13252	RGB Systems Private Limited, Chennai	80,240
19		Calibration Tests on Sensor Module	Sertel Electronics Private Limited, Chennai	11,800
20		Tests on Dry Block Temperature Calibrator	R&D Instrument Services, Chennai	47,200
21		Testing of LED Light Fittings	District Rural Development Authority, The Nilgiris	53,100
22		Testing of LED Light Fittings	Southern Electricals, Chennai	1,69,920
23		Calibration of Potentiometers	Sovereign Glocon India Private Limited, Chennai	1,003
24		ILC on 40W LED Lamp	Ventures Power Systems India Private Limited, Chennai	5,000
25		Testing of PCBs	CVRDE, Avadi, Chennai	37,760
26		Class C Tests for Cut-in-Button	EMD Electronic Instruments Limited, Chennai	1,74,640
27		Class C Tests for Electromagnet	EMD Electronic Instruments Limited, Chennai	1,06,200
28		Testing of LED Light Fittings	Southern Electricals, Chennai	1,13,280
29		Testing of LED Light Fittings	National Trading Company, Kochi	28,320
30		Testing of LED Light Fittings	Centre for Food Technology, Anna University, Chennai	3,540
31		Testing of Light Fittings as per EN 60079	FCG Flame Proof Control Gears, (P) Limited, Daman	1,16,640
32		Testing of Light Fittings as per LM 79	District Rural Development Authority, Ariyalur	1,27,440



Sl. No.	Faculty Member	Title	Industry	Amount (Rs.)
33		Testing of Industrial Battery Chargers	Sanjay Technical Service Private Limited, Hyderabad	1,71,100
34		Tests on Light Fittings as per LM 79	K-Lite Industries, Chennai	14,160
35		Creepage and Clearance Test and Moisture Resistance	Baliga Lighting Equipments Private Limited, Chennai	31,660
36		Testing of LED Light Fittings	ECCLAT, Hitech Solar Appliances, Coimbatore	14,160
37		Testing of High Voltage Power Supply	Advanced Research Institute, Dr. MGR Educational and Research Institute, Chennai	1,000
38		Calibration of Instruments	Instrulab, Chennai	35,955
39		Verification of DRB	Instrulab, Chennai	3,540
40		Tests on LED Street Light Fittings as per LM 79	CR Construction, Coimbatore	84,960
41		Burn in Test of Microcontroller-based PCBs	Sanjay Technical Services Private Limited, Hyderabad	66,080
42		Tests on LED Light Fittings as per LM 79	Capart Industries Private Limited, Hyderabad	56,640
43		Tests on LED Light Fittings as per LM 79	Capart Industries Private Limited, Hyderabad	42,480
44	Head, CEC	Tests on LED Flood Light Fittings as per LM 79	Sam Engineering, Chennai	28,320
45		Tests on Light Fittings	Capart Industries Private Limited, Hyderabad	10,620
46		Servicing IFM Speed Control BLDC Motor Drive	Builder Programme, Department of Biotechnology, Anna University, Chennai	41,300
47		Testing of LED Lamps	Shrey Electro Sales Private Limited, Secunderabad	1,06,200
48		Servicing IFM Speed Control BLDC Motor Drive	Builder Programme, Department of Biotechnology, Anna University, Chennai	41,300
49		Testing of LED Lamps	Kittu Electricals Private Limited, Ernakulam	14,160
50		Testing of LED Flood Light Fittings	Kumaran Industries, Chennai	14,160
51		Tests on LED Light Fittings (Philips Make) as per LM 79	Southern Electricals, Chennai	1,27,440
52		BIS Testing of Printers	Arcdev Agencies, Chennai	53,100
53		Checking of Performance of Lighting and Sound Equipment	Tamil Nadu Horticulture Development Agency, Chennai	29,500
54		Testing of Lead Acid Battery	TAFE, Kancheepuram district	28,320
55		Testing of LED Lamps	K-Lite Industries, Chennai	21,240
56		Calibration of Instruments	Instrulab, Chennai	8,260
57		Lumen Maintenance and Endurance Tests on LED Lamps	Baliga Lighting Equipments Private Limited, Chennai	7,91,780
Total				37,46,362

6.4. P.G. Senapathy Centre for Computing Resources

6.4.1. Introduction

The computer centre at IIT Madras was established in 1973 to provide centralised computing resources and support to the academic initiatives of the institute. It has had professionally maintained facilities that have served the IIT Madras community, from the IBM System 370 in the 1970s and the Siemens system in the 1980s to the SGI, IBM power and Sun systems in the earlier part of this millennium to the super-computers and communication and network services of today.

Over the years, the computing and information technology requirements of IIT Madras community have been increasing. The computer centre's organisation has also evolved with the increase in requirements. In 2007, the infrastructure of the Centre was upgraded significantly through an endowment by S. Gopalakrishnan in the name of his father P. G. Senapathy.

The activities of the centre are organised under five verticals: high-performance computing environment (HPCE), networks, e-services, data centre and workflow.



Each vertical is focused on constantly improving its services to meet the needs of IIT Madras community. The computer centre has been ISO 9000 certified since 1999. The TÜV has certified the centre as an ISO 9001: 2015 standard management system for a period of three years from February 2017 to January 2020 after conducting the final auditing as per TÜV NORD CERT procedures. Currently, it maintains all its processes in conformance with the ISO 9001:2015 standards and is certified along with other units at the institute by TÜV Nord. This report presents a background of each vertical and a summary of the annual activities.

6.4.2. High-Performance Computing Environment

The High-Performance Computing Environment (HPCE) group was established to cater to the ever-increasing demand for super-computing facilities from researchers at IIT Madras.

The Virgo super-cluster, with 292 nodes and two iDataPlex dx360 M4 master nodes, with FDR 10 InfiniBand connectivity, is already in use. These nodes have 2× Intel E5-2670 eight-core, 2.6 GHz processors with 4 GB of memory per core. The machine, which caters to the needs of the research community, mostly uses parallel programming.





The Virgo system has a storage capacity of two 80 TB General Parallel File system and a 50 TB NAS file system for backup. The AMC of Virgo system has been renewed only for the critical parts of the system. Active research areas that use the Virgo cluster include aerospace engineering, atmospheric and ocean modelling, analysis of large structures, flows and combustion modelling, material sciences, social, ecological and physical network modelling, numerical weather prediction and data assimilation, molecular modelling, spectroscopy, and VLSI.

The computer centre has a cluster for B.Tech. users called GNR, named after the great scientist Prof. G.N. Ramachandran, with one head node from Super Micro, with Intel Xeon CPUs with a memory of 32 GB and 500 GB hard disks and eight compute nodes of the same configuration. The GNR cluster has 16 compute nodes with dual processors, eight-core Intel Xeon Ivy Bridge E5-2650v2 series processors with 4 × 8 GB RAM and a 500 GB SATA hard disk in each node and a head node with a Super Micro server with dual processors, eight Core Intel Xeon Ivy Bridge E5-2650v2 series processors with 4 × 8 GB RAM and a 500 GB SATA hard disk with 14 TB of shared storage. This cluster has a file system of 14 TB; PBSPro is the job scheduler. Eight compute nodes have been provided by the Biotechnology Department, and eight nodes are from the institute grant. The warranty of GNR expired in March 2018 and it is under AMC for one year.

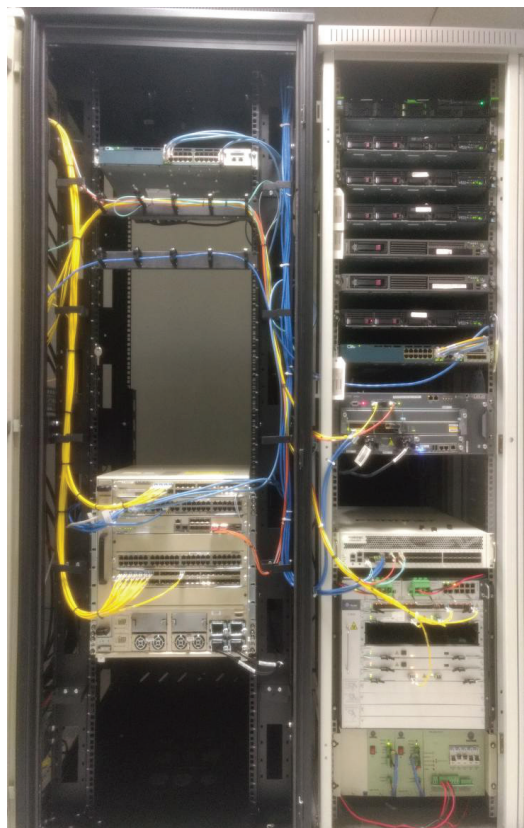
The HPCE group also maintains machines from various departments and centres. This group also supports users in improving code and organises training programmes related to the effective use of the facility. This group maintains all commercial software related licenses and implements the

80:20 policy for all commercial software, procured by the computer centre for HPCE users. Detailed information about HPCE, including the latest usage statistics and the software availability, is posted on the website www.cc.iitm.ac.in.

6.4.3. Networks

The campus computer network was established in 1994, connecting about 18 buildings in the Academic Zone using telephone cables. The initial bandwidth was 64 kbps. Today, we have a fiber-backbone high-speed network connectivity of 10 Gbps for all the buildings in the Academic Zone. In addition, a backbone inter-connecting the three zones (Academic Zone, Hostel Zone and Residential Zone) is also operational. The total number of nodes in the campus is approximately 25,000. The network equipment in the Academic Zone was upgraded to provide 100/1000 Mbps connectivity to the nodes. All the buildings in the Academic Zone are provided with dual fiber connectivity. Facilitation for video conferencing, virtual class rooms, web casting important events, EDUROAM and VPN also provided under the network service. The network vertical also oversees the procurement of external network services as well as the design, installation and maintenance of the network structure, switches and cabling across the IIT Madras campus. A summary of the key activities of the Network Group for the year under consideration is as follows:

1. Implemented Wi-Fi in the academic zone.
2. Supported for conducting online examinations and online courses.
3. Supported for web casting of important institute events.



6.4.3. E-Services

The E-Services vertical focuses on services such as web system configurations, e-mail, web access, web security, storage solutions, virtualization and web services. Several new services were enhanced and added by the vertical. The services maintained and initiated by the vertical are:

Mail services

1. IT Madras (email.iitm.ac.in) Microsoft exchange 2013
2. Students (smail.iitm.ac.in)
3. Alumni (alumni.iitm.ac.in)
4. Retirees (retiree.iitm.ac.in)
5. Conferences (wmail.iitm.ac.in)
6. Projects (imail.iitm.ac.in)

Web services

1. Virtual hosting
2. Mailing list
3. Employee user web portal
4. Websites
5. Shared hosting
6. Moodle online learning platform
7. Posting to campus community portal
8. Online web portals for user registration
9. Online statistics of service usage

Security and monitoring services

1. Firewall tuning
2. Hack solution
3. Security gateway (spam appliances)
4. Web application firewall(WAF)
5. Log analytics
6. Digital certificate
7. IT Infrastructure monitoring (NAGIOS)

Storage solution

1. Backup and restore process
2. Disaster recovery
3. Server and desktop consolidation by virtualization (VMWARE)

User management services

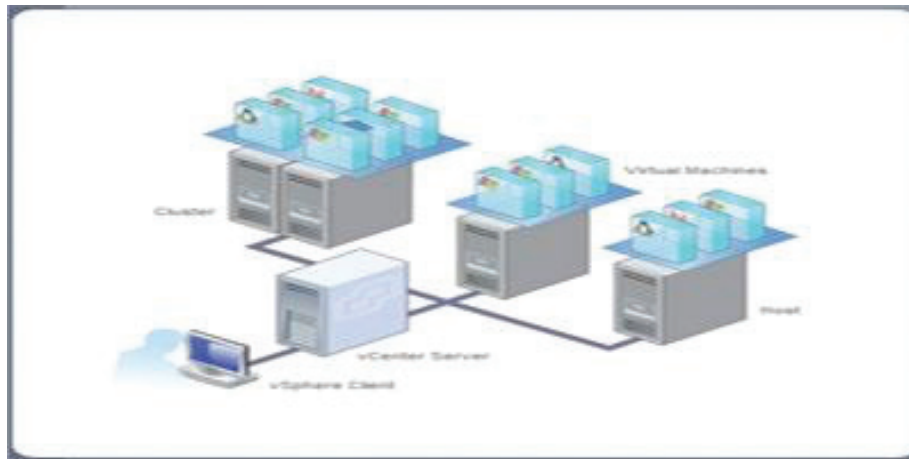
1. Active Directory Service (ADS)
2. Lightweight Directory Access Protocol (LDAP)

Development and deployment services

1. Convocations
2. Distinguished Alumnus Awards
3. User registration for IC&SR
4. HPCE web-based user management
5. Faculty and staff portal
6. Web-based training
7. VTLS support (Library)
8. Support to students' elections
9. Support to JEE
10. Support to HSEE
11. Support to departments with web services
12. Support to Office of Alumni Affairs
13. Support to Placement Office
14. Support for conferences
15. Support to IC&SR
16. Support to Citrix academic

Other services

1. SMS gateway
2. Google API services
3. Intranet services
4. Project management support
5. Online ticketing system
6. Home portal for staff/faculty
7. Cloud services (own cloud)
8. Authenticated mail service
9. Local/global FTP
10. VDI (Virtual Desktop Infrastructure)
11. Resources booking system
12. Microsoft licensing
13. Request Tracker
14. MS/PHD online exam through Moodle
15. English 0-level exam through Moodle
16. Digital certificates
17. Open virtual desktop infrastructure



Virtualization

A virtual machine is a software computer that, like a physical computer, runs an operating system and applications. An operating system installed on a virtual machine is called a guest operating system. The virtual machine gets a CPU, memory, video cards, access to storage and network connectivity from the host it runs on.



VMware server: Before virtualization



VMware server: After virtualization



E-Services server area in the data centre

Email Gateway: Sonic WALL

All incoming mails and outgoing mails go through this appliance.



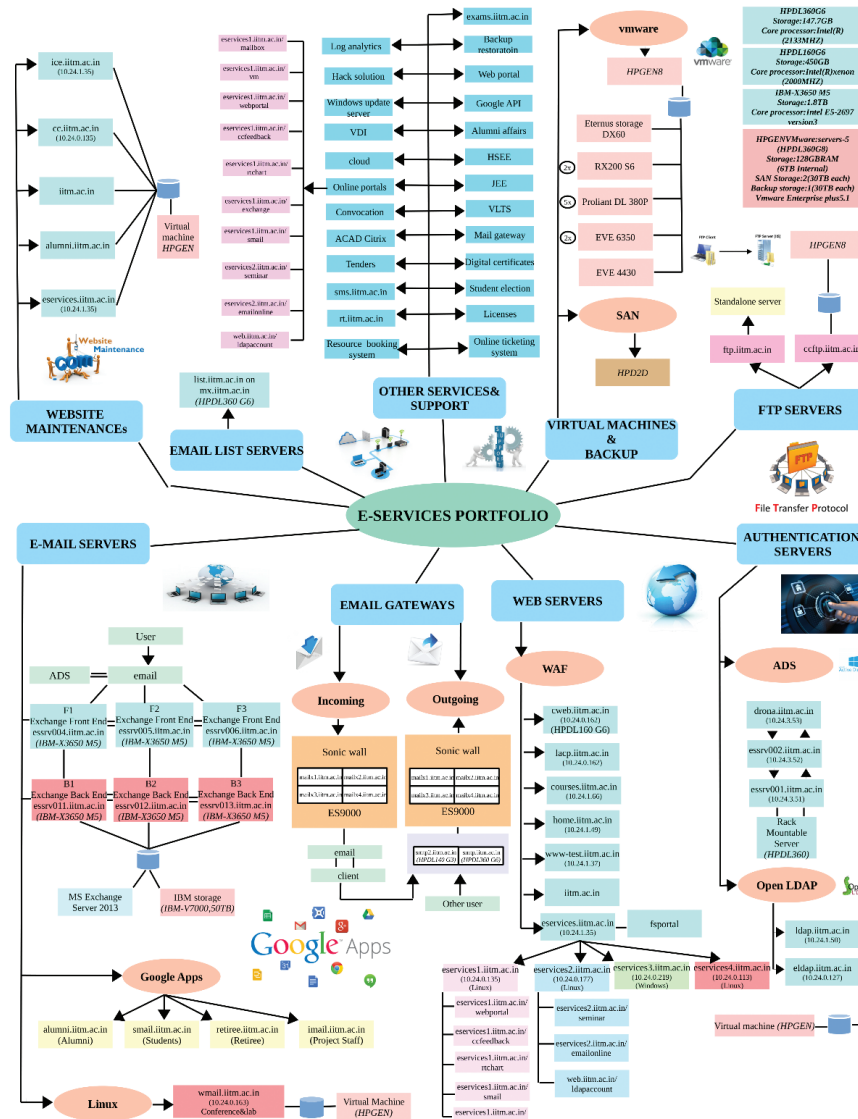
Web Application Firewall: WAF Fortinet 1000 series acts as the firewall for websites



E-services portfolio: <https://eservices.iitm.ac.in>

6.4.5. Data Centre

The function of the centre is to ensure appropriate management of facilities so that all verticals of the computer centre function efficiently and without interruption. These facilities include the uninterrupted power supply, backup power supply (DG set), CCTV, climate control, access control, water leakage system, fire protection under BMS, and office space maintenance. The data centre operates and maintains the following equipment:





Sl. No.	Description of the Equipment	Capacity	Quantity
1	Diesel generator set (Caterpillar) with 12 V/200 AH (Exide)– 2 Nos.	600 kVA	2 Nos.
2	Synchronising panel for parallel operation	3 X 600 kVA	1 No.
3	UPS (DB) with 12 V/120 AH (Rocket)–192 Nos. and 12 V/200 AH Batteries–60 Nos.	160 kVA	2 Nos.
4	UPS (SOCOMEK) with 12 V/200 AH (Batteries)–60 Nos.	200kVA	2Nos
5	UPS (MGE) with 12 V/150 AH (Batteries) –32 Nos.	80 kVA	1No.
6	UPS (SOCOMEK) with 12 V/150 AH (Batteries) –32 Nos.	80 kVA	1 No.
7	UPS (Emerson) with 12 V/42 AH (Batteries) –68 Nos.	30 kVA	1 Nos.
8	UPS (DB) with 12 V/65 AH (Batteries)–25 Nos.	20 kVA	1 No.
9	PRAC AC (Blue Star)	17 TR (60 kW)	10 Nos.
10	PRAC AC (Blue Star)	13.5 TR (48 kW)	2 Nos.
11	PAK AC (Blue Star)	11 TR	4 Nos.
12	PAK AC (Blue Star)	5.5 TR	2 Nos.
13	Ductable split AC (Blue Star)	8.75 TR	2 Nos.
14	Ductable split AC (Blue Star)	5.5 TR	6 Nos.
15	RO plant (EXEL)	250 LPH	1 No.

Details of New Building Management Systems

BMS

- Enterprise Buildings Integrator (EBI) R430 server
- CP IPC panel–1 No. (with IPC controller–1 No.)
- CP SPC panel–3 Nos. (with SPC controller–8 Nos.)
- Battery monitoring system for all UPS

Single Zone (FAAST)

- Vesda panel for network area (Fire alarm aspiration seeing technology)

Security system

- CCTV Camera** IP-based IR indoor/outdoor (Capture)–27 Nos.
Sixteen-channel encoder–2 Nos.

Fire system

- Fire alarm system Intelligent photoelectric smoke detector–84 Nos.
Response indicator–40 Nos.
Intelligent heat detector–2 Nos.
Temperature sensor–2 Nos.
Manual pull station–4 Nos.
Hooter–9 Nos.
Isolator module–3 Nos.
- Fire fighting Gas release panel (Ravel) –2 Nos.

Door access system

- Access control TEMA server–1 No.
Biometric card reader–4 Nos.
Emergency push switch–13 Nos.

PA system

- Plena 480 W amplifier (Bosch)

Infrastructure Development

1. New department server area civil partition and necessary false floor tiles work has been completed.
2. 17.5 TR PRAC installed at New Department server area
3. 32A X.48 nos 2P+N industrial socket installed for server input
4. 4.2 x 12 way TPN DB installed for server socket input
5. 200 kVA UPS x 1 Nos installed for server Area - 2



Newly installed 200 kVA UPS



6.4.6. Workflow

Enterprise resource planning (ERP) software, or what is internally referred to as a Workflow, has been implemented at the computer centre. The Workflow group works with various sections in the institute to support system usage and capture changes in requirements involved in process development activities, maintaining reporting websites that collect data from Workflow and generating reports using new software tools.

Online processes have a distinct advantage of transparency, accessibility and analytics. In the financial year 2018 -19, we made major strides in this direction. Entire synopsis and thesis evaluation process is now online on Workflow. Several IC&SR processes, including purchase, travel and project creation were pushed online. Processes such as purchase order payments, non-purchase order payments, SRB entries and automated asset register creation were optimised. The optimised version has better tracking system, called task

summary, SLAs (Service Level Agreements) implemented in various steps of the process to move them automatically to avoid delay in completing the process, and automatic email triggers for each process.

Academic and IC&SR ticketing systems were introduced to track issues raised by users. Data available from Workflow is now used for creating annual faculty academic profile (FAP). Analysing this data has helped us understand how our faculty colleagues have wonderfully contributed towards making IIT Madras the top ranked institute year after year.

Along with regular development and optimisation activities, enhancement to rate contract website, vehicle pass website for outsiders, supplier registration website and academic website was also carried out in this financial year.

Like in previous financial year, the data extracted from Workflow have been analysed and utilised by administration to align our internal processes with our vision for IIT Madras.

Faculty/staff members and areas of work

Sl. No.	Name	Designation	Area of Focus
1	Prof. Harishankar Ramachandran	Chairman	Overall coordination and planning
2	Dr. Rupesh Nasre	Faculty-in-Charge	High-Performance Computing Environment
3	Dr. N. S. Narayanaswamy	Faculty-in-Charge	E-Services
4	Dr. Rahul Ratnakar Marathe	Faculty-in-Charge	Workflow
5	C. N. Vijayaragavan	Deputy Systems Engineer	Centre representative for ISO-9000
6	Banavath Baman	Assistant Systems Engineer	Training
7	S. Anand Kumar	Assistant Systems Engineer	Mail domains, mail gateways, server hardware, VMWARE, web services, virtualization, support services
8	V. Selvaraju	Assistant Systems Engineer	Network design, servers, switches, campus network maintenance and administration
9	S. Priya	Assistant Systems Engineer (contract)	Workflow, software development
10	T.V. Subba Rao	Technical Superintendent	Workflow—Administration Module
11	R. Thiruneelagandan	Junior Technical Superintendent	Planning, operations and maintenance of D.G. sets, UPS's, A/c's, BMS, furniture and all data centre-related equipment
12	P. Gayathri	Junior Systems Engineer	High-performance computing, system software, installation of open source applications and commercial applications, user education development
13	M. Jeevanantham	Junior Technician	Computer networks
14	M. Irudayaraj	Junior Technical Superintendent	Web programming, Linux, E-Services
15	R. Madhanarasan	Junior Technical Superintendent	Data centre, BMS and ISO
16	E. Arun	Junior Technical Superintendent	Workflow
17	P. Mahesh Mithreevan	Senior Technician	Computer networks, servers, switches, campus network, maintenance
18	C. Rajendran	Senior Assistant	Administration

Apart from the permanent staff listed in the foregoing, there are Project Officers, Project Associates and Project Technicians assigned to each vertical in the computer centre to support various activities.

6.5. Central Facilities

Founded in 1959, Central Workshop (CWS) initially consisted of shops associated with three major manufacturing processes, i.e. metal cutting, metal joining and metal forming. Later, sections on other modern manufacturing processes and control systems were introduced in workshop training.

Currently, the Central Workshop of Indian Institute of Technology Madras has facilities of various shops and sections. The following table lists the shops and sections with their facilities:

6.5.1. Central Workshop Facilities

Sl. No.	Shop	Facilities
1	Carpentry	Wood working with planing, circular saw cutting, turning, thickness reducing, polishing processes and hand-operated power tools
2	Fitting and Tool Room	Filing, drilling, tapping, jig boring, tool milling, engraving, marking, slotting, grinding and cutting
3	Machine Shop	Horizontal and vertical milling machines, lathes, planing machine, radial drilling machine, tool and cutter grinder, CNC lathes, CNC milling machines, universal milling machines and computer-aided manufacturing software
4	Gear Shop	Spur, helical and bevel gear cutting and gear inspection
5	Electrical Shop	Trainers for single-phase electrical circuits, three-phase direct on line and star-delta starter trainers
6	Instrument Shop	Calibration of pressure gauges up to 1,000 bar and precision machines, rapid prototyping machines (3D printers)
7	Welding Shop	Arc welding, gas welding, brazing, TIG welding, plasma arc cutting and arc welding simulator
8	Foundry Shop	Sand molding, melting and die casting machines
9	Smithy Shop	Open hearth furnace
Sections		
10	Pneumatics and Hydraulics	Basic and advanced pneumatics trainers, electro-pneumatic trainer, plc for pneumatics trainer, basic and advanced hydraulic trainers
11	FRP	Manufacturing polymer-reinforced composites by hand lay-up process
12	Plastics	Introduction to plastics, demonstration and production in hand-operated, semi-automatic injection and compression moulding of plastics
13	Instrumentation and Communication Lab	Introduction to basic communication systems; exercises on optical fiber communication, introduction to various kinds of transducers; microprocessor-based control applications, example of stepper motor control and traffic light controller and PLC

In addition, the CWS operates bus transport services and maintains institute buses.

Currently, it is training 806 B. Tech/Dual Degree (first year) students of 2018-19 batch through workshop courses

WS1301, WS1302 and WS1030 (exclusively for the students of Engineering Design). The details of the students and training modules are given below.

Department	Number of students	Training Modules
1. Electrical Engineering	119	Power Tools
2. Engineering Physics	30	Machining process – Turning
3. Mechanical Engineering	163	Machining process – Milling
4. Metallurgical and Materials Engineering	51	Foundry and Smithy
5. Aerospace Engineering	57	Plastics and FRP
6. Chemical Engineering	88	Welding
7. Naval Architecture and Ocean Engineering	52	Electrical
8. Civil Engineering	95	Electronics
9. Biological Engineering	33	Pneumatics and Hydraulics
10. Computer Science and Engineering	63	Instrumentation and Communication
11. Engineering Design	55	
Total	806	



The first-semester workshop training courses for 2018-19 batch were conducted for 13 days, between 27 December 2018 and 11 January 2019.

The second-semester training courses for 2017-18 batch, first-year, B. Tech/Dual Degree students were conducted for 14 days from 16-29 July 2018.

The CWS offers support for manufacturing experimental set-ups and their accessories to B. Tech/M. Tech students and

M. S./Ph.D scholars of the institute; 987 work orders were executed in 2018-2019.

In addition to training and fabrication works of the students, Central Workshop has trained 26 apprentice trainees with ITI, diploma and B.E. qualification. Two of them have been trained in the maintenance of buses in Auto Shop.

The following HRD training programmes were attended by the CWS staff members during 2018-19:

Sl. No.	Staff Member	Designation	Details of Training	Date(s) and Duration of Training
1	M. Devaraj	Junior Assistant	E-procurement procedures and e-publishing of tender documents	6 July 2018, one day
2	R. Gunaseelan	Junior Assistant	E-procurement procedures and e-publishing of tender documents	6 July 2018, one day
3	M. Devaraj	Junior Assistant	Payment processing under Workflow, IIT Madras	1 August 2018, one day
4	R. Gunaseelan	Junior Assistant	Payment processing under Workflow, IIT Madras	1 August 2018, one day
5	K. Kumar	Technical Superintendent	ISO Internal auditor training at IIT Madras	9-10 October 2018, two days
6	M. Gajendran	Technical Superintendent	ISO Internal auditor training at IIT Madras	9-10 October 2018, two days
7	K. Kumar	Technical Superintendent	Programming and operations in VMC CNC machine at AMS Private Limited, Chennai	19-21 December 2018, three days
8	T. Chandranath	Senior Technician	Programming and operations in VMC CNC machine at AMS Private Limited, Chennai	19-21 December 2018, three days
9	R. Thirupathi	Technical Superintendent	Sensors and IoT organised by IIT Ropar	16-22 December 2018
10	P. Hariharan	Technical officer	International Vision Zero Conference on Occupational Safety and Health, IIT Bombay	18-20 February 2019, 3 days

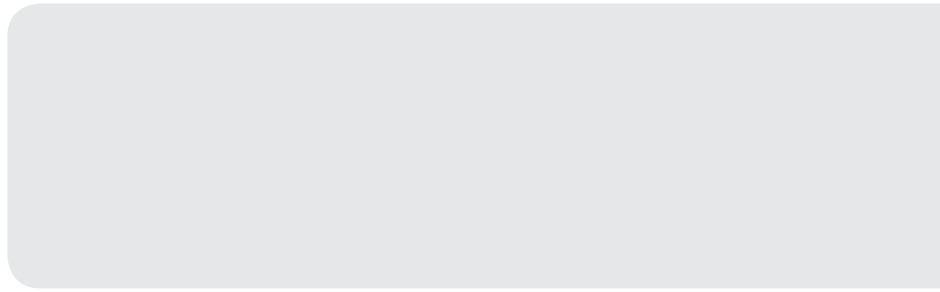
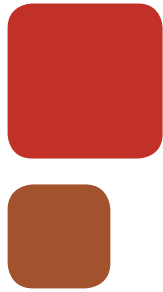
The CWS staff members are actively participating in the product development of IIT Madras incubated start-ups. The facilities of the section were demonstrated to the trainees of National Skill Trainers' Institute, engineering colleges and school children as part of their industrial visit/study tour in 2018-19.

6.5.2 Central Glass Blowing Section

Established in 1972, the Central Glass Blowing Section (CGBS) is one of the important infrastructural facilities of Indian Institute of Technology Madras. The facility undertakes design and fabrication of sophisticated glass apparatus for research and development in various departments. It has a range of modern glass working equipment that has

been largely procured from Germany under a collaborative programme. The apparatus includes a horizontal-cum-vertical lathe, a universal forming lathe and a high-vacuum system. The section is also well equipped with a good number of sophisticated burners, drilling and cutting machines, grinding and polishing equipment and such other tools necessary for fashioning varied glass apparatus. It has an adequate facility for quartz working and has developed a high level of expertise in this area.

The sophisticated apparatus fabricated includes cryostats, spherical and cylindrical Dewar flasks, lugging probes, laser housing tubes with water jackets, reactor tubes, vacuum tube collectors (for solar energy) and quartz ware. From April 2018 to March 2019, the CGBS undertook 582 work orders from various departments.



International and Alumni Relations

7.1. Introduction

The Dean's Office for International & Alumni Relations (I&AR) was established in October 2012. This office strives to support the institute's drive towards global excellence in education, research, relations with industry, innovation and entrepreneurship, sustainability and social impacts, internationalisation and physical infrastructure.

7.2. Vision

The vision of the Office of I&AR is to enhance the global stature and impact of IIT Madras by leveraging alumni and international relations.

7.3. Mission

The mission of the Office of I&AR is to leverage the institute's excellent relationship with alumni to increase

engagement with academia/research labs, industry/business, entrepreneurs and foundations to promote institute-external relations by building on alumni relations and to raise funds for the benefit of the institute and its stakeholders—students, faculty and staff, and society.

7.4. Distinguished Alumnus Awards

The Distinguished Alumnus Award (DAA) is the highest award given to its alumni by IIT Madras, in recognition of achievements of exceptional merit and excellence. The DAs are awarded in recognition of outstanding achievements in the areas of entrepreneurship, leadership and management, academia, social and technological innovation, and service to humanity at large. In December 2018, the following 12 distinguished alumni (DA) were announced.



Distinguished Alumnus Awards – 2019



Mr. Puttige Ramadas

1970/M.Tech/ME

Managing Director
Ace Manufacturing Systems
Limited, India



Mr. Harcharan Singh

1970/B.Tech/MT

President and CEO,
Giopec International
Inc. Canada



Dr. Cherukuri Murali Krishna

1984/Ph.D/PH

Head, Biophysics Section
Radiation Biology Branch,
Center for Cancer Research
National Cancer Institute, USA



Dr. Kanniks Kannikeswaran

1984/B.Tech/MT

Founder of American School of
Indian Art (ASIA), Indo-American
Musician, Scholar, Composer,
Writer and Music Educator,
Cincinnati, USA



Prof. Srinivas Devadas

1985/B.Tech/EE

Edwin Sibby Webster
Professor,
Electrical Engineering and
Computer Science,
MIT, USA



Mr. Vivek Sankaran

1985/B.Tech/ME

President & COO
Frito-Lay North America,
PepsiCo. Inc., USA



Prof Kaushik Bhattacharya

1986/B.Tech/ME

Howell N. Tyson Sr. Professor
of Mechanics and Professor
of Materials Science and Vice
Provost (Research) California
Institute of Technology, USA



Mr. Swaminathan Sivakumar

1987/B.Tech/EE

Inter Senior Fellow, Technology
and Manufacturing Group
Director of Lithography, Portland
Technology Development Inter
Corporation, USA



Dr. G. Ayyappan

1988/M.Tech/ME

Programme Director (Space
Transportation Systems).
Vikram Sarabhai Space Centre,
India



Prof. Srinivas Peeta

1988/B.Tech/CE

Jack and Kay Hockema Professor
Civil Engineering, Purdue
University, USA



Mr. Ashish Dikshit

1990/B.Tech/EE

Managing Director,
Aditya Birla Fashion and Retail
Limited, India



Dr. Parthasarathy Ranganath

1994/B.Tech/EE

Google Distinguished
Engineer, USA

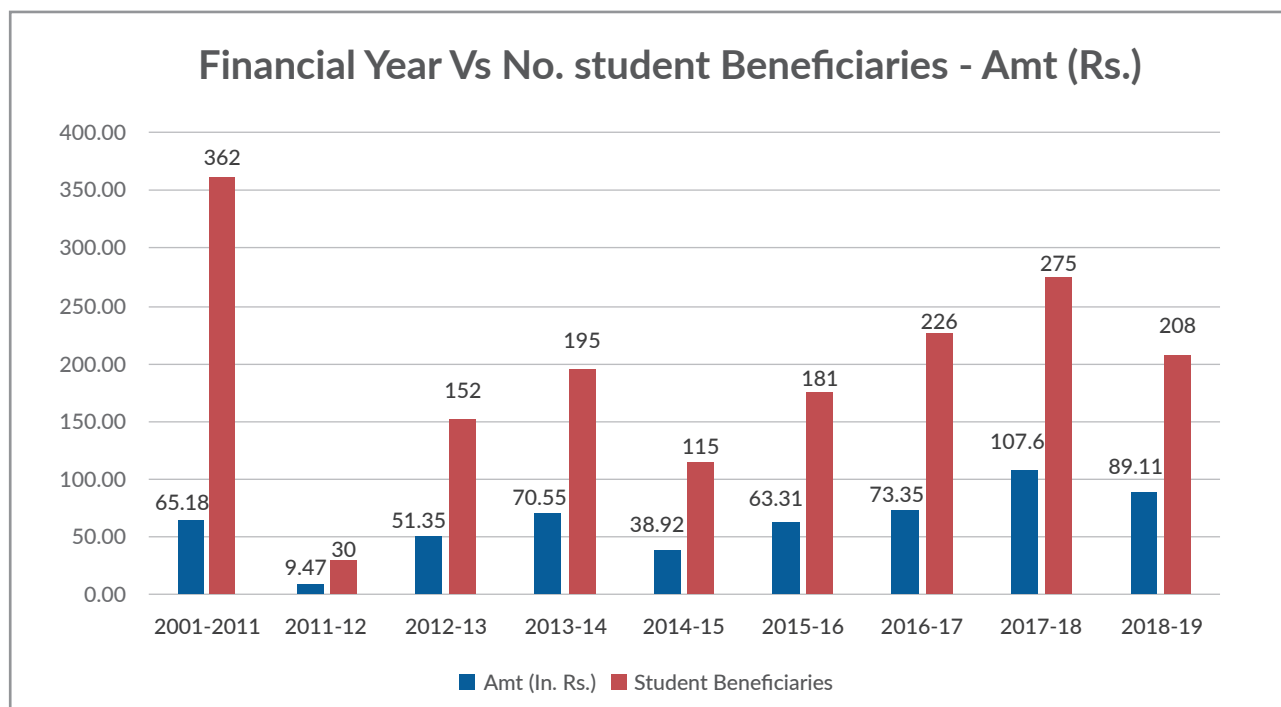


Leadership Lecture Series

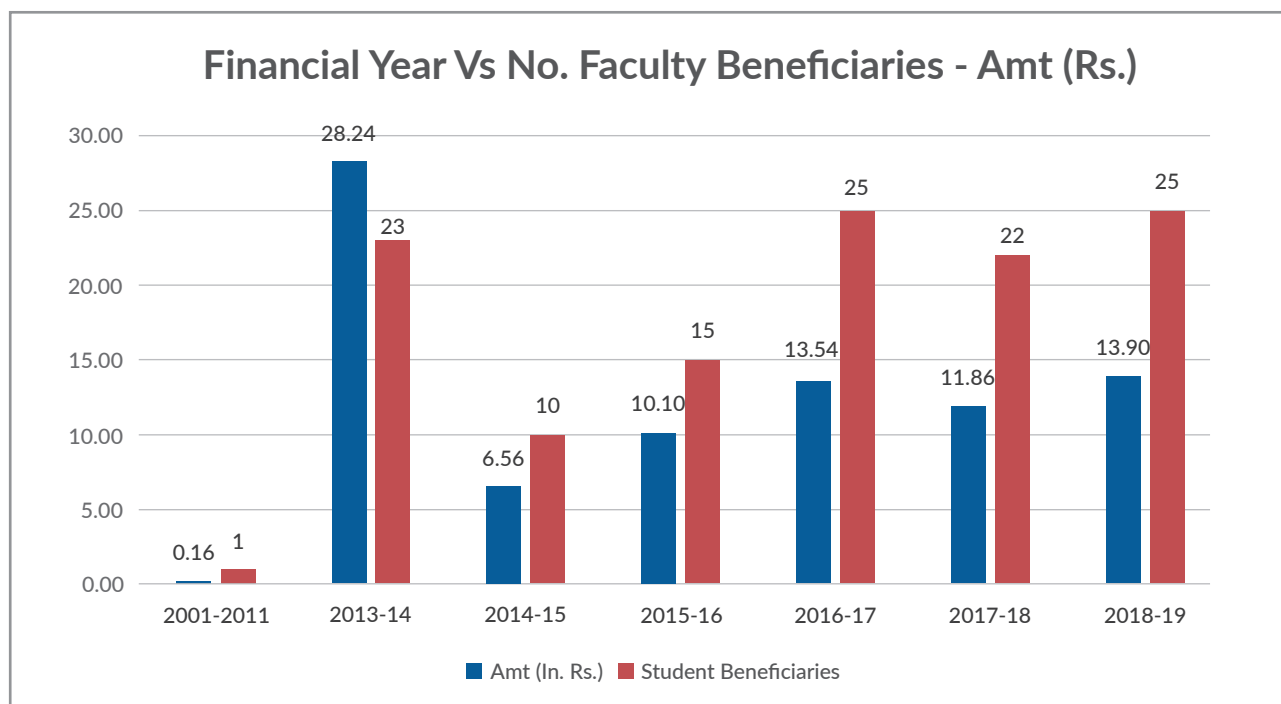
The LLS was initiated in 2012 to create more avenues for alumni to interact and share their experiences with students and faculty members. One to two lectures are held every month during each semester. More than 170 lectures have been held so far of which 16 lectures were held between April 2018 and March 2019. Please visit <http://alumni.iitm.ac.in/leadership-lecture-series/> for details.

Travel grant

The grant was established in 2001 and its scope was enlarged in 2010 to support undergraduate travel. The programme partially reimburses expenses incurred abroad by students and allows them to travel overseas for competitions, summits, workshops, conferences and internships. In 2018-19, about 208 students received grants. The total amount granted towards student travel is about Rs. 89.11 lakh.



Twenty-five faculties are supported with travel grants for research-collaboration visits. The total amount granted towards faculty travel is about Rs. 13.90 lakh.





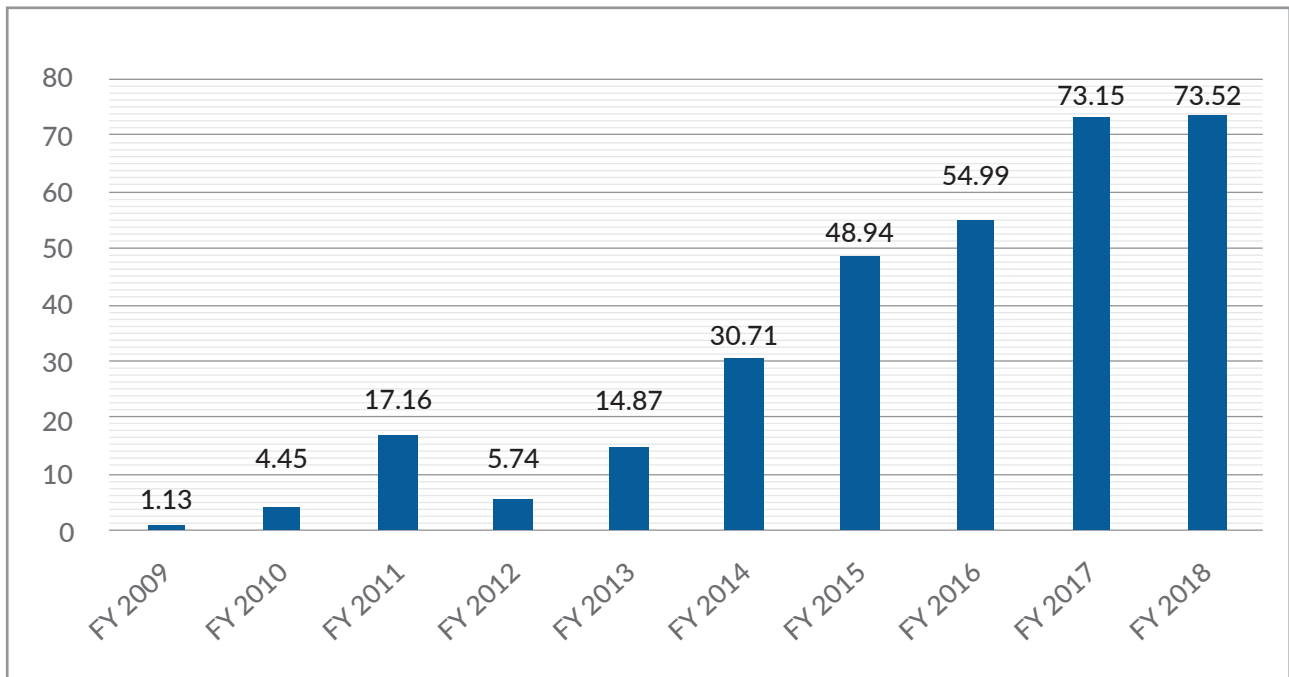
Boeing-funded travel grant

The Boeing Travel Grant can be used for travel expenses connected with presenting a paper or project at an international conference related to aerospace and defence

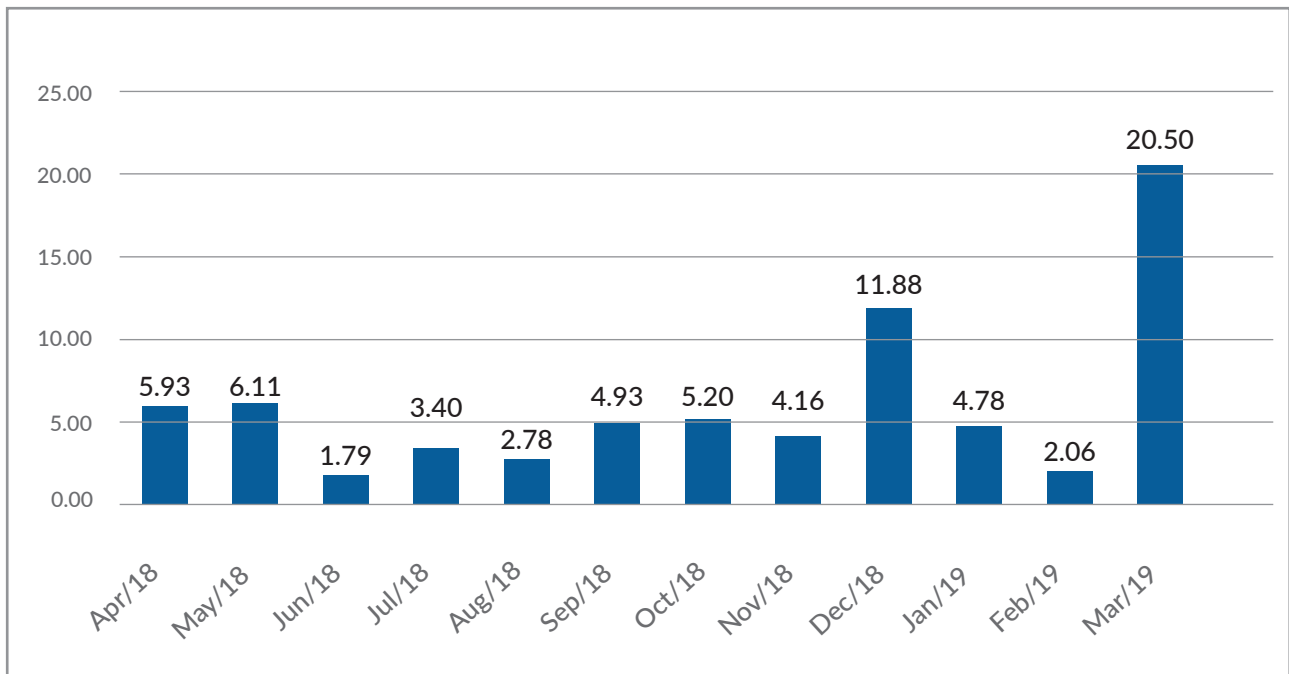
(A&D) technology. So far, 80 students have benefitted through the grant, and a total amount of ₹57 lakh has been disbursed. In 2018-19, about seven students received these grants. The total amount granted towards student travel is about ₹2.1 lakh.

Statistics of Funds Received-FY 2018-19

Financial Year-wise Contribution Amount (in crore)



Month-wise Funds Received Amount (in crore)





Major Donations

CSR

CSR		
	Donor	Amount (in crore ₹)
1	Robert Bosch	4.00
2	CPCL	3.80
3	HT Parekh Foundation	2.00
4	Virtusa Polaris	1.90
5	HDFC Bank Limited	1.85
6	Aricent Technologies	1.49
7	City Union Bank Limited	1.10
8	Bill Desk	1.00

Non-CSR

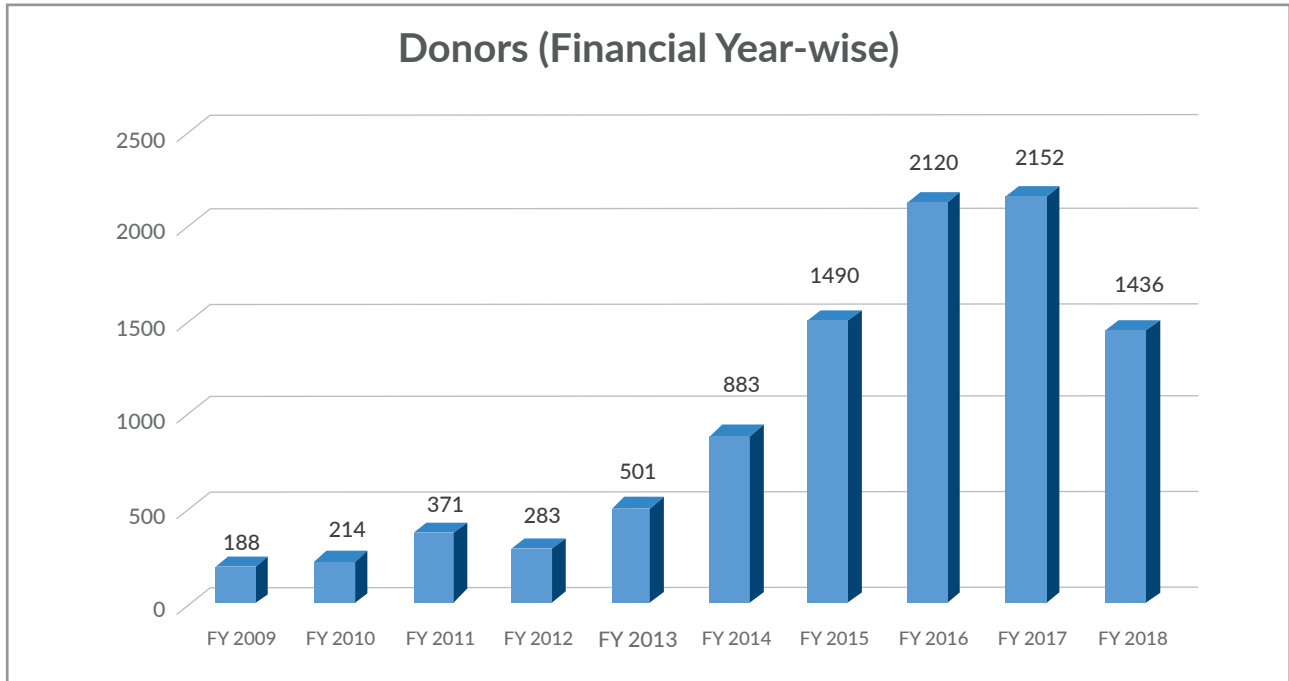
Non-CSR		
	Donor	Amount (in crore ₹)
1	Indivumed GMBH	3.71
2	Tata Consultancy Services Limited	0.86
3	Mindtree Limited	0.65
4	Engineers India Limited	0.30
5	Applied Materials India	0.29

HNI

HNI			
	Donor	Batch Details	Amount (in crore ₹)
1	Kris Gopalakrishnan	1979/MT/CS and 1977/MSc/PH	4.41
2	Gururaj Deshpande	1973/BT/EE	3.25
3	Shankar V	1981/BT/ME	3.17
4	Mehta Family Foundation	Non Alumnus	2.27
5	Prakash Arunachalam	Non Alumnus	1.75
6	Vijay Ullal	1980/BT/CH	1.30
7	Prem Watsa	1971/BT/CH	1.30
8	Krishna S Kolluri	1986/BT/ME	1.30

Batch Reunions

Batch Reunions			
	Donor	Batch Details	Amount (in crore ₹)
1	Ramesh Srinivasan	1992/BT/CS	0.65
2	Sekar V	1993/BT/CH	0.50
3	Venky Harinarayan	1988/BT/CS	0.33
4	Prahalad Reddy	1993/BT/AE	0.33
5	Girish Reddy	1977/BT/EE	0.33
6	Anand Rajaraman	1993/BT/CS	0.33
7	Santhanam B	1978/BT/CE	0.25



Institute Day and DA Forum

The 59th Institute Day was celebrated on 26 April 2018. Nine out of the 12 DAs for 2018 received their awards and 62 alumni-sponsored Institute Day prizes were given to students on the same day.



Lazar T. Chitillapilly (1983/BT/AE), Project Director, Air Breathing Propulsion Project, VSSC, ISRO, Thiruvananthapuram



Dr. D. V. Satyanarayana Gupta (1974/BT/CH), Technology Fellow, Baker Hughes, a GE company, Tomball, Texas, USA



Dr. Kaniyantra Mani Chandy (1965/BT/EE), Simon Ramo Professor of Computer Science, Emeritus, California Institute of Technology, Pasadena, California, USA



Dr. Noshir Contractor (1983/BT/EE), Jane S. & William J. White Professor of Behavioral Sciences (McCormick, SoC, Kellogg), Director of SONIC Research Group, Northwestern University, Evanston, Illinois, USA



Dr. Nagabhushana Sindhushayana (1989/BT/EE), Vice President, Technology, Qualcomm Inc, San Diego, California, USA



V. M. Thomas (1973/BT/ME), Vice President, Technology, Qualcomm Inc, San Diego, California, USA



Dr. Sridhar R Tayur (1986/BT/ME), Ford Distinguished Research Professor of Operations Management, Tepper School of Business, Carnegie Mellon University, USA



Dr. Seeram Ramakrishna (1989/MT/ME), Director, Centre for Nanofibers and Nanotechnology, Professor of Mechanical Engineering, National University of Singapore



Dr. Sudhir Kumar Mishra (1996/MT/ME), CEO and MD, BrahMos Aerospace, Distinguished Scientist and Director General (BrahMos), DRDO, New Delhi



Prof. Dr. Jayalal Sarma M N, Department of Computer Science and Engineering, received Srimathi Marti Annapurna Gurunath Award for Excellence in Teaching instituted by Dr. Marti G Subrahmanyam (1967/BT/ME)



AlumNite

On 19 July 2018, the institute hosted AlumNite 2018. For the first time in history, six named chairs were launched on the occasion. The Distinguished Alumnus Award 2018 was presented to Dr. MAS A. Subramanian (1982/PhD/CY), currently Milton Harris Chair Professor of Material Science at Oregon State University.

The Director, IIT Madras, conferred the YBG Varma Award for Excellence-in-Teaching in Chemical Engineering, Excellence-in-Research Award (instituted by Dr. Prakash Keshaviah), JC Bose Patent Award and other faculty and student awards. The graduating class gift cheque of ₹14 lakh was handed over

by the 2017 I&AR Secretary, Ms. Vineesha Badabhagni to the Director, IIT Madras. Several other academic awards and prizes were given to the students.

Launch of new Chairs

Prof. EG Ramachandran Memorial Lecture, Remembrance Event and Chair

An institute chair to honour Prof. E.G. Ramachandran (Late), the first head of the Department of Metallurgical and Materials Engineering, was launched on 7 April 2018 during the sixth annual lecture of Prof E.G. Ramachandran Distinguished Lecture Series.



Six named chairs were launched on 19 July 2018.



Dr. S. R. Rajagopalan Chair in Chemistry



Prof. M. A. Parameswaran Chair in Mechanical Engineering



Prof. V. S. Raju Institute Chair in ICSR



Prof. T.T. Narendran Chair in Management Studies



ZOHO Chair in Electrical Engineering



Alumni Community Chair

Alumni Reunions

Reunion Day, 28 December

More than 300 alumni and their families attended the reunion of batches 1973, 1983, 1993, 1998, 2003, 2008 and 2013. Dean, I&AR and Director addressed the meeting. Tech Expo, an exhibition of student's projects, and a panel discussion on alumni's role in the institute were also held.



1978 Batch Ruby Reunion

- 1978 batch alumni had their Ruby reunion on 15 January 2019 at IC&SR auditorium.
- 60+ alumni along with their family attended the event.
- Director, Dean-IAR, IIT MAA President addressed the alumni.
- On 16 January, the batch had their own programme in Andaman.



Researchers and PG Reunion 2019

IIT Madras researchers and PG alumni of all batches were back to their campus for 2019 Reunion on 30 March. It was a celebration of alumni and their families from various batches and an opportunity to reconnect, engage with other batch-mates, and share their memories and experiences with each other. For the very first time, an open house was organised for an interaction between alumni and current research scholars.



IITMAANA and IITM Foundation Dinner Reception

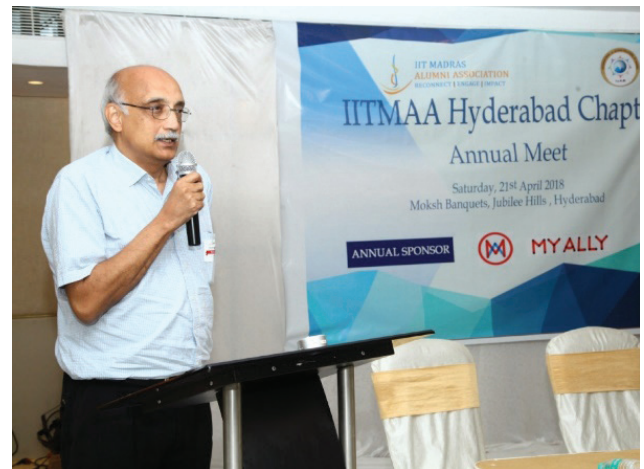
- A felicitation ceremony for the 2018 graduating students going to North America for higher studies was organised by the IIT Madras Alumni Association of North America (IITMAANA) and the IITM Foundation, in association with the Office of Alumni Affairs (OAA) on the evening of 18 July at Hotel Ramada Plaza, Chennai.
- 50+ students attended the ceremony



Alumni Meets

IITM Alumni Hyderabad Chapter Meet

- IITM Alumni Hyderabad Chapter Meet was held on 21 April 2018.
- Over 200 alumni from Hyderabad attended the meeting.



IITM Alumni Singapore Chapter Meet

- IITM Alumni Chapter Meet in Singapore was held on 2 June 2018.
- Over 110 alumni attended the event.



IITM Kerala Alumni Meet

- IITM Kerala Chapter Alumni Meet was held on 11 August 2018.
- More than 70 alumni attended the event.



Alumni meet in Japan

- Japan alumni meet was held on 27 August 2018.
- Over 15 alumni attended the event.





IITM Delhi Chapter Meet

- The IITM Delhi Chapter Meeting was held on Sunday, 17 February 2019 at India International Centre, Annex Court, Lodhi Estate, New Delhi.
- The event was attended by 84 alumni.



IIT Madras CSR Conclave

IIT Madras CSR Conclave was held on 10 December 2018. The Technology Conclave for Social Impact programme (day session) was attended by 38 corporate CSR managers. Industry Academia Collaboration for Social Impact programme (evening session) had 33 CXOs in attendance. KPMG was the Knowledge Partner of the conclave.



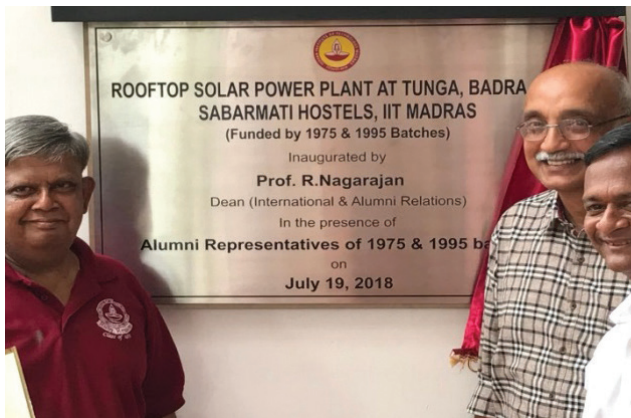
Inauguration of 2 MW rooftop solar power plant

A 2 MW rooftop solar power plant was inaugurated on 11 July 2018. The installation of the system in the academic and hostel zone of IIT Madras is for power generation and reducing the peak demand from the grid in the campus apart from carbon footprint and dependency on non-renewable energy sources. The energy generated by the solar panels will go to a centralised grid from where it will be distributed across campus. The project was funded by Rural Electrification Corporation Limited under a CSR initiative.



Inauguration of a rooftop solar power plant

A rooftop solar power plant of 184.14 KW capacity funded by batches 1975 and 1995 was inaugurated on 19 July 2018. The batches contributed ₹98 lakh to install rooftop solar power plant in hostels, Tunga, Bhadra and Sabarmati and Central Library. The project was inaugurated by Prof. R. Nagarajan, Dean, I&AR. A few alumni from the two batches attended the event.



Convocation

The 55th Convocation Day was held on 20 July 2018. Eighteen alumni-sponsored prizes were given to the students in different categories.





The Alumni Relations office coordinated with academic section to organize A Day at IIT Madras on 23 June 2018. Top 300 rankers of JEE Mains 2018 were invited to make prospective students aware of the life at IIT Madras and clear their doubts.



Scholarship/ Award

Prof. Dr. Y B G Varma Award

On 18 July 2018, Prof. Raghu Rengaswamy received Prof. Dr. Y B G Varma Award (instituted by the family of Prof. Varma) for Excellence-in-Teaching in the Department of Chemical Engineering.



Keshav-Rangnath Excellence in Research Award

The award, instituted by Dr. Prakash Keshaviah, was given during AlumNite 2018 on 19 July 2018.

Sl. No.	Roll No.	Name	Guide	Co-Guide
1	ME09D044	P Suresh	Dr. Krishnan Balasubramanian	Prof Prabhu Rajagopal
2	ME14D405	AR Harikrishnan	Dr. Saritkumar Das	Dr. Sateesh Gedupudi





Dr. Arun Kumar Thittai

Department of Applied Mechanics



Dr Mathava Kumar S

Department of Civil Engineering



Dr Amitava Ghosh

*Department of Mechanical
Engineering*



Dr Anand T N C

*Department of Mechanical
Engineering*



Dr Parasuraman Swaminathan

*Department of Metallurgical &
Materials Engineering*



Dr Sriram Venkatachalam

Department of Ocean Engineering

Young Faculty Recognition Award (YFRA)

The Young Faculty Recognition Award (YFRA), sponsored by our alumnus Dr. P. Balasubramanian (1971/BT/AE and 1973/MT/IM), was awarded to six IIT Madras faculty members on Teacher's Day (5 September 2018).

CGI Scholarship

CGI Information Systems and Management Consultants Private Limited sponsored the MCM scholarship for 25 students with a contribution of `17.5 lakh. CGI signed a memorandum of understanding (MoU) with IIT Madras and interacted with the scholarship recipients on 13 February 2019.





Winter course on Computational Brain Research at IIT Madras, 2-9 January 2019

The Centre for Computational Brain Research (CCBR) at IIT Madras conducted a winter course on machine intelligence and brain research. This is a two-credit course and consists of a workshop component and an additional teaching component. The workshop component was held from 2-9 January 2019 at the IC&SR building, IIT Madras, which was attended by over 300 delegates.



3rd PAN IIT Biotech Conference, 31 January-2 February 2019

It was a three-day meet from 31 January to 2 February 2019 organised by the Department of Biotechnology, Bhupat and Jyoti Mehta School of Biological Sciences, IIT Madras, under Prof. S. Mahalingam and supported by the Office of International and Alumni Relations, IIT Madras and The Mehta Family Foundation, Houston, USA. Young researchers and accomplished scientists across the world gathered to exchange their ideas on cancer precision medicine and personalised therapeutics with students and faculties of the institute.



Australian National University, Australia, 12 April 2018

People from Australian National University (ANU) visited IIT Madras on 12 April 2018, to strengthen the relations between IITM and ANU in terms of research collaborations and student exchanges, and to explore the possibility of a 2+2 PhD programme between the institutes.

The delegation included Prof Tim Senden, Director, and Prof Chennupati Jagadish, Distinguished Professor, ANU Research School of Physics and Engineering, Prof Peter Bouwknegt, Director, ANU Mathematical Sciences Institute, Prof Steve Eggins, Director, ANU Research School of Earth Sciences and Prof John Carver, Director, ANU Research School of Chemistry, among others.

University of Porto, Portugal, 12 April 2018

Prof. Vladimiro Miranda visited the Institute and met Dean, I&AR on 12 April 2018.

Deakin University, Australia, 14 April 2018

Minister Philip Dalidakis from Deakin University of Australia visited IIT Madras on 14 April 2018. He met Dean, I&AR.

Study in India Cell – GETEX Dubai 2018, 12-14 April 2018

This event was organised by EDCIL India (Educational Initiative by MHRD). Ms. Vani Samuel and Ms. Vadhana Ramanan participated in the event. An Education Expo was held at the Dubai International Convention and Exhibition Center, Dubai, UAE.



Nanyang Technological University, Singapore, 16 April 2018

Ravi Kumar, Shaw Chair Professor and Director from Nanyang Technological University (NTU) met Dean, I&AR on 16 April 2018.

SADNIER-North East India and International Students Fest 2018

The Office of International Relations (OIR) organised SADNIER-North East India and International Students Fest 2018 at IIT Madras. It was the third edition of the festival, where the students showcase the folk culture of India's northeast region to the IIT Madras community.



Australian Trade and Investment Commission (Austrade), Australia, 20 April 2018

Trade Commissioner Mr Peter Coleman, from the education sector for South Asia, travelled to Chennai on 20 April (Friday). He met the Dean, I&AR during the visit.

DAAD Germany, 23 April 2018

On April 23, 2018, Shikha Sinha, Senior Advisor and International Cooperation, Heike Mock, Ms. Julia M Kundermann, Ministry of Education and Research (BMBF), visited IIT Madras. They met Dean, I&AR and faculty and students involved in Indo German Centre for Sustainability.



Australian High Commission (Australia), 24 April 2018

The Counselor (Education and Research), Australian High Commission, Ms. Louise McSorley visited IIT Madras on 24 April 2018. She met Dean, I&AR during the visit.

Société Générale, 27 April 2018

Séverin Cabannes Deputy Chief Executive Officer, Veronique Sani, CEO, Société Générale Global Solution Centre, and Sunil Shah Deputy CEO, Société Générale Global Solutions Centre met the IIT Madras Director. Later, they participated in a panel discussion with the IITM faculty (AI/ML, Cyber Security, Data Sciences and IoT), Dean IAR, Dean IC&SR, Dean AR and research scholars.

Queensland University of Technology, Australia, 1 May 2018

Prof. Prasad KDV Yarlagadda OAM, Professor in Smart Systems, School of Chemistry, Physics and Mechanical Engineering Science and Engineering Faculty, Prof. John Bell, Head of School-Science and Engineering Faculty, Chemistry, Physics, Mechanical Engineering, and Dr. Kateryana Bazaka met Dean I&AR and visited ME, AE, NCCRD, Research Park.

Joint Doctoral Programme (JDP) between Nanyang Technological University and IIT Madras

On 1 June 2018, an MoU with the NTU, Singapore was exchanged in the presence of the Honourable Prime Minister of India. The President of NTU, Prof. Subra Suresh is a distinguished alumnus of IIT Madras. He also took part in the alumni meet on 2 June. In the discussion, a distinguished alumnus of IIT Madras, Kris Gopalakrishnan agreed to sponsor five IIT Madras students annually for travel and stay at NTU (up to one year) as part of this programme. The MoU has not only strengthened IIT Madras' collaborations with the NTU, Singapore, but has also enabled the exchange of equal number of scholars from IIT Madras to the NTU.

MOUs

- Dr. R. Nagarajan signed an MoU with RWTH Aachen on 9 May 2018
- Dr. Anantha Subramanian signed an MoU with V Texas A&M REEP on 10 March 2018
- Dr. R. Nagarajan signed an MoU with DMS on 9 March 2018
- Dr. Anju Chadda signed an MoU with Saint-Petersburg State Forest Technical University on 20 June 2018
- Dr. Rajesh Kumar signed an MoU with National Institute for Japanese Language and Linguistics on 26 June 2018
- Dr. R. Nagarajan signed an MoU with the NTU JDP on 1 June 2018
- Dr. Tuhin Santra signed an MoU with Taipei Medical University, Taiwan on 18 April 2018
- Dr. R. Nagarajan signed an MoU with University of Moratuwa, Sri Lanka on 1 May 2018
- Dr. R. Nagarajan signed an MoU with Michigan State University Travel support agreement, USA on 23 May 2018
- Dr. K. G. Pradeep signed an MoU with Max Planck Partner Group, Germany on 6 June 2018
- Dr. Milind Brahme signed an MoU with Julius-Maximilians-Universität Würzburg Renewal, Germany on 25 April 2019
- Dr. Sudarsan P. signed an MoU with University of Florence, Italy on 18 April 2018
- Dr. Prakash Sai L. signed an MoU with the University of Tokyo on 7 May 2018

Deakin University, Australia, 11 June 2018

Dr. Joseph Lawrence presented models for industry–university collaborative centres, which was followed by a discussion on fostering industry–academia collaboration.

Australian Consulate, 21 June 2018

Ms. Priyanka Vaidyanath (Business Development Manager, Australian Trade and Investment Commission), Ms. Louise McSorley (Counsellor, Australian High Commission, India), Ms. Susan Grace (Consul General, Australian Consulate General), Priya Raja (Advisor, Education, AHC) and Janaki Sreeram (Consulate General) visited IIT Madras on 21 June to meet the director and few faculty members collaborating with Australian universities.

Ethiopian Embassy, 22 June 2018

Mr. Asfaw Dingamo (Ambassador of Ethiopia) and Mr. Asalf Habtegeorgis (Education Counsellor) met Dean, I&AR, regarding the admissions of the Ethiopian scholars.

National Chiao Tung University, Taiwan, 22 June 2018

Prof. Shyh Jye Jou, Prof. Wei Zen Chen, Prof. Chien Nan Kuo, Prof. Po-Tsang Huang, Mr. Chan Hsun-Wei, Prof. Po-Hung Chen and faculties of IIT Madras—Prof. Harishankar Ramachandran, Prof. Bijoy Krishna Das, Assistant Prof. Uday K. Khankhoje, Associate Prof. Nitin Chandrachoodan, Prof. Krishna Vasudevan, Associate Prof. Nagendra Krishnapura joined together and conducted IIT-Madras and NCTU workshop.

Michigan State University

IITM faculty members, Dr. Raguram Chetty, Dr. Uday Khankhoje, Dr. C.V. Krishanmurthy, Dean Dr. R. Nagarajan, Dr. Sourav Rakshi, Dr. Kalvala Srinivas Reddy, Dr. V. Subramania and Dr. Arun K Tangirala were hosted by Michigan State University faculty members, Larry Drzal, Scott Barton, Annick Anctil, Rothwell, Chahal, Nanzer, Shanker Balasubramaniam, Andre Lee, Ranjan Mukherjee, and Annick Anctil, Kempel, Rothwell, Papapolymerou, Udpa, Deng, Andre Benard and Arjun Krishnan.



Counselor for Industry, Innovation and Science, Australia, 26 June 2018

Mr. Jon Bonnar (Deputy Consul General), Mr. Kris Browne (Manager, International Collaboration – Science & Innovation), Mr. Richard Samuels (Counselor, Australian High Commission) and Mr. Timothy Flor (Senior Policy Officer) met Dean, I&AR and visited the Research Park.

National Chiao Tung University, Taiwan, 7 July 2018

Prof. Jenn-Hwan Tarng, Prof. Kai-Ten Feng, Prof. Ta-Sung Lee and Prof. Hseh-Ming Hang visited IIT Madras for a joint workshop.

University of Southampton, United Kingdom, 12 July 2018

Dr. Sonia Heaven, Dr. Senthil Murugan Ganapathy, Prof. Robert Raja, Prof. Kees de Groot, Prof. Andrew B. Cundy, Prof. Andrew Hector, Dr. Denis Kramer and Prof. Sumeet Mahajan, participated in a joint workshop.

University of California, United States of America, 2 August 2018

Prof. Ajit Varki, Distinguished Professor of Medicine and Cellular and Molecular Medicine

Co-Director, UCSD/Salk Center for Academic Research and Training in Anthropogeny (CARTA), Co-Director, Glycobiology Research and Training Center (GRTC), Adjunct Professor, Salk Institute for Biological Studies, and Executive Editor, Essentials of Glycobiology visited IIT Madras and had a talk with students.

Macquarie University, Australia, 3 August 2018

Prof. Richard de Grijjs, Associate Dean Global Engagement, Faculty of Science and Engineering, Mr. Abizer Merchant, Director India and Sri Lanka, Macquarie International, Prof. Darren Bagnall, Dean School of Engineering, and Dr. Abhaya Nayak, Associate Professor, Department of Computing met Dean, I&AR and visited the Research Park, and departments of Mathematics and Electrical Engineering



International Students Meet, 6 August 2018

Prof Bhaskar Ramamurthi (Director), Prof R. Nagarajan (Dean, International and Alumni Relations), Prof M.S. Sivakumar (Dean, Students), Mr. Shiva Subramanian (Gopalakrishnan-Deshpande Centre for Innovation & Entrepreneurship), OIR Staff, IIT staff members and International Peer Advising Leaders (iPALs) were part of the meeting. The Dean Students was present to address the concerns of foreign students regarding hostel and academics. The Dean, I&AR spoke about periodical sessions that should take place with small groups of exchange students for addressing their issues. One of the students from Uganda recommended that the institute could send information about the campus counsellors before students' arrival. There was a cross-cultural workshop for all the international students and interactions with IIT staff members.



The University of Newcastle, Australia, 7 August 2018

Associate Professor, Prof. Jamie McKee, Pro-Vice Chancellor, Prof. Brett Ninness and Associate Director Ms. Natalie Downing of Faculty of Engineering and Built Environment, and Prof. Ajayan Vinu, Global Innovation Chair Professor and Director of Global Innovative Center for Advanced Nanomaterials, met Dean, I&AR. They also visited the Research Park and National Center for Catalysis Research (NCCR).

University of Melbourne, Australia, 9 August 2018

Prof. Alex Johnson and Dr. Meenakshi Arora met Dean, I&AR. Later, they also met the students and faculty members of the institute.

University of New Brunswick, Canada, 20 August 2018

Dr. Dave Burns (Project Lead), Executive-in-Residence, J Herbert Smith Centre, Professor of Chemistry; Hannah Classen (Project Manager), Communications Officer; and Dr. John Kershaw, Assistant Vice President Academic (Partnerships), Professor of Forestry; among others, met Dean, I&AR. Later, the delegation visited the Department of Electrical Engineering and met the head and faculties, Smart Grid, Medical Devices. The delegates visited the departments of Computer Science and Chemistry and met the HODs and faculty members.



Shibaura Institute of Technology, Tokyo, Study Tour Program (20 August–1 September 2018)

Prof Muralidhar Miryala, Osugi Naoki, Yamaguchi Satoshi, 19 students for the English Engineering Program and eight students of the MSRC lab were part of this programme. An industry visit was arranged for them besides a visit to the Research Park and Centre for Innovation. The delegation also visited the departments of Physics, Chemistry, Mechanical Engineering, Electrical Engineering, Engineering Design, Civil Engineering and Applied Mechanics.



Curtin University, Australia, 21 August 2018

Prof. Adrian North, Head of the School of Psychology; Dr. Jaya Dantas, Professor of International Health and Dean International in the Faculty of Health Sciences at Curtin University; and Prof. Elizabeth Watkin, Deputy Head of the School of Pharmacy and Biomedical Sciences visited the biotechnology department for a discussion with professors and students.

Ghana, 24 August 2018

The delegates from Ghana met Dean, I&AR and took a tour of the Research Park, NCCRD Lab and Heritage Centre of IIT Madras. The delegates were Dr. Maxwell Selase Kwasi Akple from Ho Technical University, Dr. Nicholas Apreh Siaw from Koforidua Technical University, and Dr. George Asumadu from Kumasi Technical University, among others.

University of British Columbia, University of Canada, Yale University, USA and National University of Singapore, 24 August 2018

Dr. Murali Chandrashekar, Vice Provost, International from the University of British Columbia, Prof. Valentina Zuin, Assistant Professor of Practice from the Yale-NUS College, Mr. Faisal Beg, Director, UBC-India Liaison office from the University of British Columbia, Mr. Krishna Mohan, Chief Resilience Officer - City of Chennai met Dean, I&AR and faculty, and visited few departments and the Research Park.

University of Sydney, Australia, 9-11 September 2018

The Third Joint Research Workshop was held between University of Sydney and IIT Madras.

Nanyang Technological University, Singapore, 17-18 September 2018

NTU has a strategic partnership with IIT Madras. The University and IIT Madras held a joint workshop. Prof. Ranjan Singh, Prof. Nicolas Privault, Prof. Richard Webster, Prof. Sum Tze Chien, Prof. Renshaw Wang, Prof. B.V.R. Chowdari, Prof. Frederique Elise Oggie, Prof. Mihaiela Stuparu, Dr. Xia Kelin, Prof. Bent Weber, Prof. Li Yi, Prof. S. N. Piramanayagam, Prof. Tan Choon Hong, Prof. Rod Bates, Prof. Pinaki Sengupta, Prof. Leong Weng, and Mr. Kee Mahmood Ahmed were part of this workshop.





National Cheng Kung University, Taiwan, 20 September 2019

Professor, Hsi-An Shih, Director of Institute of International Business, College of Management, NCKU, Chi Hua Lee, International Student Affairs Division, NCKU, and Karthick Mani, Indian student, Department of Mechanical Engineering, College of Engineering, NCKU met Dean, I&AR and took a tour of the Research Park.



N+I Network, France, 25 September 2018

Mr. Georges Santini, Director, Network N+I, Ms. Golda Malhotra, Coordinator, India, Sri Lanka and Nepal, Network N+I, Mr. Yesihati Nuwujuma - Digital Marketing Strategy and International Promotion & Recruitment at Pôle Universitaire Léonard de Vinci, and Ms. Shahezade Bendjelloun – Esilv, visited the campus.

Swinburne University, Australia, 25 September 2018

Mr. Graham Goldsmith, Chancellor; Prof. Ajay Kapoor, Pro Vice-Chancellor (Research – Sarawak); and Mr. Pankaj Arora, Director – International Research Engagement (Swinburne Research); among others, visited the Research Park and signed an MoU with our institute.



Ngee Ann Polytechnic, Singapore, 24 October 2018

Mr. Chan Keen Len, Prof. Ng Kee Wan, Prof. Chia Yong Poo on 24 October 2018 met Dean, I&AR and Prof. R. Nagarajan.

National Chung Hsing University, Taiwan, 28 October 2018

Dr. Kai-Jung Chi, Deputy Vice President for International Affairs, Associate Professor, Department of Physics, NCHU; Dr. Fa-Jui Tan, Professor, Department of Animal Science, NCHU; Ms. Yu-Chun (Claire) Liao, Senior Coordinator, Office of International Affairs, NCHU met Dean, I&AR.

National University of Singapore, Singapore, 29 October 2018

Prof. Tan Eng Chye, Ms. Sitharani, Dr. Narayan met the Director and Dean, I&AR.



University of Limoges, France, 29 October 2018

The university delegation comprising Srini V. Kaveri, Director, CNRS Office in India, Dr. Jérôme Bove Scientific and academic attaché, and Prof. Dominique Baillargeat signed an MoU with the institute.



University of Strasbourg, France, 9 November 2018

Mrs. Irini Jacobberger, Professor, Vice-President for International Relations/Linguistic, Mrs. Valérie Lamour, Associate Professor, Deputy Vice-President for Research/Structural Biology, Mrs. Rachel Blessig-Lagala, Head of the Department of International Relations, Mr. Jay Rowell, Director of Research, Deputy Vice-President for Research/Political Sociology, Mr. Philippe Turek, Professor, Deputy Vice-President for International Relations/Condensed Matter Physics met Dean, I&AR and visited the Research Park.

University of Exeter, United Kingdom, 12 November 2018

Prof. Tapas Kumar Mallick (Adjunct Professor, IIT Madras) and Prof. Sir Steve Smith (Vice Chancellor, University of Exeter, UK) visited IIT Madras for collaboration between the institutions. An MoU was signed.





AOTULE, 21 November 2018

The 13th AOTULE (The Asia-Oceania Top University League on Engineering) Annual General Meeting was hosted by IIT Madras during 21-23 November 2018. The subject of the Deans' meeting was Leveraging Internationalization for Global Rankings. Later, a staff meeting on Staff Mobility in Network, to get an exposure to best practices, followed by a meeting of students on Translating Ideas for Societal Impact/Urban Mobility/Smart Cities took place.



WTUN, 28-30 November 2018

The 3rd WTUN (World Technology Universities Network) Meeting was hosted by IIT Madras and HITS, Chennai during 28-30 November 2018. Eighteen founding members and four newly joined members were present in the meeting. The subject of the workshops were The role and impact of technology universities to respond to global challenges, The varied and innovative ways institutions collaborate with business and industry, entrepreneurialism, WTUN's contribution to the UN Sustainable Development Goals, and The role of technology universities in addressing gender inequality.



Tel Aviv University, Israel, 4 December 2018

Prof. Joseph Klafter, President, TAU, Prof. Yaron Oz, Rector TAU, Prof. Isaac Ben-Israel, Prof. Benny Chor, Prof. Sivan Toledo and Prof. Irad Ben-Gal from Tel Aviv University, Israel visited IIT Madras on 4 December to explore research collaboration in the area of Physics and AI.

Université Paris-Est Créteil Val de Marne, 10 December 2018

M. Laurent Thevenet, Vice President for International Affairs and Associate Professor in Chemistry; M. Jacques Moscovici, Director of the Faculty of Sciences and Technology; and Ms. Odile Solnik, Professor of English, In-charge, International Affairs, School of Business and Administration; among others, were a part of the delegation from Université Paris-Est Créteil Val de Marne.

Michigan State University, USA, 17 December 2019

Prof. Tom Voice, Associate Dean for Administrative Affairs, and Professor, Civil and Environmental Engineering met Dean I&AR and visited the Department of Civil Engineering and IIT Madras Research Park.



South Ural State University, Russia, 18 December 2019

Prof. Tatiana Vasileva - Head, International Mobility Office, Prof. Andrey Radionov and Prof. Vadim Gasyiarov met Dean, I&AR, visited the departments of Mechanical Engineering and Electrical Engineering, and interacted with the heads and faculties. They also took a tour of the Research Park.

Texas A & M University, 20 December 2019

Dr. N. K. Anand, Executive Associate Dean, Dr. Dimitris Lagoudas, Senior Associate Dean for Research, Dr. Narasimha Reddy, Associate Dean for Research, Dr. Prasad Enjeti, Associate Dean for Academic Affairs of the university visited Gopalakrishnan-Deshpande Centre for Innovation and Entrepreneurship and met the Chief Executive Officer R. Raghottama Rao. Later, the delegation visited the Research Park and met Dr. Tamaswati Ghosh from IIT Madras Incubation Cell and Mr. Muthu Singaram from Healthcare Technology Innovation Centre (HTIC).

Iowa State University, USA, 21 December 2019

Dr. Anuj Sharma, Prof. Sri Sriharan, Prof. Baskar Ganapathy Subramanian and Dr. Adarsh Krishnamurthy visited the Department of Mechanical Engineering and met the head of the department and faculty members. Later, they visited the Civil Engineering Department and met the faculty members.

University of Alberta, Canada, 11 January 2019

On 11 January 2019, Mrs. Maria Mathai, Prof. Amit Kumar and Dr. Cen Huang from University of Alberta visited the institute to renew the MoU. They also met Dean, I&AR.

KTH (Kungl Tekniska Hogskolan) Royal Institute of Technology, Sweden, 28-29 January 2019

Prof. Murugan Natarajan Arul, Prof. Rajeev Thottappillil, Prof. Hans Edin, Prof. Carlo Fischione and Prof. Stefan Ostlund from KTH Royal Institute of Technology visited the Research Park and had discussion on JDPs with Dean, I&AR and Dean, AR.

Kyoto University, Japan, 31 January 2019

Dr. Kiyoshi Kobayashi, Professor, Kyoto University, Director of ABL Project, Dr. Gautam Ray, Professor, Kyoto University, Chair Professor of ABL Project, Dr. Shilu Ray, Professor, Kyoto University, Ms. Yuko Fukutomi, Project Coordinator Kyoto University, and Mr. Tomoyasu Udagawa, ABL researcher met with Dean, I&AR and visited the Research Park.

Nanyang Technological University, Japan, 1 February 2019

Nanyang Technological University and IIT Madras came together for a joint workshop in the institute.

Queensland University of Technology, Australia, 5 February 2019

Prof. Helen Klaebe met Dean, I&AR and took a tour to the Research Park. He later met Prof. T Sundarajan.

The University of British Columbia, Canada – Urban Resilience and the Food Energy – Water Nexus Workshop – from 18-19 February 2019

On 18-19 February, University of British Columbia along with IIT Madras conducted a workshop.



Moscow Aviation Institute, Russian Federation, 20 February 2019

Mr. Alexey Zarechenskiy and Mr. Praveen Sankaran met Dean, I&AR. They also visited the Department of Aerospace Engineering and met the head and faculty members.

University of Technology Sydney, Australia, 26 February 2019

Mr. Iain Watt Deputy, Vice-Chancellor (International), Dr. Jamshed A. Siddiqui, Country Director, Ms. Kirsten Murray, Director International, Faculty of Engineering & IT, A/Prof Farookh Hussain, Head of Discipline, Software and Dr Nabin Sharma, Senior Lecturer, Software met with Dean, I&AR and visited Robert Bosch Center and Research Park.

Grieshma (Graduate Research Internship in Engineering Science, Humanities and Management)

- A unique opportunity for international students to experience IIT Madras and its cutting-edge research
- A platform for intensifying one's research ability and get trained for a career in research

The overarching goal of the programme is to increase the intake of foreign origin students in the JDPs. Our team visited a few countries, such as Vietnam, Nepal, Bangladesh and Sri Lanka, to get international students on internships. The Dean IAR, Prof Mahesh Panchagnula went to Sri Lanka and Ms. Vadhana Ramanan visited the top technical universities in Vietnam. Mrs. Kavitha and Mr. Harish Ananth visited the universities in Nepal and Bangladesh.

Vietnam National University – USSH Hanoi, 26 February 2019

Officials from International Relations office, IIT Madras met the Deputy Director of the International Cooperation Office, Mr. Luong Ngoc Vinh.

Hanoi University of Science and Technology (AOTULE partner), 27 February 2019

Officials from International Relations office, IIT Madras met Prof Nguyen Phu Khanh, Associate Professor and Head of the International Cooperation, and Ms. Mai Chi, the coordinator.

Ton Duc Thang University, Ho Chi Minh (MoU partner), 1 March 2019

Officials from International Relations office, IIT Madras met Ms. Truong My Hanh Trinh, Manager of the International Affairs Office and took a campus tour.

Vietnam National University Ho Chi Minh (Ho Chi Minh University of Technology), 1 March 2019

Officials from International Relations office, IIT Madras met the External Relations Program Officer, Ms. Nguyen Tran Nguyet Thu and took a campus tour

Thribhuvan University, 26 February 2019

Officials from International Relations office, IIT Madras met the Director of Global Relations from University of Nepal

Kathmandu University, 26 February 2019

Officials from International Relations office, IIT Madras met the Dean of Engineering, Dean of Science and Dean of Humanities

University of Dhaka, 1 March 2019

Officials from International Relations office, IIT Madras met the Prof In-charge of International Relations

University of Moratuwa, 6 March 2019

Dean, I&AR met one of our AOTULE partners and Prof. Gihan Dias, Director, International Relations

University of Colombo, 6 March 2019

The Dean, I&AR met Prof. Kokila Konasinghe, Director (International Relations), University of Colombo.

University of Peradeniya, 6 March 2019

The Dean, I&AR met Shameen Jinadasa, Director, International Affairs Office, and Prof. G B B Herath of Civil Engineering Department.

Study in India - Education Fair at Dhaka

IIT Madras participated in the Study in India - Education Fair at Dhaka

CNRS and THALES, 6 February 2019

Mr. Christian Person, Mr. Noham Martin, Mr. Gilles Coppin, Mr. Jean Chazelas, Mr. Francesco Ferranti, Mr. Cédric Quendo and Dr. Srinii Kaveri met Dean, I&AR, and visited the Electrical Engineering department and Research Park.



University of Utah, North America, 4 February 2019

Dr. Darryl Butt, Dr. Siva Guruswamy and Dr. Milind Deo from the University of Utah visited the Research Park on 4 February 2019 and met Prof. R. Nagarajan. They also visited the departments of Metallurgical and Materials Engineering, Chemical Engineering and Ocean Engineering, and met the heads of departments and faculties.

Nottingham Trent University, UK, 5 March 2019

Dr Clare Newstead, College International Manager for Science and Technology, Mr Chris Crabot, College International Manager for Business, Law and Social Sciences and Ms. Vidhi Sahae, Regional Partnerships Coordinator (South Asia, ASEAN and Australia) visited IITM to meet Dean, I&AR.

Copperbelt University, Zambia, 6 March 2019

Vice Chancellor Prof. Naison Ngoma, Deputy Registrar Ms. Thresa Chalwe, Dean School of Engineering Dr. Rudolph Kashinga, Dr. Kawimbe Mwamba, Boniface, Public Relations Officer Ms. Christabel Malama, and Mrs. Margaret Banda visited IITM and met Dean, I&AR.

Heidelberg Center, Germany, 6-8 March 2019

Dr. Ellen Peerenboom and Mr. Suboor Bakht, Director, Heidelberg Centre South Asia met Dean, I&AR on 7 March. Their visit was regarding the upcoming International Summer School. They also interacted with the Ph.D scholars of the institution.

University of Stuttgart, Germany, 11 March 2019

Prof. Balthasar Novák visited IITM and met Dean, I&AR to discuss the further steps regarding the TU9 - IIT Network starting in autumn 2019.

Ngee Ann Polytechnic, Singapore, 11 March 2019

Mr. Keen Len Chan, Mr. Hong Joon Soh, Ms. Kurinji Malar Rajendhiran and Mr. Yeow Whatt Goh visited IITM and met Dean, I&AR.

University of Groningen, Netherlands, 12 March 2019

Ms. Maaïke Wagenaar from the Office of International Relations, University of Groningen visited IITM and met Dean, I&AR.

University of Toronto, Canada, 2 March 2019

Dr. Mark S. Fox, PhD FAAAA FIEEE FEIC LEL Connaught Scholar, Associate Director (Research), School of Cities, Distinguished Professor of Urban Systems Engineering, and Professor of Industrial Engineering and Computer Science, met Dean, I&AR on 2 March 2019. He later visited the departments of Computer Science Engineering and Civil Engineering to meet the heads and faculties.

Leibniz University Hannover, Germany, 13 March 2019

Prof. Dr. Ingo Liefner and Sebastian Losacker, M.A., Institute of Economic and Cultural Geography met Dean, I&AR, Dr. Balakrishna C. Rao and Dr. Subash Sasidharan and took a tour to the Research Park.

Nankai University, China, 14 March 2019

Prof. A. Ghani Razaqpur of Nankai University met Dean, I&AR, and visited the Department of Civil Engineering and met the head and faculty of the department.

Higher Education Ministry, Afghanistan, 15 March 2019

Prof. M. Homayoun Qayoumi, Senior Advisor to the President of Afghanistan and Acting Minister of Finance, Prof. Abdul Tawab Balkarzai, Deputy Minister for Academic Affairs, Ministry of Higher Education (MoHE), and Dr. Maryam Qudrat, Advisor of Ministry of Higher Education (MoHE), among others were the delegates from Afghanistan.

R. Subrahmanyam, Secretary (Higher Education), Ministry of Human Resource Development (MHRD), Dr. N. Saravana Kumar, Joint Secretary (TEL & ICC), Higher Education, MHRD, and Malathi Narayanan, Deputy Secretary (TEL), Higher Education, among others, were the delegates from India. The delegates from both the countries met at IIT Madras to sign an MoU between the MHRD and Department of Higher Education, Afghanistan.

Deakin University, Australia, 15 March 2019

Prof. Peter Hodgson from Deakin University met Dean, I&AR on 15 March 2019. The main focus of the visit was the development of the next round of projects and student intake.



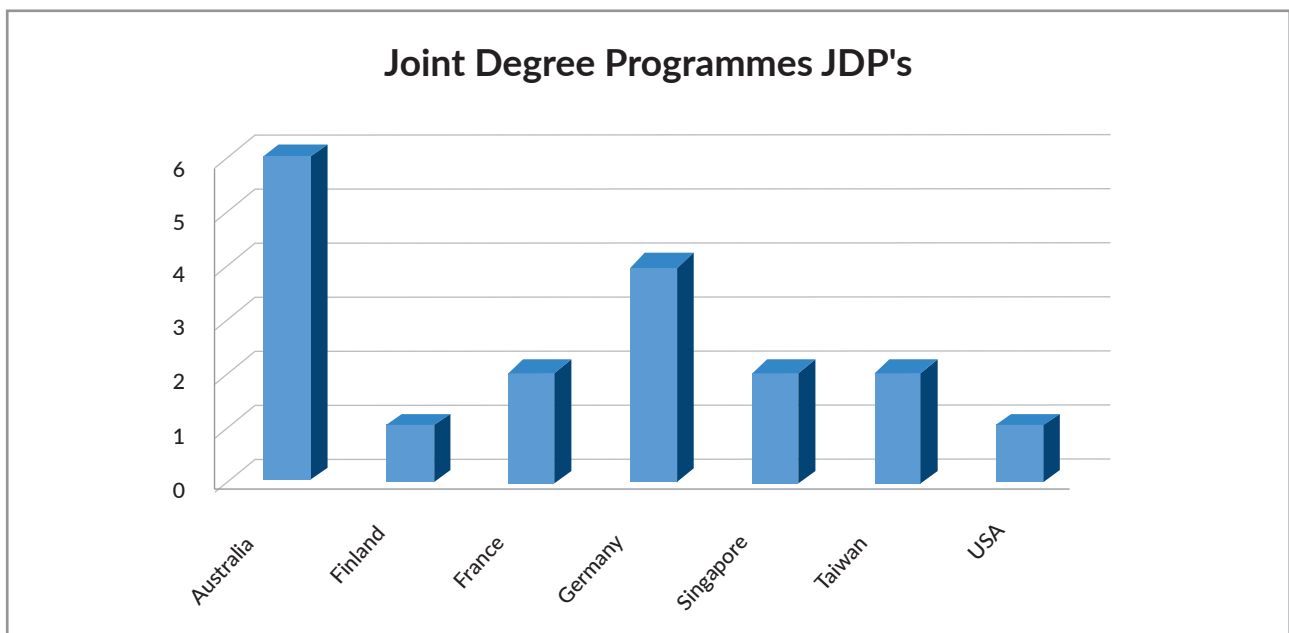
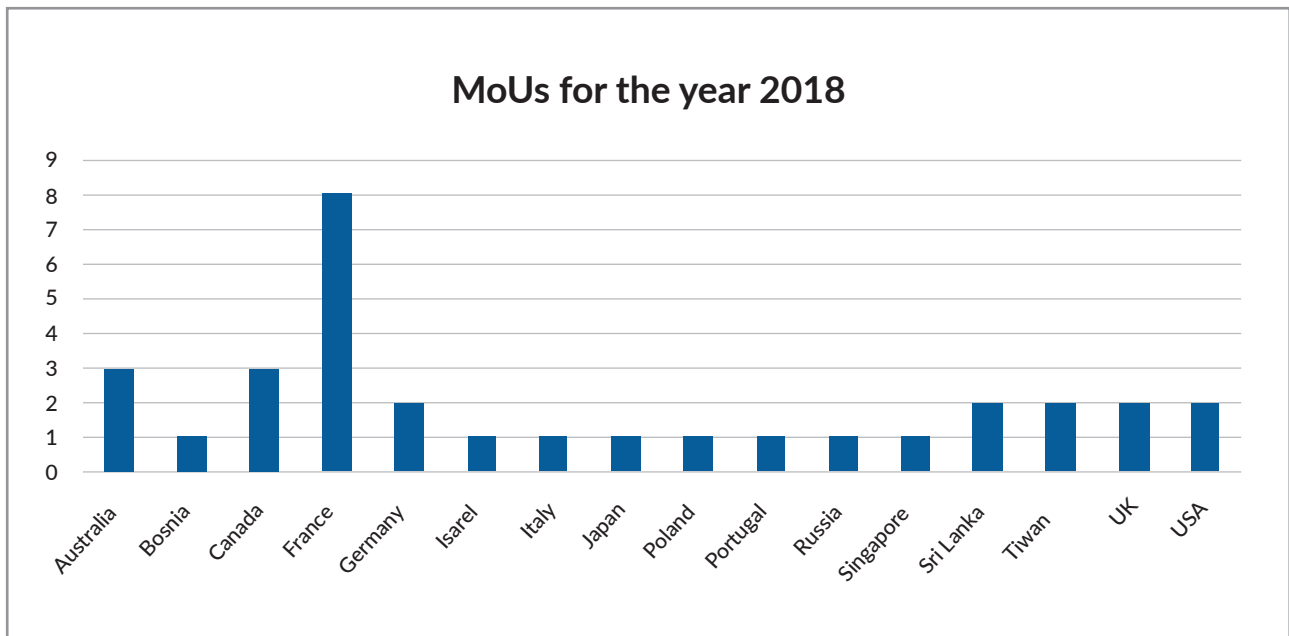
Rice University, USA, 27-28 March 2019

Dean of Engineering, Dr. Reginald DesRoches and Prof. Ajayan met Prof. Pradeep, Chemistry Department and took tour of his lab. They also visited the Department of Physics, Department of Biotechnology, Research Park and Bio-Incubator.

Technical University of Denmark, 29 March 2019

Philip Binning, Vice-President and Dean of Graduate Studies, Anne-Mette Holt, Head of the Department, Office for Research and Relations, and Ole Lund, Professor, DTU Food, among others, visited the departments of Biotechnology, Electrical Engineering and Chemical Engineering to meet the heads and faculty members. They also took a tour to the IIT Madras Research Park, Bio-incubator, HTIC, Incubation Cell, solar DC homes and Centre for Battery Engineering and Electric Vehicles (CBEEV).

MoU Graphs, JDPs and JSPs





List of JDPs

Australia

Deakin University

Queensland University of Technology

Curtin University

University of Technology, Sydney

The University of Melbourne

Swinburne University

Finland

Aalto University

France

École Centrale de Nantes

University of Bordeaux

Germany

Heidelberg University

RWTH Aachen

University of Duisburg

University of Passau

Singapore

Nanyang Technological University

National University of Singapore

Taiwan

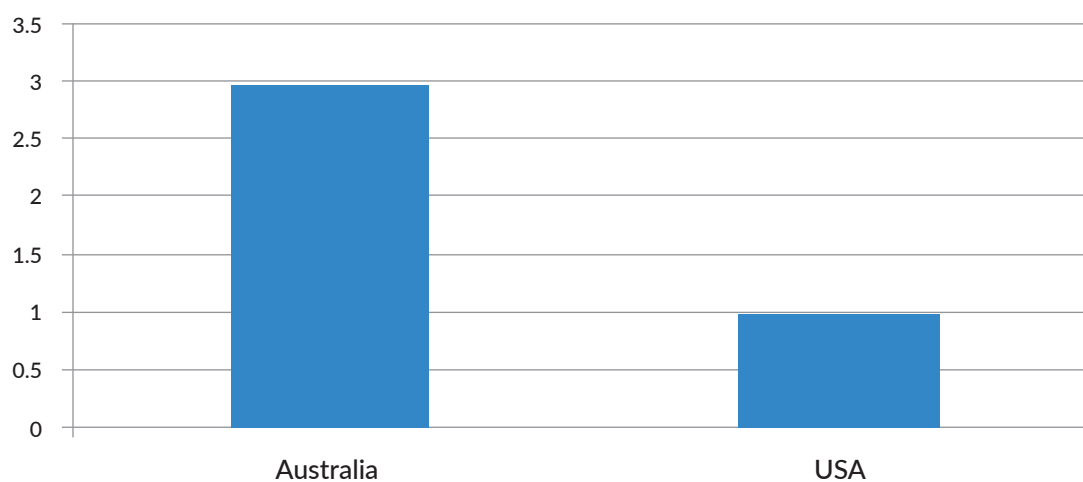
National Chiao Tung University

National Tsing Hua University

USA

Michigan State University

Joint Supervision Programmes- JPS's

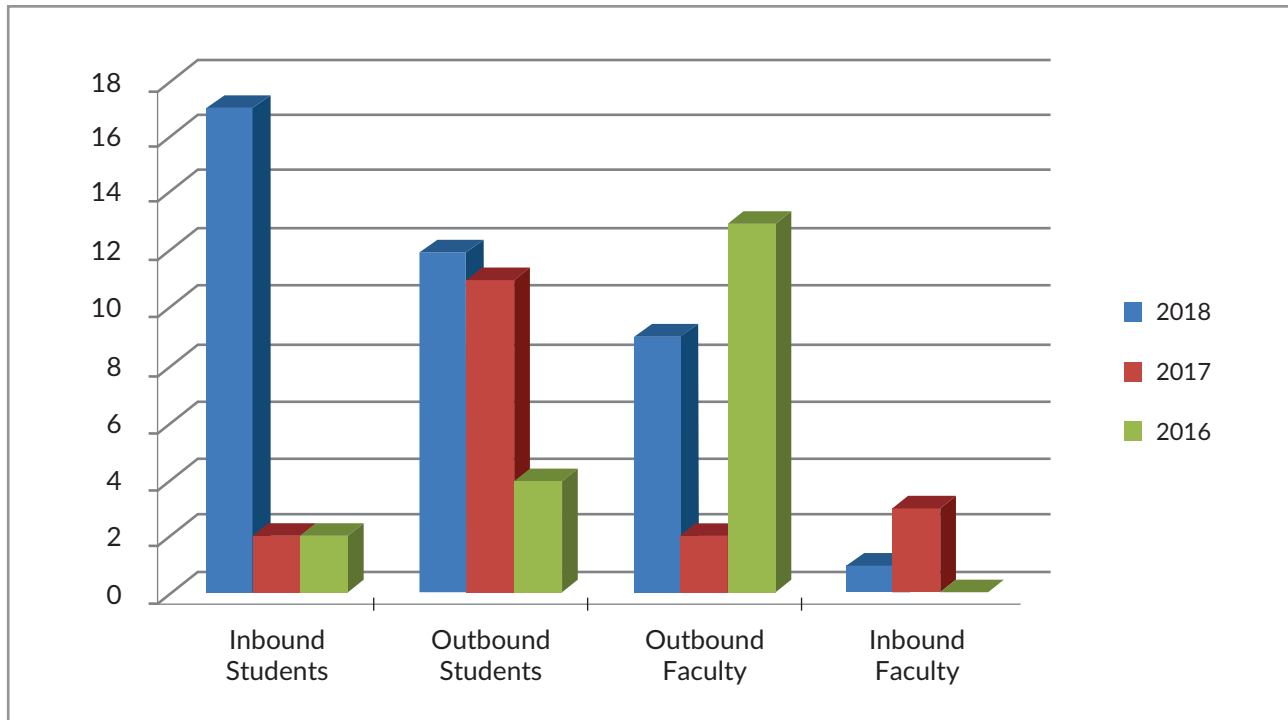


List of JSPs

- University of Sydney, Australia
- Deakin University, Australia
- The University of Melbourne, Australia
- Purdue University, USA

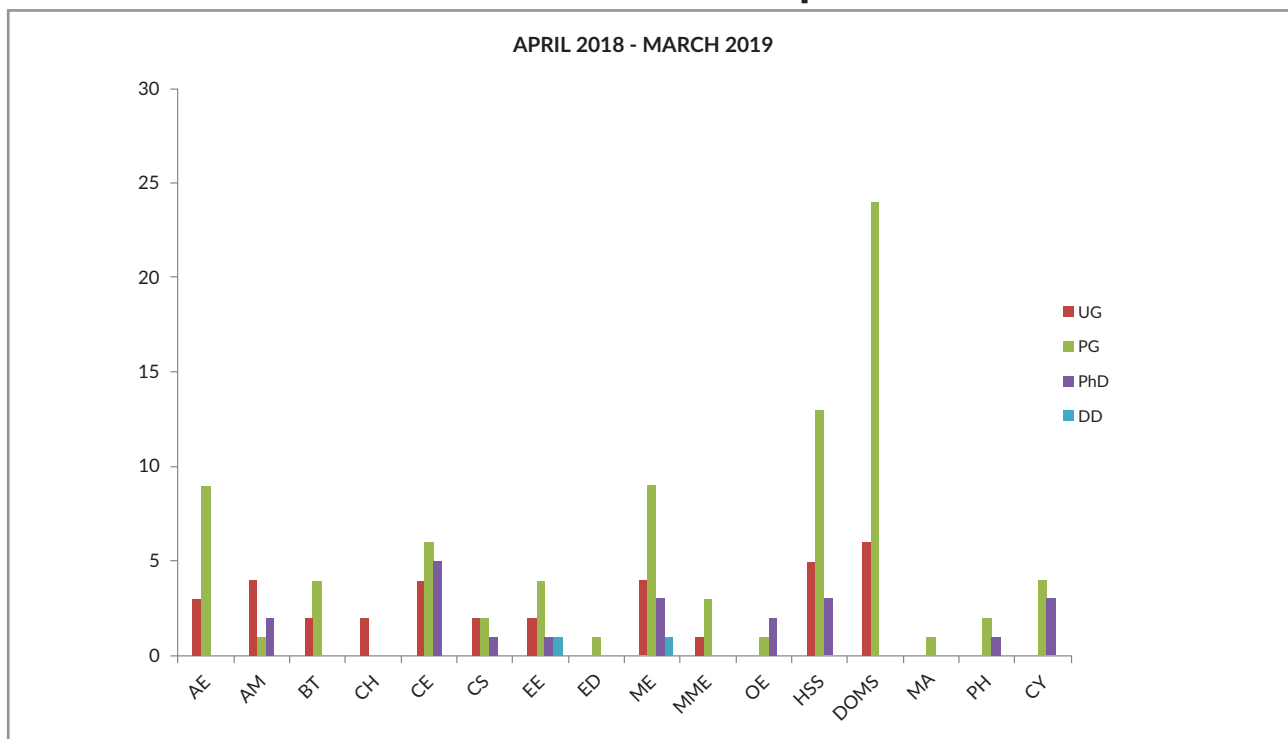


RWTH Aachen - IITM (Indo-German programme)



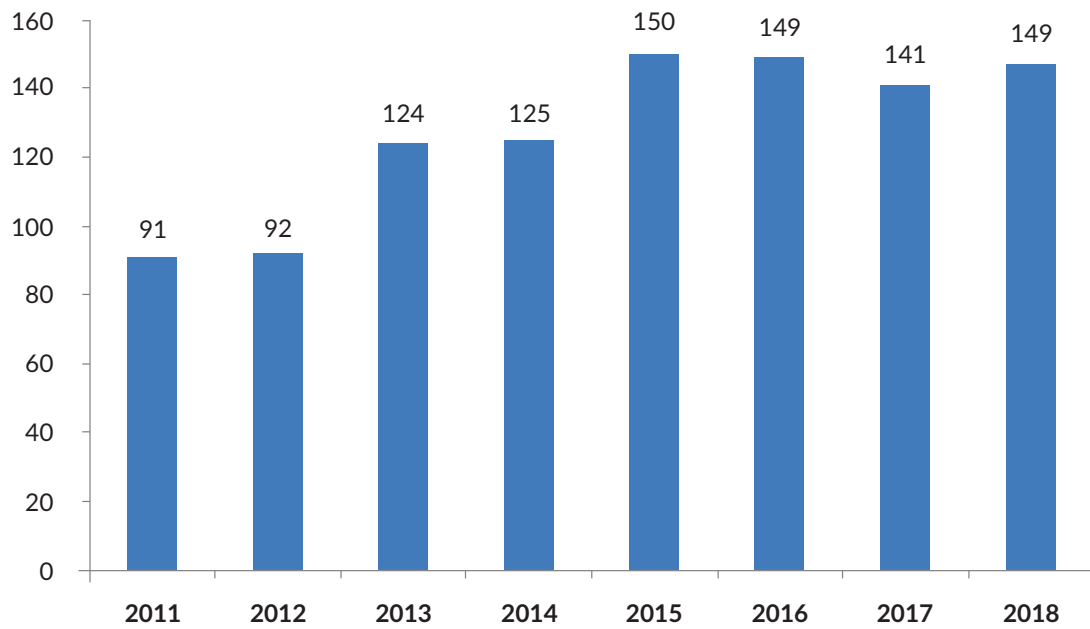
Year	2018	2017	2016
Inbound students	17	2	2
Outbound students	12	11	4
Outbound faculty	9	2	13
Inbound faculty	1	3	0

Inbound Students' Graph 2018

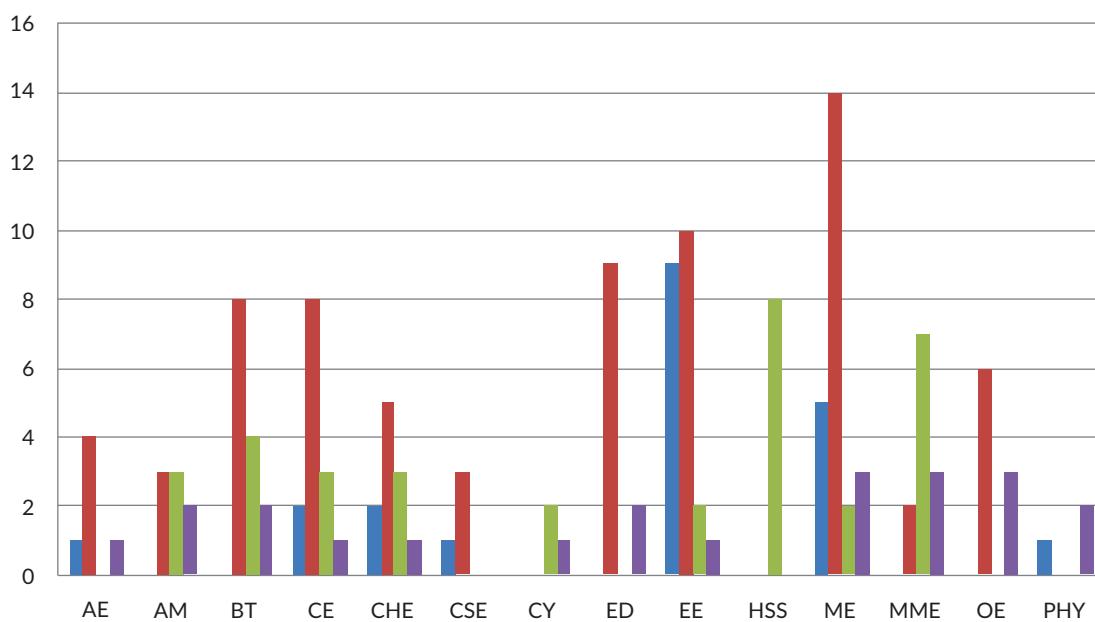


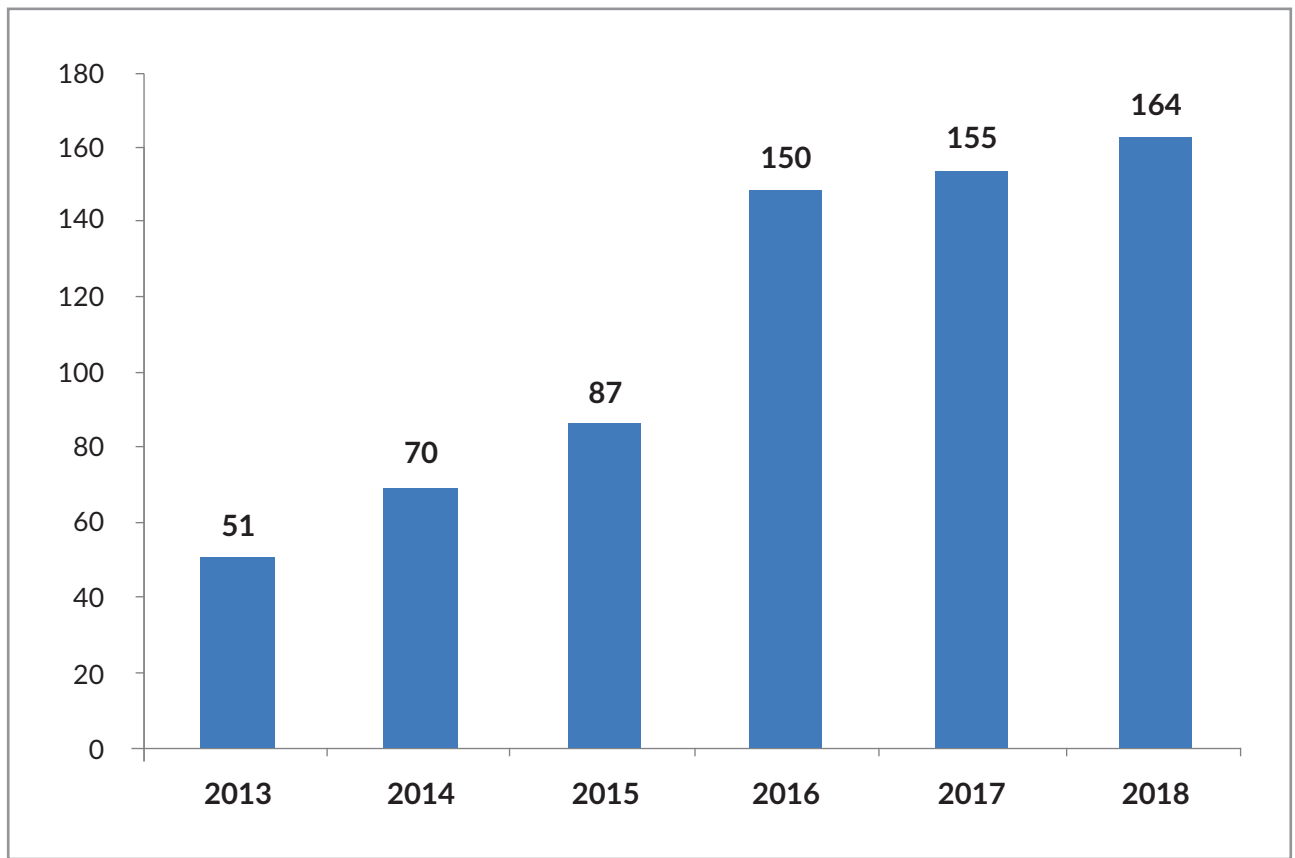


Total number of International Students over the years



Outbound Students' Graph 2018







Central Library

The Central Library is equipped with all modern facilities, and has a rich collection of information resources in the form of CD-ROMs, online databases, e-journals, e-books, e-standards, e-patents and printed material related to applied science, engineering, technology, humanities, management, social science and emerging subjects. The library has 3,90,148

items, including 962 current journals, catering to the information needs of 15,192 members and providing various value-added services with the help of modern information-handling tools and techniques. The major activities of the Central Library between April 2018 and March 2019 are described in this section.

8.1. Library Information Services: Statistics

Item	2017-2018	2018-2019
Collections		
Books (general)	2,34,185	2,35,256
Books (gratis)	2,205	2,996
Books (Hindi)	375	450
Books (project)	1,398	1,509
Theses	7,773	8,312
Book Bank	14,618	14,972
Current periodicals by subscription	962	962
Back volumes of periodicals	1,15,049	1,15,049
CD-ROMs	1,500	1,510
Audio/video cassettes	448	448
e-Books	7,964	8,684
Total	3,86,477	3,90,148
Membership		
Staff	721	718
Faculty/SSO/SO/Emeritus Prof./Visiting Faculty/Adj. Prof.	757	756
Students	10,516	12,900
Retired Faculty/Officer	46	103
Alumni members	410	421
Corporate members	42	42
Special members	Nil	Nil
IAS members	190	196



Item	2017-2018	2018-2019
Project coordinators	56	56
Total	12,540	15,192
Services: Circulation		
Number of books/journals issued	66,958	63,477
Number of books issued Book Bank (GS)	2,815	2,735
Number of books issued Book Bank (WS)	1,782	1,716
Overdue and other charges collected (Rs.)	6,99,766	10,43,112
Photocopy charges collected (Rs.)	Nil	Nil
Project loans to Faculty/Departments/Centre's		
Books issued	211	718
Inter-library loan transactions		
Borrowed from other libraries	1	1
Loaned to other libraries	4	7
DDS/Reprint service		
Reprints received from other institutions (pages)	396	92
Reprints supplied to other institutions (pages)	675	23
Smart Cards		
Cards generated/issued	5,793	5,214
Expenditure (lakhs of Rs.)		
1. Purchase of books/eBooks (Rs.)	114	110
2. Subscriptions to journals and databases (Rs.)	2,058.24	1,622.15
New journals/databases added	Nil	Nil

8.2. ISO 9001:2015 Activities

The Central Library actively participated in ISO 9001:2015 activities and successfully maintained quality-based library system services and procedures. The major activities related to ISO 9001:2015 were:

- An Internal Audit for ISO 9001:2015 conducted on 3 July 2018
- An ISO management review meeting (QSM-I and QSM-II) held on 24 July 2018
- Internal Audit for ISO 9001:2015 conducted on 3 January 2019
- An ISO management review meeting (QSM) held on 23 January 2019

8.3. Major Initiatives

The Central Library has taken various initiatives to improve the existing infrastructure, facilities, services and collections to provide strong and dynamic support to the academic, research, development, continuing education, and industrial interaction programmes and policies of the institute. Some of these initiatives are described in the following sections.

8.3.1. Online book recommendation system

The online book recommendation system is implemented with the help of alumni on <https://books.iitm.ac.in>. The server has been integrated with ADS/LDAP authentication. A faculty member logs in with one's ADS credential; in the form, one only has to provide the ISBN of the book. The system, with Google book API, fetches the bibliographic details of the book.

The faculty recommends the books to be purchased. The system then sends an auto-generated email to the department LAC member. The member approves or rejects the request. After the approval, the library initiates the process of book procurement.

8.3.2. Online resources (e-journals, e-databases, and e-books)

The IIT Madras has access to online journals and databases from 15 publishers through e-ShodhSindhu MHRD (Ministry of Human Resource Development) consortia.

Access to the e-databases and e-journals of various publishers, including the following, were renewed: American Chemical Society, AGU, AIAA, AIP, American Mathematical Society, Blackwell, BMJ, De Gruyter, Elsevier, ICE, Indian Economy Database, IOP, ISI Emerging Markets, JSTOR, Journal Citations Report (JCR), MANEY, MathSciNet, Mendeley Institutional Edition, NPG, One Petro, Oxford University Press, ProQuest: Dissertations and Theses (PQDT), PsyArticles, RSC-Gold, Sage, SIAM, Sage Research Methods Online (SRMO), SciFinder Scholar, Science (online subscription), Scopus, Taylor & Francis, Thomson Core Patents, Thomas Telford, Turnitin, UpToDate, Web of Science, Wiley.

E-Books from AMS, Cambridge University Press, CRC, De Gruyter, Elsevier, Edward Elgar, Emerald, ICE, IOP (2017 collection), McGraw-Hill, Oxford University Press, Pearson, RSC, SAE, Wiley, World Scientific, ProQuest Ebrary and EBSCO were purchased with perpetual access rights.

8.3.3. e-Shodh Sindhu Consortium

The MHRD has formed e-ShodhSindhu Consortium for Higher Education Electronic Resource merging three consortia initiatives, namely UGC-INFONET Digital Library Consortium, NLIST, and INDEST-AICTE Consortium. The main objective of the e-Shodh Sindhu Consortium for Higher Education E-Resources is to provide access to qualitative electronic resources, including full-text, bibliographic and factual databases to academic institutions at lower rates of subscription to universities, colleges and centrally funded technical institutions in India. The IIT Madras is getting access for 15 e-resources from eShodh Sindhu for the year 2019.

8.3.4. Extended working hours on Saturday and Sundays

The working hours of the Central Library have been extended up to midnight on Saturdays and Sundays during quiz, and end-semester and make-up exams for the benefit of students.

8.3.5. Systematic re-shelving of books

Two groups consisting of eight members each have been formed that devote one hour daily in the morning/afternoon in the stack areas to facilitate easy retrieval of books. The first phase of re-shelving of books has been completed, and the second phase is in progress. This initiative has produced considerable satisfaction among users.

8.3.6. Smart Card facilities

The Central Library provides the Smart Card facility to institute's students, faculty and staff, and other members (IAS and corporate members, and alumni and retired employees

of the institute). A dual-side retransfer Smart Card printer is used. The library also provides the dependent card to the present employee of the institute.

8.3.7. Major reorganisation of library book in stacks

Back volumes were shifted from the basement to the third floor and the second floor left wing to right wing and third floor left wing to right wing to create more reading space for users. The Children's Corner library has been shifted to the first floor.

8.4. Set up a Scholar/Faculty Profile

The Central Library has set up a Scholars Profile for the faculty members of IIT Madras, with an Indian Research Information System Management (IRINS) service. The IRINS is a web-based service developed by the Information and Library Network (INFLIBNET) Centre in collaboration with the Central University of Punjab. <http://iitm.irins.org>

8.5. Recruitment/Promotion of Staff Members

Mr. K. S. Murasoli has been promoted as Junior Assistant on 14 December 2018. The eight library trainees were recruited for a period of two years.

8.6. Automation

The e-books have been catalogued in the library WEBOPAC (<http://webopac.iitm.ac.in/>.) The new library website has been designed. The data relating to 2,378 patrons (students, faculty and staff members, alumni, IAS members) records were added to the Virtua-VTLS database.

8.7. Faculty and their Activities

Faculty Member	Qualifications	Major Areas of Specialisation
Mahendra N. Jadhav, Librarian	M.Sc., M.L.I.Sc., M. Phil., Ph.D.	Library automation, digital library, open source software, library portals, RFID, e-Resources
M. Ananda Murugan, Deputy Librarian	M.L.I.Sc., M.Phil., Ph.D.	Library administration acquisition, technical processing, smart card
K. Saravanan, Assistant Librarian	M.L.I.Sc., M.Phil., Ph.D.	Library, circulation, periodical and maintenance

8.8. Short-term courses/workshops/seminars/symposia/conferences/meetings/training programmes attended by faculty and staff members at recognised academic institutions

Sl. No.	Faculty/Staff Member	Title	Institution	Date
1	Dr. Mahendra N. Jadhav	The 4 th eBook South Asia Forum, Colombo	Elsevier	22-23 May 2018
2	Dr. Mahendra N. Jadhav	IOP-Library Advisory Board Meeting, Colombo	IOP	23-25 November 2018
3	Dr. Mahendra N. Jadhav	Chair the Technical session at Second International Conference on Changing Landscape of Science & Technology Libraries (CLSTL2019)	IIT Gandhinagar	2 March 2019
4	Dr. Mahendra N. Jadhav	The 7 th Annual Meeting of All IIT Librarians	IIT Gandhinagar	3 March 2019

8.9. Special lectures delivered by faculty members at other institutions

Sl. No.	Faculty Member	Topic of Lecture	Venue and Date
1.	Dr. Mahendra N. Jadhav	Benchmarking of LIS services through ISO 9001:2015	UGC-sponsored Refresher Course in Library and Information Science, University of Mysore, 6 August 2018
2.	Dr. Mahendra N. Jadhav	E-Books Acquisition Business models: Issue and problems	UGC-sponsored Refresher Course in Library and Information Science, University of Mysore, 6 August 2018
3.	Dr. Mahendra N. Jadhav	1. e-Resources Access management 2. eBook Acquisition-An overview	UGC-sponsored Refresher Course in Library and Information Science, Bharthidasan University, Trichy, 22 August 2018

8.10. Distinguished visitors/groups to the library

Sl. No.	Visitor and Designation	Date	Purpose of Visit
1	International library and information science delegates from NITTTR, Chennai	17 September 2018	To study the functioning of a library and its infrastructure facilities

8.12. Children's Corner Library

We have shifted the Children's corner library to the first floor. At the entrance right-side area, we have created more pigeon holes to keep the belongings of users.

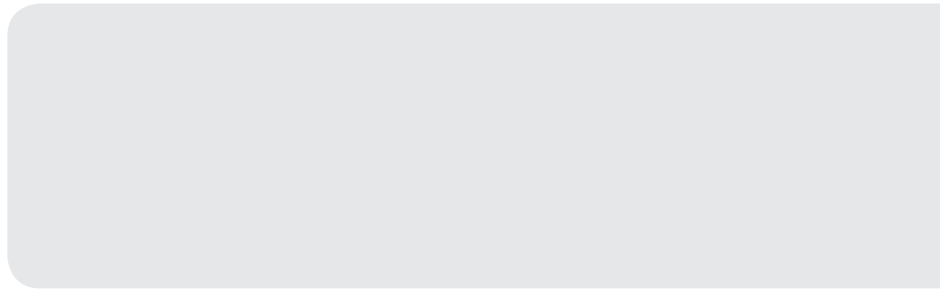
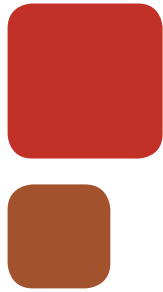
8.13. Weeding out of Books

The 143rd Library Advisory Committee recommended weeding out 12,161 books. These books included highly damaged books returned by the departments, mutilated and less-used old books and pamphlets, children's books, bound volumes in German language, books in German and other foreign language, books/pamphlets/technical reports and others.

8.14. Future plans

- To initiate the submission of a scholar's electronic thesis into the I-Repository of IIT Madras
- To initiate the creation of a database of bound volumes
- To update the project/permanent loan book database
- To organise professional development lectures and other professional events
- To weed out and write off mutilated, very old, unused books and German books
- To condemn old outdated computer hardware, furniture, etc.





Student Amenities and Activities

9.1. Hostels

Being a residential institute, IIT Madras requires students to reside in the hostels on campus. At present, there are 16 men's hostels and four ladies' hostels for undergraduate and postgraduate students, research scholars and project staff. A total of 6,948 single rooms, 70 double rooms, 196 triple rooms, five quadruple rooms, and three quintuple rooms are available in the hostels. Research scholars and some students in the master's programmes who are married and seek family accommodation on campus are housed in earmarked quarters. Students from the armed forces are provided accommodation in the MOH quarters. During the period under report, there were 8,420 students residing in the hostels.

At present, there are 10 dining halls (messes) that cater to the students and project staff members in the hostels. Of these messes, six are in Himalaya building, two are in Nilgiri building, and two (for lady students) are located in Vindhya building. All the messes are run by private contract caterers. The mess registration and allocation of mess to students is done online, based on the preference of students. Similarly, the accommodation request and allotment process is done online. The housekeeping services in the hostel are outsourced.

Each hostel is administered by a Warden (a faculty member), an Assistant Warden (a senior research scholar or project staff member) and a Hostel Council, consisting of student secretaries and the Assistant Warden, who assists the Warden. Each hostel office is supported by the staff of the Office of the Hostel Management (OHM), which is a centrally administered body and in charge of the overall functioning of the hostels.

During the year, the OHM initiated efforts to make major of its activities online. An online portal with all student required menu was introduced. The students are using the following facilities extensively:

- Mess registration: Student can log in and choose the mess of his/her choice every month
- Mess accounts: The mess account is updated daily and the student can know the balance instantly
- Mess rebate: Student can avail his/her rebate by sending the request online
- Mess extras: ID card can be charged instantly and used in messes for availing extras
- Mess entry: Biometric entry of students to the messes enabled
- Mess fee: Fee remittance made online, helping students remit fee from anywhere
- SAARANG/LTAP fees: Student can avail SAARANG tickets, opt and pay for the courses through the portal
- South Indian menu\North Indian menu\food court introduced
- Guest food coupons introduced; QR code enabled
- Biometric door access to students enabled in 11 hostels and access for the remaining nine hostels under process
- Request for temporary accommodation/guest accommodation, allotment of rooms and payment towards boarding and lodging enabled through online
- Process of vacating rooms by students made online



- Students' medical insurance coverage for married research scholars introduced on par with hostel residents and day scholars
- Online bulk booking accommodation facility for conferences, short-term courses and other events introduced

- Students' entry to exit made online

There are 62 permanent employees and 70 contract staff on roll. They are accountable to the hostel management through respective Wardens of the hostels. The Chairman, Council of Wardens is the Chairman of the OHM. The Chairman is assisted by the supporting staff. During the period under report, the following Wardens were in position:

Council of Wardens and Chairman, Hostel Management

Sl. No.	Warden	Hostel
1.	Dr. Sathyanarayana N Gummedi, Professor, Biotechnology	Chairman Warden Council
2.	Dr. Thyagaraj T, Associate Professor, Civil Engineering	Alakananda
3.	Dr. R Jayaganthan, Professor, Engineering Design	Bhadra
4.	Dr. Jayalal Sarma MN, Associate Professor, Computer Science and Engineering	Brahmaputra
5.	Dr. Srinivasa Rao CH, Professor, Mathematics	Cauvery
6.	Dr. Kothandaraman R, Associate Professor, Chemistry	Ganga
7.	Dr. K. Chandraraj, Professor, Biotechnology	Godavari
8.	Dr. Raghuram Chetty, Associate Professor, Chemical Engineering	Jamuna
9.	Dr. Benny Raphael, Professor, Civil Engineering	Krishna
10.	Dr. Anup Kumar Bhandari, Associate Professor, Humanities and Social Science	Mahanadhi
11.	Dr. Raghavendra Sai VV, Associate Professor, Applied Mechanics	Mandakini
12.	Dr. Vignesh Muthuvijayan Associate Professor, Biotech Engineering	Narmada
13.	Dr. Ramesh Gardas, Associate Professor, Chemistry	Pampa
14.	Dr. Ethayaraja Mani Associate Professor, Chemical Engineering	Saraswathi
15.	Dr. Lelitha Devi, Associate Professor, Civil Engineering	Sarayu
16.	Dr. Lata Dyaram, Associate Professor, Management Studies	Sharavati
17.	Dr. Radha R, Professor, Mathematics	Sabarmati
18.	Dr. Anbarasan P, Associate Professor, Chemistry	Sindhu
19.	Dr. Sushanta Kumar Panigrahi Associate Professor, Mechanical Engineering	Tamiraparani
20.	Dr. Shankar Ram CS, Associate Professor, Engineering Design	Tapti
21.	Dr. Arshinder Kaur, Associate Professor, Management Studies	Tunga



9.2. Institute Gymkhana

The institute's Gymkhana takes care of the general welfare, sports, and co-curricular and cultural activities of students. Sports activities form an integral part of the overall development of one's personality. Sports prepare the students to overcome challenges in their life even after their graduation. Hence, students are encouraged to organise and participate in a number of sports activities.

The following tournaments were conducted during 2018-2019 by the Gymkhana of IIT Madras.

- Freshie Tournament for first-year B. Tech students (for all games)
- The inter-collegiate invitation tournament Sportfest 2018
- N.S.O selection for first-year B. Tech/Dual Degree students (compulsory attendance of 85 per cent)
- Inter-hostel tournament for men, Schroeter Trophy on Gymkhana Day

- Inter-hostel tournament for girls on Gymkhana Day
- PG League for PG students
- Dean (Students) Trophy for men and women
- Club Weekenders - for all students
- Inter-IIT coaching camp (12 days, compulsory for Inter-IIT contingent)
- Summer coaching camp for all Inter-IIT sports
- Inter-Departmental League
- Sports Audit - Inter-hostel audit

SPORTFEST 2018-2019

The inter-collegiate invitation tournament was conducted for city colleges, for both men and women, from 25-28 September 2018. This tournament helps finalise the probable Inter-IIT team. Tournaments were conducted on a league cum knock-out basis. Trophies were awarded to winners of various sports. Students took part in all the games enthusiastically and won in some games as well. The results of Sportfest 2018-2019 games are listed below:

Sport	First place	Second place	Third place	Fourth place
Athletics (Men)	Loyola	IITM	TNPESU	BS Abdur Rahman
Athletics (Women)	TNPESU	WCC	IITM	VIT
Athletics (Overall)	IITM	TNPESU	Loyola	WCC
Badminton (Men)	Loyola	IITM B	BSA	IITM A
Badminton (Women)	Stella Maris	SSN	IITM A	IITM B
Basketball (Men)	IITM	SSN	VIT	Hindusthan Arts
Basketball (Women)	Ethiraj	WCC	Stella Maris	VIT
Chess	SSN	IITM A	VIT	Loyola
Football	Nazareth	IITM A	MGR	DB Jain
Hockey	Anna University	Stanley	IITM A	MMC
Squash	Loyola	DG Vaishnav	IITM A	IITM B
Table Tennis (Men)	SSN	IITM A	MIT	BSA Crescent
Table Tennis (Women)	SSN	BSA Crescent	Stella Maris	WCC
Tennis (Men Singles)	Loyola	Loyola	SSN	SSN
Tennis (Men Doubles)	SSN	IITM A	BS Abdur Rahman	-
Tennis (Women Singles)	Stella Mary	Stella Mary	IITM	-
Tennis (Women Doubles)	Stella Mary	IITM A	IITM B	-
Volleyball (Men)	Hindustan	DB Jain	Loyola	IITM
Volleyball (Women)	WCC	QMC	SSN	IITM
Weightlifting	Velammal	IITM A	RMK	IITM B

34th Inter-IIT Aquatics Meet 2018

The 34th Inter-IIT Aquatics Meet was organised by IIT Guwahati from 3-7 October 2018. The IIT Madras' aquatics contingent, The Madras Shark's performance was as formidable as its name. The contingent won the overall swimming championship in both the men's category, for the third time, and women's category, for the fourth time in a row! Three records were broken. The institute had an impressive medal tally of 13 gold, three silver and five bronze medals, apart from a bronze medal in water polo.

Highlights of the meet

- Overall Swimming Championship (Men) - IIT Madras (67 points)
- Overall Swimming Championship (Women) - IIT Madras (44 points)
- Best Swimmer (Men): Anuj Sindgi
- Best Swimmer (Women): Kamala Devi L R (Best Swimmer for the second time in a row)
- Water polo (Men) - Third place



Records broken

- 4*50 m Relay (Women) - Gayathri S, Kamala Devi L R, Sphurti Agarwal and Somasree Roychowdhury (2 min 25 seconds)

- 50 m Freestyle (Women) - Kamala Devi L. R. (32.05 seconds)
- 50 m Breaststroke (Women) - Kamala Devi L. R. (42.03 seconds)

Contingent	Name	Roll no	Gold	Silver	Bronze	Relay (Gold)	Total
Aquatics (Men)	Anuj Sindgi	ED16B030	3			1	4
	Harsh Ladani	AE17B027	1		1	1	3
	Kalash Verma	ME18B052			1	2	3
	Ruchir Kaul	CE16B113	2	1		2	5
	Surya Dwarakanath	ME14B098	1		1		2
	Vishal Mohanty	CS15B039				2	2
Aquatics (Women)	Gayathri S	BT14D024		1	1	2	4
	Kamala	HS15H016	3			2	5
	Sphurti Agarwal	CH16B066			1	2	3
	Somasree Roychowdhury	ME12D071				2	2

3rd Inter-IIT Chess Meet 2018

IIT Madras hosted the fourth Inter-IIT chess meet from 6-12 December 2018 at Guwahati. Overall, 17 IITs participated in the event. The IITM chess team was placed ninth.

Inter-IIT Sports Meet 2018

The 53rd Inter-IIT Sports Meet was organised in Guwahati from 13-24 December 2018. Twenty-three IITs participated in 13 sports for men and six sports for women. The opening ceremony was conducted on 13 December 2018. In the meet, IIT Madras secured the following positions:

Student	Roll no	Medals won
Women		
Prabavathy S	CE16D007	Gold in 100 m Gold in 200 m Silver in 4x100 m relay Bronze in 4x400 m relay
Sowmya GL	CE14B050	Silver in High Jump Silver in 4 x100 m relay Bronze in 4x400 m relay
Keerthana W	ME15B077	Silver in 4 x 100 m relay
Manjarekar Pranjali M	ME15B157	Silver in 4x100 m relay
Yukti	CE16B136	Bronze in 4x400 m relay
Teza M George	HS15H042	Bronze in 4x400 m relay
Roshni Shetty	BE17B009	
Mounika Bhukya	HS14H049	Gold in Badminton
Manjari Ravuthan	BS17B021	
Breasha Gupta	BE17B015	
Keerthana W	ME15B077	Silver in Tennis
Shruti Parvathi	EE16B032	
N. Bhavya Sai	EE15B102	
M. Anjali	AE15B023	Silver in Volleyball
Aiswarya Aanand	HS14H004	
N Shruthi Chandra	ED15B028	
Shreya Nema	BS17B033	
Snigdha L M	AE18B106	
Ankita Verma	ED17B004	
K. Nisha	EE18B110	
Midasala Sucharitha	BE17B021	
Pranjali Vatsalaya	EE17B144	
Paridhi	CH16B050	



Student	Roll no	Medals won
Men		
Amit Kumar	BT17S300	Gold in Pole Vault
Muthu Kumar K	ME18D014	Silver in 100 m, Silver in Long Jump
Jwalant Panchal	NA16B032	
Sakthi Ashwin M	ED16B052	
Karthikeyan M	EE18S050	Silver in Tennis
Mahith Venkata	ME15B128	
Varun Sanklecha	ME17B073	
Mehul Kumar	CS15B023	Bronze in Squash
Shubham Palia	BS18B028	
Vimersh Sathia	CS17B046	
Mohammad Sohail	ME17B154	Silver in Under-45 kg Category-Para Power Lifting
Kuldeep Singh	ED14B021	Gold in 54-65 kg category-Para Power Lifting
Ajitesh Kumar Rai	MM17B007	Silver in Above-65 kg category-Para Power Lifting

The women's contingent retained the Women's General Championship for the third time in a row. Roshni Shetty was adjudged as the Best Badminton player (Women). Atul Tukaram Korade was adjudged the Best Cricketer. The tournament was an excellent and a refreshing and healthy experience for students. Surely, it would have helped our students to take win or loss in the positive way in their life.

Inter-Hostel Tournaments 2018-2019

This year's Schroeter was more competitive than ever, as many hostels grabbed points in different sports with no major dominance unlike previous years.

Schroeter Trophy (Inter IIT events)

Sl. No.	Games	Sl. No.	Games
1	Athletics (Men and Women)	8	Swimming (Men and Women)
2	Badminton (Men and Women)	9	Squash (Men and Women)
3	Basketball (Men and Women)	10	Table tennis (Men and Women)
4	Cricket (Men and Women)	11	Volleyball (Men and Women)
5	Football (Men and Women)	12	Water polo (Men)
6	Hockey (Men)	13	Weightlifting (Men)
7	Tennis (Men and Women)		

Dean's Trophy

Sl. No.	Games
1	Six-a-side Football (Men)
2	Road Race (Men and Women)
3	Cycle Race (Men and Women)
4	Triathlon (Men and Women)
5	Powerlifting (Men)
6	Chess (Men and Women)
7	Sports Audit (Men and Women)

All these events were aimed at encouraging participation from the students/campus community. The events were a grand success, attracting a large number of participants, from both staff and students. The student spectators witnessed and encouraged their hostel teams.

This year, in addition, additional events in PG League, Inter-Departmental League and Sports Audit were organized to ensure increased participation.

National Sports Organisation

The National Sports Organisation (NSO) functions as per the Government of India's decision to improve sports with special reference in maintaining the fitness of students. IIT Madras has been taking necessary steps to encourage students to participate in various games and sports events and in activities for maintaining physical fitness.



Nearly, 475 NSO and 70 for Fitness, first-year undergraduate students were registered under NSO in the academic year 2018-2019. Coaches and experts from various sports federations and the Sports Development Authority of Tamil Nadu were engaged to coach the NSO students in 20 sports and games (both men and women).

The noteworthy performance of first-year students at the various tournaments, namely Inter-IIT Sports Meet, Inter-IIT Aquatic Meet and Sportfest, is partly due to the quality of training given to them and the hard efforts put in by them during the NSO programme.

9.3. MITr

Events

- A holistic cum value-added meeting was held between the MITr Faculty Heads and YourDOST Team on 8 April 2018.
- MITr team (for aspiring volunteers) meeting was chaired by Chief Advisor MITr on 16 April 2018 at the Chemistry Department.
- MITr Panel (selection committee) selected key MITr Core members on 24 and 25 April 2018.
- Combined MITr-SAATHI Day was celebrated on 28 April 2018. Dr. Saras Bhaskar, a renowned mental health consultant, was the chief guest. Certificates were given to all.
- PG Orientation programme for more than 675 students was conducted on 10 July 2018 at the SAC Building under the Chair – Dean of Students
- Orientation for both students and parents of B.Tech DD and MA programmes was held on 24 July 2018 at the SAC Building.
- An exclusive orientation for the parents was held on 27 July 2018 at the SAC Building. The topic was Your Child@ IIT.
- A combined MITr-SAATHI meeting was held in the Chemistry Block on 19 September 2018.
- Barefoot Counselling Training programme was conducted by Medall at the SAC Building on 9 October 2018.
- New MITr Aspirants—an interactive meeting—was held on 12 October 2018 at the Conference Hall in DoST Office Building.
- Being a Helper—a MITr-SAATHI training session was conducted by Medall at the PPT Hall on 31 October 2018.
- Medall conducted Barefoot Counselling, a training workshop for both MITr-SAATHI combined team, on 10 November 2018.
- SAFE Workshop—Part One: a training capsule was conducted by Medall at the PPT Hall on 9 February 2019.
- SAFE Workshop Part Two was conducted by Medall at the PPT Hall on 16 March 2019.

Counseling

One-to-one counselling was provided by the counselors from Medall and YourDOST to students who reached them via the support contact number pasted on doors of all hostel rooms. The coordinators of MITr helped students by talking to them and counselling whenever needed. The students reached them using the contact details provided or were referred via Medall or YourDOST.

SAATHI

- **Saathi Mentor Programme:** Nearly 150 potential mentors from senior undergraduates were interviewed and 120 of them were selected; eight freshers were allocated to each mentor so that they could guide freshers in the right direction.
- **Saathi Acad Buddy:** 20 Acad buddies were selected from the senior undergraduate student pool to help freshers, who need guidance in studies; around 50 freshies received supplementary teaching over and above class room teaching; more than 250 hours of teaching clocked in the year.
- **Saathi Quizzero:** Mock quizzes of MA1101 and PH1101 relating academics were conducted for freshies to get themselves revised for exams; more than 300 freshies attended.
- **Saathi first talk-Beyond coding-What you don't know can hurt you!** An interesting talk by S. Ramesh, an employee for over 25 years with leading MNCs in the US, discussed about workplace behaviour and issues faced by Indians while working in a multicultural organisation.
- **Breaking boundaries!** The talk given by Suresh Balasubramani, an IITM alumnus, was on navigating through various career paths such as engineering, MBA and data science.
- **Storytelling and the Art of the Narrative:** Stories can be an extremely powerful way to influence people. It is extremely impactful and engaging for your audience if you communicate your ideas in the form of a story. In that regard, Saathi delivered its third talk by Sukumar Rajagopal (former Chief Innovation Officer, Cognizant), who runs a behaviour change start-up called Tiny Magiq.
- **Freshie treasure hunt:** The event was conducted in collaboration with the Informals team of Saarang to improve bonding among the freshies and make them acquainted with all the major landmarks in the institute.
- **Mindfulness:** In these times of distraction, how does one stay mindful? A session on Mindfulness by Ms. G. L. Sampoorna, a certified Heal Your Life® workshop teacher-trainer for India.
- **Matters that matter:** Dr. Prof. B. M. Hegde, a Padma Bhushan awardee, came down to the institute to address the topic of Health and Happiness, Power of the Mind in Healing the Body. More than 250 students, faculty, staff, residents and outsiders attended this event.
- **Life Lessons from the Armed Forces:** Three decorated defense personnel, Lt Col Jayakumar from the Army,



Commodore Sd Murthy from the Navy, and Gp Capt R Vijayakumar VSM from the Air Force shared their life experiences on life in the armed forces. Attributes like passion, courage and determination can play a role in day-to-day life.

- **Who's the boss?—Productivity workshop:** The workshop was on staying away from distractions and addictions in the digital age. Sunitha Ramadurai from Neoway presented the neuro-linguistic approach of awareness and tackling distractions. This was in a workshop series mode and conducted on two different days.

Compassionate Connection through Non-Violent Communication: A three-day workshop was by international facilitators Ms. Ramanusha, Mr. Chiristian and Ms. Shyleswari. It was a unique and different pedagogy of silence, reflection, adult learning and group dynamics to raise awareness on connecting power of one another, to embody compassion and embrace one's inner self.

Advisor, Weaker Section

The institute has nominated an Advisor and a committee of students to take care of the welfare of the foreign nationals, differently abled students and weaker section students. The Advisor and committee members periodically meet these students and counsel them on various academic and non-academic matters. During the period under report, efforts were taken to address the issues faced by differently abled candidates, women candidates and academically weak students. The differently abled students were given counsel

in the beginning of the academic year and the steps taken by the institute were explained to them, to instill confidence in them. The wheel chairs, reading-assistance software and other necessary assistance were given to the differently abled students. The standing committee was careful in fulfilling its original mandate to study the special needs and issues facing students from marginalised communities, socially and culturally backward communities, students with disabilities and woman students, and propose necessary legislation to ensure sensitivity towards students in the campus.

The data of the students weaker in studies were collected to see the pattern of failures in various courses to help them to complete their degree.

A list of PwD students was compiled and a special interactive session was organised for them students with Dean, Students and Chairman and Co-chairman of Council of Wardens. Based on the suggestions given during the meeting, it was decided to provide mess facility in the ground floor during vacation for differently abled students. Arrangements should be made for the same in the upcoming vacation. The option of providing lift facility in Himalaya Mess is being explored. The street lights near Himalaya mess will be made brighter to help students with low vision.

The differently abled students participated in brainstorming session for National Abilympics going to be held in 2020. The meeting was held at the Vocational Rehabilitation Centre for Handicapped, CTI Campus, Guindy on 15 March 2019. The partnership with Sarthak Educational Trust was explored to have an interactive session with the students. The possibility of hosting Abilympics Games in IIT Madras is also being actively considered.





9.4. National Cadet Corps

A total of 200 cadets enrolled in NCC during 2018-19. Their training was conducted as per the NCC syllabus. Further, a flight of SD (Senior Division) and SW (Senior Wing) cadets joined in the march past conducted in the campus on Independence Day (15 August 2018) and Republic day (26 January 2019).

9.5. National Service Scheme

The National Service Scheme (NSS) was launched in 1969, the birth centenary of Mahatma Gandhi, to involve students in community service. The NSS comes under the Union Ministry for Youth and Sports, and is an academic requirement in many universities, including IITs and NITs. The fact that NSS is a service organisation and an academic requirement makes working with the NSS both challenging and exciting.

The National Service Scheme, IIT Madras is guided by a faculty advisor and organised into a few sub-teams of equal footing working within the NSS Managerial Team. Some of these teams include Event Management, Project Administration, Finance, Design and Web Operations. The present Faculty Advisor, Professor K. C. Sivakumar from the Department of Mathematics, took charge on the 10 August 2016.

The NSS activities in a year can be broadly classified into three categories-Projects, Events and Winter Internships or as we call it, The Wintern. Projects are those initiatives that are oriented towards specific areas and goals. Every project team includes one or more Project Representatives, who ideate, design and execute the project, and 15-20 volunteers who actively participate in the process under the guidance of the PR. Events, on the other hand, require participation from all volunteers and include service, awareness and motivational activities. Winterns are camps organised in the month of December by NSS in collaboration with service-oriented NGOs.

Events

The NSS activities have begun right from the start of the academic year where some of our volunteers helped in the organisation of Brahma, a two-day science and technology festival for school students, on 3-4 August 2018 by the NGO Curokidz. We made a humble contribution for the flood victims in Kerala through the Flood Relief Collection Drive conducted on 19 August 2018. The proceeds collected were distributed at the flood-affected areas with the help of DMC IIT Madras and Adaikalam NGO.

After conducting the orientation session on 9 August 2018 and the NSS selection test on 25 August 2018, the new team of NSS volunteers was inducted. The NSS activities for the 2018 batch students formally began with the inauguration ceremony on 1 September 2018. The inaugural address was given by Ms. Rajani Paranjpe, Founder, Door Step School,

Pune, on the topic, Education for all—Mainstreaming the Marginalised. Students had a vibrant interactive session with her as well.

The NSS Foundation Day lecture was given by Mr. TS Krishnamurthy, former Chief Election Commissioner of India, on the topic, Service Paradigm and Pleasure Paradigm on 25 September 2018. He gave an inspiring lecture on social service and ignited the minds of volunteers to respond to the needs of the society.

On 4 October 2018, a session was conducted by Prof. Shanti Bhattacharya and Prof. Parag Ravindran from Prakriti IIT Madras, to sensitise the volunteers on the effects of feeding animals in the campus. The session was interactive all through, where the volunteers learnt about the diversity of our campus and how to coexist harmoniously with the animals in the campus.

On 29 October 2018, a lecture was given by Mr. Prajeeth Sitherasanen from Kabadiwalla Connect, a social enterprise that leverages the power of technology to make sure the recyclable waste does not end up in the landfills with the help of *kabadiwalas*. The lecture provided the volunteers an insight into social entrepreneurship and how they can make significant impact, addressing a social cause with the help of technology.

A field visit was organised on 9 February 2019 to Balavidyalaya, the school for young deaf children and nonprofit voluntary educational centre for babies and pre-school children with hearing impairment. From the visit, the volunteers gained an insight on how hearing loss can be avoided if detected early and learnt about the various methods that are used to improve the hearing ability of babies with hearing impairment.

Some of the volunteers also enthusiastically helped in hosting Women's day event by the NGO Gnanadarshan on 10 March and in the cleaning of the Blue Cross Animal shelter at Adyar on 20 January 2019.

We conducted three monthly collection drives in the odd semester on 12 August, 7 October and 11 November 2018 alongwith the flood relief collection drive on 19 August 2018. In the even semester, two more collection drives were conducted on 3 February and 10 March 2019. The collected items include mostly non-perishable items such as books and clothes, which were then donated to various NGOs working in the city.

Wintern

The winter internship was organised from 19-26 December 2018 for the NSS volunteers in collaboration with Team Everest NGO. As part of their internship, volunteers spent one week in Arni, Tiruvannamalai district to volunteer with the rural scholars of Team Everest. They travelled to 10 villages, conducted classes and did the assessment for more than 300 children.



Projects

During the academic year, a total of 12 projects were undertaken.

Name	Aim	Description
Suyam	Educate underprivileged students and help them hone their competitive skills.	Suyam is a charitable society founded by a set of enthusiastic youth to help children in Vyasarpadi who would otherwise need to go for begging due to poverty. The trust has grown and now has a school with some basic infrastructure. The teams visit Suyam at Vyasarpadi every weekend. Classes are taken in Maths, Physics and Chemistry for students in classes 9, 10, 11 and 12. Sunday classes are conducted at IIT for class 11 and 12.
Teach for National Olympiad	To expose students to various types of Olympiad problems and improve their understanding of basic concepts.	Volunteers visit Nehru Middle School in Velachery and teach basic concepts of Mathematics and Science to the students of class 6 and 7. They help the students solve different logical questions useful for Olympiad and their other academic lessons.
Teach Our Neighbour	To get a better standard of primary education, the students living around the campus look for help from IIT students. The main objective of this initiative is to give students a better exposure in dealing with their subjects and other competitive exams that the volunteers are good at.	This project is an attempt to help the students to improve their basic aptitude, Mathematics and communication skills. These classes help to fulfill their quest to learn the seemingly abstract concepts. Classes are conducted within the IIT campus, thus, making it convenient for both volunteers and students.
Shravayam	To create quality audio content in English and vernacular languages, distribution of such content and making sure that it reaches the needy	As a part of this project, volunteers are expected to convert textual material (mostly non-academic) into audio files. Apart from English literature, vernacular texts set in Malayalam and Tamil are given priority.
Hindi Wikipedia	To increase the number of Hindi Wikipedia articles and help students, who face difficulties in understanding English	Volunteers choose the articles that are not available in Hindi, but are expected to be useful for students. After translation and proofreading, the articles are uploaded on Wikipedia. The credits depend on the number of translated pages, quality of language and uploading.
Bring a Smile	To visit a cancer hospital to spend time with the children diagnosed with cancer. Our goal is to make them happy and engage them in various activities, while they are in the hospital. Our secondary goal is to create awareness about cancer.	Volunteers visit Adyar Cancer institute every Saturday for two hours. They engage the children in various activities such as colouring, drawing, solving puzzles and toys.
Science Teaching Kit	To teach high school students basic laws of science and other science-related demonstrations using simple toys, conducting quizzes and making video presentation. Career counselling classes are also conducted.	Volunteers make the models of different interesting experiments illustrating basic concepts in science. They visit the schools nearby and demonstrate these models to students.
Project Bharti	To help in the development and awareness about Bharti script.	Volunteers spread awareness about Bharti script by developing interactive games involving the script, translating story books and other content into Bharti, and engage in teaching school students about its use.



Student Amenities and Activities

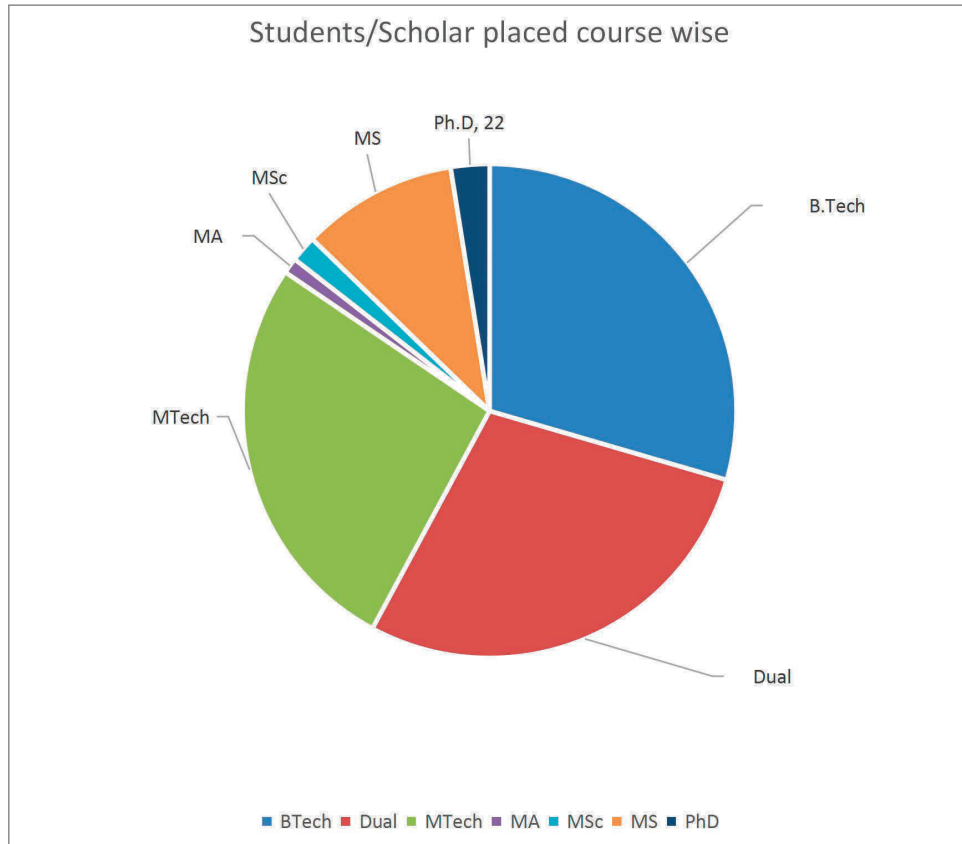
Name	Aim	Description
Awareness Projects	Blood Connect, organ donation, solid waste management	<p>Blood Connect: Organise blood camps once a semester, introduce an organised system for handling blood donation requests, increase awareness activities and reach out in collaboration with the NGO, Blood Connect.</p> <p>Solid waste management: Classes/sessions for volunteers on solid waste management, awareness walks, poster making and brainstorming sessions—to reduce waste generation and plan better waste management steps; awareness in hostels, mess area and household hazardous waste collection</p> <p>Organ donation awareness: Conduct various activities such as awareness talks, poster making and marathon within the institute, and educating school children about the importance and necessity of organ donation.</p>
Education Blog	To provide free access to articles with valuable information for high school students	Volunteers write articles illustrating the high school subject concepts. They also write articles on topics of general interest. Students across the country get direct assistance from IITians through this blog.
Uddhar (Uplift India)	To spread the culture of excellence and ethics amidst the student community with the spirit of selfless service	Volunteers conduct seminars in Chennai schools teaching the concepts from books such as <i>Art of Concentration in the Age of Distractions and Time Management</i> (Arjuna Group Trust publications), involve in website development, database management, preparing questions from AOC, TM books and making a repository for IWAT, and engage in designing PowerPoint, newsletter, picture quotes and posters, and making videos for teaching concepts of AOC Concept clarification sessions for giving support to class 9-12 students in CBSE schools.
Drishti	To inculcate compassion and empathy among volunteers. The project creates a platform for interaction with the visually challenged and deaf kids.	Volunteers of this project visit the St. Louis special school in Adyar every weekend. They spend quality time with the children and help them in their academic studies. Volunteers teach them and also learn from them.

Most of the teaching projects are in collaboration with various NGOs in and around Chennai and the volunteers work as tutors. Content generation projects are centred on creating quality content in cyberspace and other areas. Audio content generation projects for blind were also done and Wikipedia projects aimed at adding to the knowledge capital of various fields in many languages. Collaborations took place with many new NGOs this year. Furthermore, the activities were not restricted to the external premises of the institute; projects were undertaken for the betterment of various sections inside the institute also.

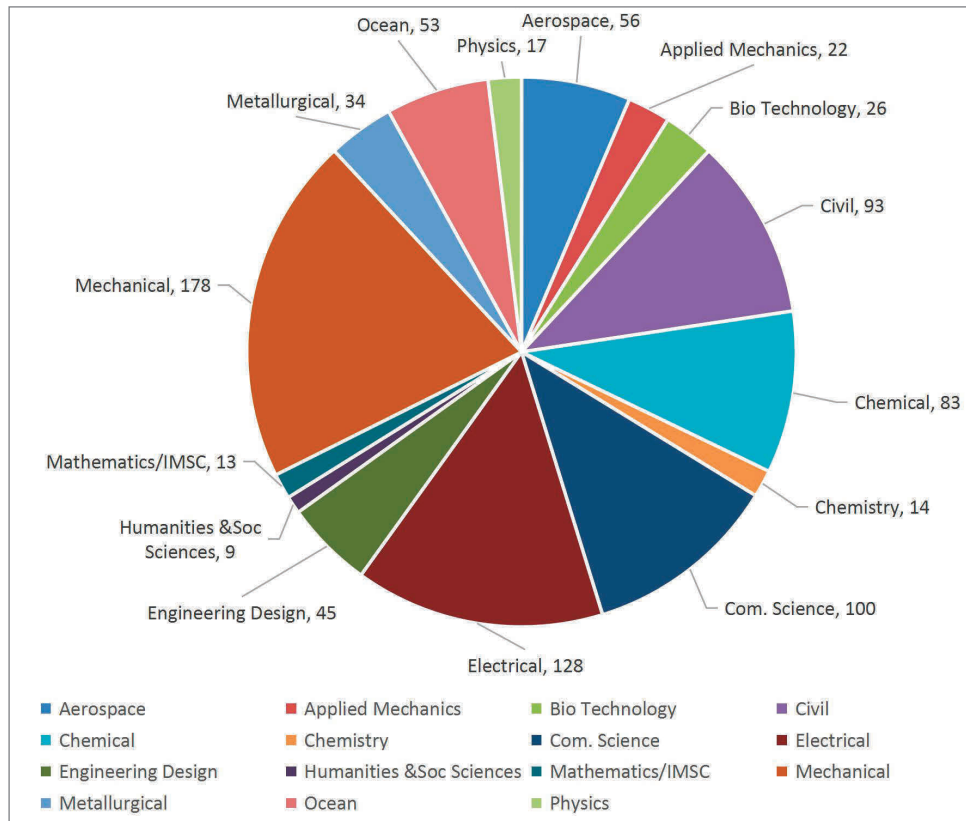


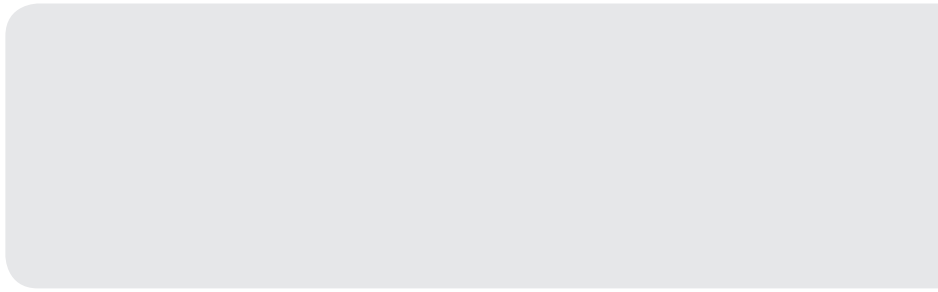
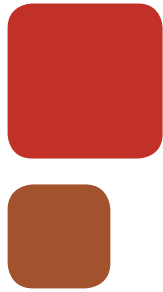


During the year, 970 students/scholars were placed in various organisations (excluding MBA).



Students/Scholars placed course wise





Financial Assistance to Students

Financial assistance in the form of scholarships and fellowships are given to meritorious students who are pursuing engineering, technology and science education at Indian Institute of Technology Madras. The details of scholarships and fellowships sanctioned to the students of different programmes during 2017-18 are given in this section.

11.1. Assistance to B.Tech/Dual Degree Students

Merit-cum-means (MCM) scholarship: Students of B.Tech/Dual Degree programmes whose parental income is less than ₹4.5 lakh were sanctioned MCM Scholarship. They were exempted from tuition fee of ₹1,00,000 semester and give a pocket allowance of ₹1,000 per month. Students, whose parental income is between ₹1 and ₹5 lakh, are given two-third tuition fee waiver of ₹66,666 per semester by the Alumni office through various donors apart from a pocket allowance

of ₹1,000 per month. During the period under report, 488 students benefited from these scholarships. The year-wise details of the number of students benefited are given in Table 11.1(b).

All SC/ST/PwD students are exempted from the tuition fee of ₹1,00,000 per semester. SC/ST students admitted to B.Tech/Dual Degree programmes and with parental income less than ₹4.5 lakh were given the concession of free messing, pocket allowance of ₹250 per month and exemption from tuition fees and hostel seat rent. As on 31 March 2019, 168 students were benefited from the initiative.

Alumni-funded scholarship for B.Tech/Dual Degree programmes were sanctioned to General/OBC students with parental income between ₹1 and ₹5 lakh. One-third tuition fees of these students was waived off.

The batch-wise details of the number of students benefited are also given below:

Table 11.1 (a)

Sl. No.	Scholarship	Number of students
1.	Government of India Ministry of Tribal Affairs' ST Scholarships	33

Table 11.1 (b) Number of MCM and SC/ST scholarships

Batch	MCM Scholarship	SC/ST Scholarship
2018	117	32
2017	78	36
2016	138	42
2015	155	58
Total	488	168



Top 7 per cent of the General category students admitted to B.Tech/DD programme are eligible to be given notional prize of ₹1,000 (one time) and a certificate of merit on the basis of the rank in JEE (Advanced) and parents' income exceeding ₹4.5 lakh. In July 2018, 430 General category students were admitted to B.Tech/DD, and 30 students were eligible for Notional Prize.

Alumni-funded scholarship are available to the topper students based on their academic performances as proposed by the sponsoring alumni.

11.2. M.Tech

Students, who joined the M.Tech programme through GATE, were awarded Half-Time Teaching Assistantship (HTTA) at ₹12,400 per month. During the period under report, 481 fresh assistantships and 424 renewed assistantships were given. The discipline-wise details are given below:

Number of HTTA awarded

Sl. No.	Discipline	Fresh 2018 batch		Renewal - 2017 batch (January-May 2019)
		I Semester	Non-HTTA got HTTA	
1	Aerospace Engineering	13	12	24
2	Applied Mechanics	15	4	16
3	Biotechnology	27	5	30
4	Chemical Engineering	35	4	37
5	Civil Engineering	52	18	64
6	Computer Science and Engineering	51	-	41
8	Electrical Engineering	69	8	65
9	Industrial Mathematics and Scientific Computing	20	4	24
10	Mechanical Engineering	70	9	62
11	Metallurgical and Materials Engineering	17	4	19
12	Ocean Engineering	33	1	33
13	Physics	9	1	9
	Total	411	70	424

M.Tech Dual Degree

The students of 2014 batch who joined M.Tech programme under Dual Degree were awarded Half-time Teaching Assistantship (HTTA) at ₹12,400 per month from 1 June 2018 onwards based on their obtaining valid GATE score or on securing CGPA of 8.0 or above. During the period under review, 294 students were awarded fresh assistantship from June 2018 to December 2018, and 300 renewed assistantships in January 2019 out of which 292 students were renewed HTTA at the rate of ₹12,400 per month and eight students at the rate of ₹6,950 per month since they obtained CGPA of less than 6.5 in July-November 2018 semester. The department-wise details are given below:

Sl. No.	Discipline	2014 batch	
		Fresh (Ninth Semester)	Renewal (Tenth Semester)
1	Aerospace Engineering	17	17
2	Biotechnology	30	30
3	Chemical Engineering	18	18
4	Civil Engineering	37	37
5	Computer Science and Engineering	24	25
6	Electrical Engineering	49	51
7	Engineering Design	34	35
8	Mechanical Engineering	62	64
9	Metallurgical and Materials Engineering	9	9
10	Naval Architecture and Ocean Engineering	9	9
11	Physics	5	5
	Total	294	300

11.3. M.Sc.

Students admitted to M.Sc programme were sanctioned Rs. 1,000 per month merit scholarship as per rule. Exemption

from tuition fee was also given to certain students. During the period under report, 117 students benefited from the scholarship.



The department-wise details of the benefitted students are given below:

Number of Merit scholarships and freeships awarded

Sl. No.	Course	Merit scholarship		Freeship (tuition fee waiver)		50 Per cent Freeship (50 Per cent tuition fee waiver)	
		Year 1	Year 2	Year 1	Year 2	Year 1	Year 2
1.	Chemistry	15	15	5	5	3	5
2.	Mathematics	10	14	4	5	1	2
3.	Physics	12	11	4	5	0	1
Total		37	40	13	15	4	8

11.4. M.A.

Institute Merit Scholarship: Twenty-five per cent of the students admitted to M.A. programme and whose parental income is less than ₹4.5 lakh were sanctioned Merit Scholarship, i.e. exempted from the tuition fee of ₹3,000 per semester and given a pocket allowance of ₹1,000 per month.

The SC/ST students admitted to M.A. programme and whose parental income is less than ₹4.5 lakh were sanctioned the

concession of free messing plus pocket allowance of ₹250 per month and exempted from tuition fees and hostel seat rent as per the Government of India post-matric scholarship rules.

Institute-free studentship scholarships for M.A. programme were sanctioned to students. These scholarships give exemption from payment of tuition fees. The batch-wise details of number of students benefitted are given below:

Batch	Merit Scholarship	SC/ST Scholarship
2018	1	0
2017	1	0
2016	2	4
2015	2	1
2014	3	1
2013	1	2
Total	10	10

11.5. M.S.

The scholars admitted to M.S. programme through GATE are given Half-time Teaching Research Assistantship (HTRA) of ₹12,400 per month for two years and later three years on

the recommendation of GTC. During the period under report, 479 scholars received these assistantships of which 191 were fresh scholars.

The department-wise details of the assistantships awarded and renewed are given below:

Number of HTRA awarded

Sl. No.	Discipline	Fresh	Renewal	Total
1	Aerospace Engineering	19	20	39
2	Applied Mechanics	13	34	47
3	Biotechnology	5	8	13
4	Chemical Engineering	9	10	19
5	Civil Engineering	16	19	35
6	Computer Science and Engineering	18	29	47
7	Engineering Design	8	16	24
8	Electrical Engineering	30	41	71
9	Management Studies	10	16	26
10	Mechanical Engineering	38	69	107
11	Metallurgical and Materials Engineering	12	13	25
12	Ocean Engineering	13	13	26
Total		191	233	479



11.6. Ph.D

The scholars admitted to Ph.D. full-time programme in engineering are sanctioned Half-time Teaching/Research Assistantship (HTRA) of ₹31,000 per month for first two

years and ₹35,000 per month for next three years. During the period under report, 1,775 scholars obtained assistantships of which 689 were fresh scholars.

The department-wise details of the assistantships awarded and renewed are given below:

Number of HTRA awarded

Sl. No.	Discipline	Fresh	Renewal	Total
1	Aerospace Engineering	31	55	86
2	Applied Mechanics	54	61	115
3	Biotechnology	39	72	111
4	Chemical Engineering	39	62	101
5	Chemistry	43	76	119
6	Civil Engineering	62	122	184
7	Computer Science and Engineering	17	32	49
8	Engineering Design	23	38	61
9	Electrical Engineering	89	111	200
10	Humanities and Social Sciences	29	39	68
11	Management Studies	27	21	48
12	Mathematics	26	34	60
13	Mechanical Engineering	78	171	249
14	Metallurgical and Materials Engineering	39	52	91
15	Ocean Engineering	29	67	96
16	Physics	64	73	137
	Total	689	1,086	1,775

The Ph.D. scholars of science departments who are able to submit thesis within four-and-a-half years and Ph.D. scholars of engineering departments who are able to submit thesis within four years from the date of admission are sanctioned Pre-Doctoral Fellowship of ₹45,000 for six months. During the year under report, 34 Ph.D. scholars were sanctioned this fellowship.

11.7. Financial Assistance to Research Scholars/Students for Presentation of Papers Abroad:

To encourage research scholars to present papers in international conferences, the institute gives them financial assistance. The financial assistance provided to M.S. and Ph.D. scholars is up to the limit of ₹1,50,000, including registration fee.

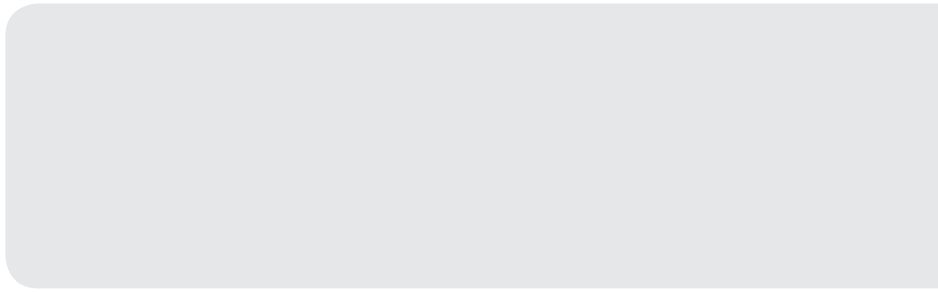
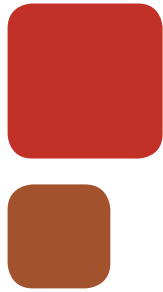
11.8. National/International Conferences in India:

Research scholars and students of course programmes are given the following financial assistance for presenting papers in national/international conferences in India:

Registration fee

- National and international conferences : ₹5,000
- Travel : Third-class AC train fare
- Daily allowance : ₹500 per diem subject to a maximum of 10 days





Weaker Section and Foreign National Students

12.1. B.Tech Programme

As per the Government of India orders, 27 per cent, 15 per cent and 7.5 per cent of seats are reserved for Other Backward Classes (OBC), Scheduled Caste (SC) and Scheduled Tribes (ST) students, respectively, in the B.Tech. programme. These students are admitted through the Joint Entrance Examination (Advanced) with a relaxation. These students have to get only 60 per cent of the marks obtained by the last student of the general category to get qualified for admission.

During pre-admission counselling, an advisor explains to each student the requirements of different branches. This helps students in choosing a suitable branch based upon their capability and interest. When a student finds the chosen branch is tough, he is allowed to switch over to lower JEE cut-off branch at the end of his first semester.

The following are the details of the number of SC/ST students admitted to B.Tech programme through JEE (Advanced) 2018-19 and Preparatory Course during 2017-18:

Total Sanctioned Intake	Sanctioned Intake		Programme	Number Joined Through					
	SC	ST		JEE		Preparatory Course			
				SC	ST	SC PD	ST	GE PD	OBC PD
B.Tech - 488	74	37	B.Tech	71	33	2	1	-	3
Dual Degree - 358	54	27	Dual Degree	57	22	-	-	2	-

The SC/ST students admitted against reservation are given the following benefits:

- Tuition fee waiver.
- Free lodging and messing (basic menu only) and pocket allowance of Rs.250 per month provided their parents' income is Rs.4,50,000 net per annum or less.
- A Book Bank as part of Central Library is maintained for the benefit of SC/ST students. The students are issued 12 tickets for taking books, which are issued for a semester.

- Help in getting placement. Wherever possible, industries are requested to conduct separate interviews for SC/ST students and the requirements for these students are lower than those for the General category.

12.2. Preparatory Course for Admission to B.Tech Programme

A preparatory course of one academic year was initiated by the Ministry of Human Resource Development, Government



of India, exclusively for SC/ST/PwD students. Selection of the students for this course is made from the Joint Entrance Examination (Advanced) list of SC/ST/PwD students, who did not qualify for admission. Upon successfully completing the preparatory course at the IIT, they become eligible to join the

B.Tech/Dual Degree programme and are no longer required to write the JEE (Advanced) again.

Following are the details of the admissions in July 2018: (IIT Madras, IIT Bombay, IIT Indore, IIT Bhilai, IIT Goa)

Offer issued for PC			
SC PD	ST PD	OBC PD	GE PD
2	1	3	2

Eight preparatory course 2017-18 batch candidates were offered admission to B.Tech/Dual Degree Programme in July 2018 after they successfully completed the course.

12.3. M.Tech Programme

Seats are reserved for SC and ST candidates, as per the Government of India orders. They are admitted through GATE by a separate merit list. Following are the details of admission in July 2018:

Offer issued		Number joined (HTTA)	
SC	ST	SC	ST
60	31	54	30

12.4. M.Sc Programme

Admission to the M.Sc. programme happens through JAM entrance examinations only. A total of 21 SC and 10 ST students were admitted in the M.Sc during the period under review. These students were given a tuition fee waiver.

M.Tech and M.Sc students admitted against reservation are given the following benefits:

- Book Bank facility with 12 library tickets. Books are issued for a semester.
- Both public sector and private sector industries were requested to recruit SC and ST students. Other special steps were also taken to enhance their recruitment.

- Scholarship is given to these students as per Government of India norms.

12.5. Admission of Foreign National Students and Indian National Residing Abroad

In July 2016, one student joined the Dual Degree programme. In July 2017, one student joined the Ph.D programme.

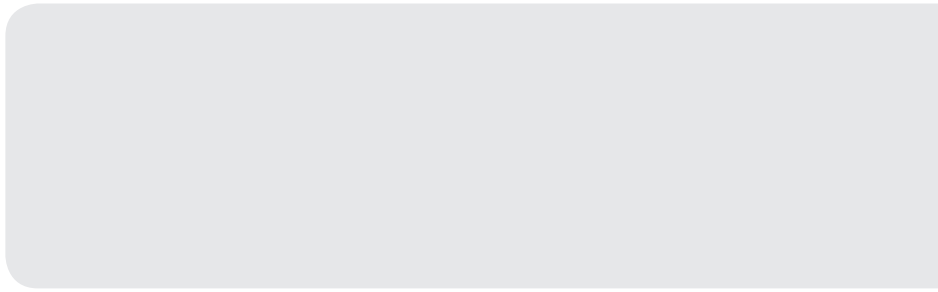
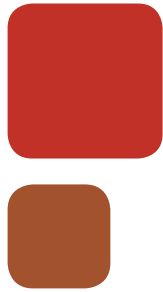
At the end of March 2019, two foreign nationals were on the rolls of the institute. The programme and country-wise details are given below:

Country	Year I	Year II	Year III	Year IV	Year V	Total
Foreign National Students						
Dual Degree						
South Korea				1		1
Ph.D						
Ethopia			1			1

Foreign students are also permitted to use the Book Bank. Book Bank library tickets are issued to each student. Books are issued for a semester.

In addition, IIT Madras Alumni Association provides financial assistance to students under IITMAANA Travel grant

programme to help them visit the USA and present their papers at nationally recognised technical conferences. The grant covers airline ticket charges and visa fees, but excludes payment of conference registration fees.



Campus Amenities

13.1. Engineering Unit

The Engineering Unit, IIT Madras is entrusted with constructions, maintenance of buildings and Operation services in the institute. The works are carried out through contract by calling tenders and quotations in a transparent manner.

For maintaining the quality in construction of buildings the advice of faculty members who are experts in their respective

areas are sought. To complete the projects in time, the Engineering Unit holds review meetings periodically with the stake holders.

The Engineering Unit also introduced new materials and technologies in the constructions and maintenance activities.

The status of works (Completed, in progress and in the planning stage) are as follows:

Major works completed

Sl. No.	Work	Rs. (in lakhs)
1	Construction of 96 Nos. of new 'B' Type Quarters (3 blocks – G+8 floors) 32 Flats in each Block	6700
2	Construction of Bio-Technology and Centre for Sustainability building (Ground +6 floors)	2956
3	Construction of Academic Complex (G+6) by replacing the dilapidated workshop and stores buildings (NAC-1)	12940
4	Construction of additional floor above the Composite Technology Building including water supply, drainage and internal electrification for IIT Madras	67
5	Construction of Computational Fluid Dynamic (CFD) Building (G+2)	404
6	Design and construction of temporary light weight prefabricated steel structure over existing double rooms at 3 rd floor level at Alakananda, Ganga, Godavari, Jamuna, Narmada and Saraswathi hostels (60 rooms)	414
7	Tiling, cupboard and painting works in Cauvery Hostel	109

Major works in progress

Sl. No.	Name of the Major Works	Rs. (in lakhs)	Remarks
Executed by Engineering Unit of IIT Madras			
1	Augmentation of facilities at Centre for Innovation (CFI) Lab by completely replacing the existing building	1647	
2	Creation of studio at Second Floor of CRC building for NPTEL at IIT Madras	150	Tendering in process
3	Deepening of Lake at IIT Madras	100	
4	IIT Madras IN Gate Automation	90	



Sl. No.	Name of the Major Works	Rs. (in lakhs)	Remarks
Executed by CPWD			
1	Construction of additional rooms for Taramani Guest House (TGH) at IIT Madras	447	Work nearing completion
2	Construction of Port center in Thaiyur Campus	2700	Tendering in process
Executed by Engineering Unit			
Under Higher Education Financing Agency (HEFA)			
1	Construction of Annex building (G+3) to existing Computer Science and Engineering (CSE) building	2180	
2	Construction of Electrical Science Block-II (ESB-II) Ground+6 floors	2704	
3	Construction of 64 Nos. of "G1" type quarters for married research scholars	1585	
4	Up gradation of existing Sewerage System at IIT Madras	3458	Tendering in process
5	Providing, Pumping Mains and Water Distribution System to the entire campus of IIT Madras (SH: Upgradation of the existing water supply system at IITM)	3700	
6	Construction of Girls hostel by replacing existing rear wing of Sarayu Hostel	4262	
Executed by CPWD directly			
Under Higher Education Financing Agency (HEFA)			
1	Construction of New Academic Complex -II	12910	In process
2	Construction of New hostel (1200 Nos. capacity) by replacing the existing Mandakini hostel	14675	In process

Major works being planned in 2019-20

Sl. No.	Work	Rs. (in lakhs)
1	Road Resurfacing work	150
2	Providing additional facilities for doubling the strength at Hostels/furniture work	150
3	Additional/Alteration and retrofitting works for Building Science Block (BSB) Electrical Science Block (ESB) & Mechanical Science Block (MSB) – Up gradation of Corridor portion	600
4	Major renovation of Quarters with additional room and New facilities at E & E1 Type quarters	400
5	New Lift facilities for Bose Einstein Guest House/Student Activity Centre	40
6	Replacement of Energy efficient LED Light Fittings in phased manner	300

13.2. Housing Facilities

A total 553 faculty quarters, 412 staff quarters and 232 student's quarters are available in the campus for accommodation. In addition, there are 165 servant quarters in the campus.

13.3. Horticulture

The Horticulture unit functions under the Engineering Unit. It maintains **53,264 sqm** of lawns, including two play fields and hedges around the lawns, using recycled water supplied from sewage treatment plant. The new landscape work for an area of **3,341 sqm** was developed in front of New Academic Complex-I.

A Miyawaki garden, consisting of **1,320 native trees**, was developed and maintained near Chera, Chola, Pandya building. Nearly **200 tree** saplings, planted by Retirement staffs, and **600 tree** saplings planted in places of fallen trees during Vardha are also maintained.

The Horticulture section also takes care of cleaning and refilling of deer watering containers located at **65 places** in the campus.

13.4. Public Health

Public health division takes care of anti-adult mosquito control, termite control in the campus, garbage disposal and disposal of hazardous waste generated from different departments through Tamil Nadu waste management limited.

13.5. Telephone Facilities: PBX Telephone System

The campus telephone facility has been extended to the Office and Residential Quarters of Faculty members, Laboratories of various Departments and Other miscellaneous services from HiPath 4000 ISDN PBX system having 5000 line capacity interfaced with BSNL through ISDN PRA lines. There are 18 remote telephone systems housed at various buildings in Academic, Hostel and Residential Zones connected to Main PBX system via optical fiber link.

The complaints of campus telephone lines are attended within 2 hours from the time of receipt/registration.

Online Campus Telephone Directory is available in the Institute Website under Contact Tab >> Telephone Directory.



13.6. Local Body Approval

CMDA has approved 21 buildings. Plan for other buildings constructed and under construction were already submitted to CMDA and are under approval process.

Central Supplies Unit

The Central Supplies Unit functions under the administration of a Warden. The unit procures milk from the Tamil Nadu Co-operative Milk Producers' Federation (TCMPF) and distributes it to student hostels. It also procures major items from wholesale suppliers through Provision Selection Committee and Provision Purchase Committee and supplies them to hostels, thus economising the mess expenses. Branded cosmetics and eatables from wholesale dealers are other items procured and made available to students through Students Amenities Centres at reduced prices.

13.7. Hospital

The Institute Hospital is a 25 bedded primary to secondary Hospital which caters to the health need of the Students, Staff and their Dependents.

Hospital working hours	: 08.15am – 05.45pm
are Week days	
Saturday	: 08.15 am – 1.00pm
Saturday	: 1.00 pm onwards:
	Emergency care
Sunday & Govt. Holidays	: Emergency care

Staff

High-quality ethical care is given to all our users by a dedicated team of hospital staff which include.

1) Regular doctors	-	11
2) Visiting consultants	-	25
3) Nurses	-	14
4) Nursing Assistants female	-	6
5) Nursing Assistants male	-	3
6) Reception / MRD	-	3
7) X-ray / U/S / ECG Technician	-	3
8) Hospital Office	-	2
9) Office attenders	-	2
10) Hospital store keeper	-	1

Facilities available

1) Pharmacy	-	Outsourced to Apollo
2) Clinical lab	-	Outsourced to Lister Metropolis
3) Physiotherapy	-	Outsourced to M/s. Indus Therapeutic Solutions

Conference and CME details

Sl. No.	Employee Id	Name	Date	Topic	Venue
1	2355	Dr. Mahalakshmi	13, 14 July 2018	Tapicon 2018	Kodaikanal
2	8751	Dr. Tamilmani	18, 19 August 2018	8 th ENT Conclave	Hyderabad
3	2355	Dr. Mahalakshmi	30, 31 Aug and 01 Sep 2018	South Zone Critical Care Conference	Mysore

In-house facilities

- 1) ECG
- 2) X-ray Unit
- 3) Ultrasonography
- 4) Well-equipped labour room with baby warmer
- 5) Operation theater
- 6) Inpatient wards

Academic activities

To update the hospital staff of the report of the hospital activities a meeting of all staff is held on alternate months. A medical topic of common interest is also discussed.

Doctors and staff nurses are encouraged to take part in CME and Medical conferences out of the campus.

Clinical activities

- 1) Time to time medical camps are conducted to screen users for chronic ailments.
- 2) Women's camp: Every year a Medical camp is held for all Women in the month of March. This year (2019) it was conducted for all the contract women employees of the IIT campus. A total of 133 women were screened for any common ailments and those with any significant ailment were started on medication and some were referred to appropriate medical centres for further management.
- 3) Regular outpatient clinics where patients with health related issues are consulted. In case a specialist opinion is required they are appropriately referred either within the hospital or outside as per the requirement.
- 4) Immunisation is carried out on second Saturday and fourth Friday every month. The Universal Immunization Schedule as per the Government of India is followed for children. Adult immunisation and booster doses are also given as and when necessary. In case of epidemic, mass immunisation is also done.
- 5) Screening of employees and their dependents for chronic ailments especially for those above 40 years are done on an outpatient basis.

High risk patients and those with strong genetic risk are screened earlier or whenever necessary as the case may be.

- 6) Workshops and talks are held for students through NCC and Disaster Management committee.



Sl. No.	Employee Id	Name	Date	Topic	Venue
4	8571	Dr Tamilmani	30 August-1 September 2018	South Zone Critical Care Conference	Mysore
5	2355	Dr. Mahalakshmi	9-10 October 2018	Internal Auditor Training	IIT Madras
6	8751	Dr Tamilmani	9-10 October 2018	Internal Auditor Training	IIT Madras
7	1118	Mr Balasekaran	9-10 October 2018	Internal Auditor Training	IIT Madras
8	8419	Dr. Gowrishanker	29-30 November 2018	NAPCON 2018	Ahemedabad
9	8303	Dr. Sabitha	27-30 September 2018	CUSP2018, International Conference in Clinical USG	Chennai
10	8045	Mrs. N Jaya	22-28 October 2018	2 nd National Workshop NCD	Kanchipuram
11	8233	Dr Rebecca	16 February 2019	Forum2019SMF	
12	2355	Dr. Mahalakshmi	16 February 2019	Forum2019SMF	
13	8302	Dr Porchelvi	16 February 2019	Forum2019SMF	
14		Dr.Sabitha	16 February 2019	Forum2019SMF	
15	8751	Dr Tamilmani	16 February 2019	Forum2019SMF	
16	2355	Dr. Gowrishanker	16 February 2019	Forum2019SMF	

Annual Census of Hospital for the Year 2018-2019

2018-2019	O. P.	Emergency	In patient in	In Patient	Surgery	Surgery -	Diagnostic	Dental	X-ray	ECG	USG	Physio
	DAY	Cases	Casualty	(In ward)	Major	Minor	Procedure					
	8am - 6pm	6pm - 8am	Admission									
18-Apr	8441	803	303	31	-	8	11	115	225	79	53	457
18-May	7523	747	279	29	-	4	3	100	336	156	56	632
18-Jun	661	603	241	30	-	1	4	87	336	65	47	641
18-Jul	7730	767	297	37	-	6	10	102	353	86	71	811
18-Aug	9186	896	322	36	-	5	6	99	313	77	70	701
18-Sep	8983	1002	355	39	-	12	10	135	287	91	47	671
18-Oct	9877	1069	493	59	-	16	11	126	383	67	50	738
18-Nov	8440	893	365	34	-	7	16	129	277	82	46	436
18-Dec	7384	795	282	26	-	8	12	106	290	80	62	707
19-Jan	9509	1066	314	25	-	9	13	132	404	91	68	700
19-Feb	8836	979	385	32	-	10	3	92	441	89	70	989
19-Mar	9459	971	408	49	-	16	16	128	486	81	10	887

Grand Total = 96,456 patients for the year 2018 to 2019

13.8. Guest Houses

The institute has two guest houses within the campus. The guest house near the Administrative Building is called the Bose-Einstein Guest House, and the guest house in the hostel zone is called the Taramani Guest House (TGH). The Bose-Einstein Guest House has 18 air-conditioned suites. Each room has a telephone, fridge and TV. VIPs, institute guests and invited guests are usually accommodated here. TGH has 83 rooms, of which 18 are suites and 65 are air-conditioned rooms. The guest house provides board and lodging facilities for institute guests and visitors, newly appointed faculty members, staff members, delegates and participants attending conferences, seminars, symposia and workshops.

13.9. Bank

State Bank of India has a branch and two ATMs on campus. Canara Bank also has a branch and an ATM facility within the institute. In addition, ICICI Bank has installed an ATM in the hostel zone.

13.10. Post Office and Telecom Centre

There is a post office on campus to cater to the needs of the campus community. A 24-hour telecom centre caters to the needs of the employees, students and residents.

13.11. Schools

Vanavani Matriculation Higher Secondary School (VVMHSS), administered by the IIT Madras Educational Trust, and a Kendriya Vidyalaya (KV) function on campus. VVMHSS offers courses from LKG to standard XII and the KV offers courses from standard I to XII.

13.12. Open Air Theatre

The Open Air Theatre is used by the Film Club to screen films during weekends. It is also used for other functions of the institute and schools.

13.13. Student Activities Centre

This building is used by students for indoor games. Important functions such as convocations and orientation programmes for freshers are also conducted here.

13.14. Cafeteria

There are two canteens, the IIT Staff Canteen and the IRTC Restaurant, on campus to cater to the needs of employees and students.

13.15. Crèche

A crèche is functioning on the campus for the benefit of the staff and working women. There were about 157 children in the crèche during the period under report.

13.16. Transport Services

The institute has eight LYNX buses that provide transport facilities to the staff, students and residents of the campus. Transport facilities are also available for official work

13.17. Security Section

Introduction

The Security section of the IITM is vested with the task of ensuring the security of men and materials in the campus. The section is also responsible for maintaining peace and harmonious coexistence of campus residents.

This section mainly focuses on the following areas:

- Security of institute property and coordination with law-enforcement agencies
- Regulating men and materials through gates
- Traffic management
- Patrolling
- Maintenance of fire equipment for prevention of any fire mishap; regular checking and testing of the equipment
- Fire safety training for students, staff and faculty, and schools; evacuation drill

ISO

The Security section is an ISO 9001-2008 certified unit and maintains its standards and work procedures. There is periodical review of procedures, and manual are updated in consultation. The ISO internal audit was conducted on 4 July 2018 by Dr. Arshinder Karur, Associate Professor of Management Studies, and S. M. Fathima, Senior Assistant of Finance and Accounts, and on 4 January 2019 by Dr. Arshinder Karur, Associate Professor of Management Studies, D. Anitha, Junior Assistant of Stores and Purchase, and S. Muthumari, Technical Superintendent of Central Library.

Findings

The quality systems and procedures' manual of the Security section defines the organisational structure and roles and responsibilities of personnel. It addresses the following:

- Risk and opportunities identified to meet quality requirements
- Primary and secondary responsibilities of the section
- Verification of complaint register
- Resolution of customer complaints through feedback and customer satisfaction index (CSI)

Important activities/events managed during the year

55th Convocation: 20 July 2018

During the convocation, the Security section ensured the following arrangements:

- Security and fire safety arrangements at the main venue (SAC) and AC Annexure.
- Installation of security gadgets, such as hand-held metal detector (HHMD) and mobile jammer, at both the locations; faculty and student volunteers detailed to carry out various tasks under the chairmanship of Dr. Srineenivasa Kumar.
- Presence of police and fire service personnel during the programme

Band party from Officer's Training Academy (OTA) arranged for rehearsal and convocation

Independence Day Celebrations

The 72nd Independence Day celebration was held at Manohar C Watsa Stadium on 15 August 2018. In the ceremonial parade, eight contingents participated. A sports contingent of students was a part of the celebration this time. In addition, the band team of Vanavani school students turned up with 20 participants. The best marching contingent was adjudged to Vanavani School.



Republic Day Celebrations

The 70th Republic Day was celebrated on 26 January 2019 at Manohar C Watsa Stadium. The ceremonial parade had nine contingents, including the new sports contingent of students. The band team of Vanavani school students, with 20 participants, also participated and won the best marching contingent title.



Shaastra and Saarang

The technical festival, Shaastra took place from 3-6 January 2019 and the cultural festival Saarang from 6-13 January 2019.

The security and fire safety arrangements for both the festivals were made by the section. In addition, traffic management was done at vital points for smooth vehicular movement and crowd management. The team used security gadgets like HHMD and prepared faculty and student volunteers to carry out various tasks.

Police and fire service personnel were present during the programmes.

Automated gate

Remote-controlled sliding gates were installed at Velachery Gate to restrict the entry of stray dogs inside the campus and check visitors' entry (pedestrian as well as vehicles).

CCTV coverage

The cameras installed at SFC have been video-linked to Duty Room for monitoring the movement of men and materials in the campus. Engineering Unit and Computer Centre has provided pole erection, power supply and net cable, respectively. The section periodically checks these cameras and others installed in the academic, hostel and residential areas.

Computerisation of passes

Various passes issued by the Security section have been computerised with QR code for easy identification.

Visitors pass

The visitor passes issued at the gates are being issued through ticketing machines instead of issuing manually.

Purchase of fire extinguishers

The section has purchased 700 fire extinguishers (CO₂ - 2 and 4 kg each, 200 nos; ABC - 1, 2, 4 kg each, 100 nos) with IS:15683, and installed with QR coding at various locations. The damaged fire extinguishers have been replaced.

Campus visit and security arrangements

There were security, traffic and parking arrangements during the following VIP visits:

- 6 December 2018: Dr. Nand Kumar Sai, Hon'ble Chairperson, National Commission for Scheduled Tribes (NCST), having the status of Union Minister, Gol during a

visit to IIT Madras

- 25 January 2019: Dr Harsh Vardhan, Hon'ble Minister of Science and Technology and Earth Sciences, and Environment, Forest and Climate Change, Gol during a visit to IIT Madras and Research Park.

Installation of ticketing machines at gates



The section has procured seven ticketing machines to issue visitors' pass for cars, two-wheelers and auto-rickshaws. Out of these, two machines with a bar code facility, scan and record the out time (Out gate). The data of each machine gets downloaded or uploaded to the system on daily basis. In addition, procurement of three machines, including one bar code scanner, is under progress.

Features of the parking machine

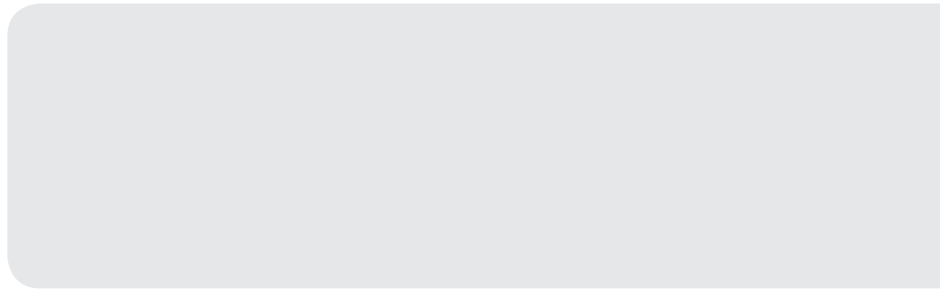
- Notes the number of vehicles getting in/out
- Makes operator-wise (to find the operator on duty) and time/date-wise reports
- Notes the details of a single vehicle
- Transfers all the reports to system

Ticketing machine with barcode

- A barcode helps in scanning the outgoing vehicles' out times.
- The details of the number of vehicles going out can be generated.
- Time/date-wise report of the vehicles can be taken.
- Manual option is also available if the bar code is not able to scan the slip.

13.18. Campus News

Published every Friday, the *Campus News* highlights the important events of the institute



Finance and Accounts

The financial year of the institute corresponds with that of the Government of India (1 April to 31 March of the following year). The accounts of the institute are annually audited by the Principal Accountant General (Tamil Nadu and Puducherry), Chennai on behalf of the Comptroller and Auditor General of India.

The 87th Finance Committee of the institute, in its meeting held on 30 November 2018, recommended revised estimates of ₹717.92 crore (gross) for the year 2018-19 and budget estimates of ₹747.00 crore (gross) for the year 2019-20

under Revenue expenditure head. The committee also recommended a revised estimate of ₹82.50 crore for 2018-19 and budget estimate of ₹114.00 crore for 2019-20 under the capital expenditure. The same were approved by the Board of Governors of the institute in their 239th meeting held on 30 November 2018.

The following is a summary of the revised estimates for 2018-19 and budget estimates for 2019-20 under the revenue expenditure and capital expenditure as approved by the Board of Governors of the institute in the 239th meeting.

(Figures in crore of Rs.)

Item	Budget Estimate 2018-19	Revised Estimate 2018-19	Budget Estimate 2019-20
Grant under OH-36 and OH31			
Institute income projected	89.14	89.14	91.20
Grant projected for salary (OH-36)	305.90	290.07	307.35
Grant projected for Pension and Pensionary Benefits (OH-31)	105.20	105.20	110.00
Grant for scholarships (OH-31)	101.00	101.00	110.00
Grant for non-salary component (OH-31)	194.82	221.65	219.65
Grant expected under OH-36 and OH-31	706.92	717.92	747.00
Grant under OH-35			
Grant projected for Asset creation	66.02	82.50	114.00
Grant expected under OH-35	66.02	82.50	114.00

Audit

The annual accounts of the institute for 2017-18 were audited by the Principal Accountant General (Tamil Nadu and Puducherry) in June-July 2018. A certified copy of the annual accounts, with the audit report, was sent to the Ministry of Human Resource Development (MHRD) after the annual accounts were duly adopted by the Board of Governors on 12 December 2018 to enable the MHRD to arrange placing the same before both the Houses of Parliament during winter session



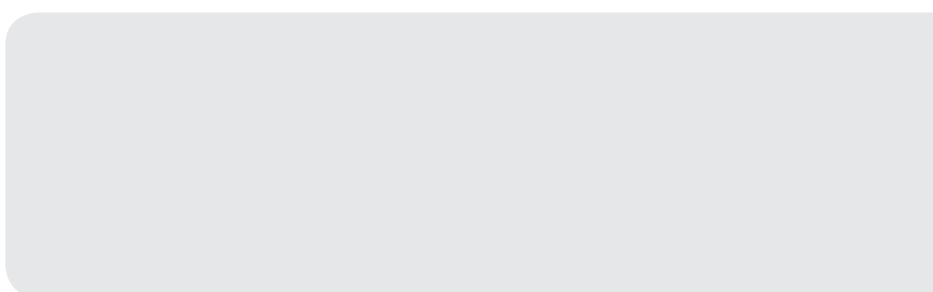
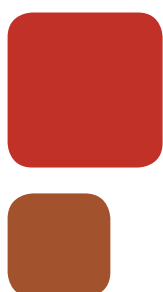
Summary of provisional plan and non-plan grant utilisation for 2018-09

(Figures in crore of Rs.)

Item	Amount
Grant under OH-35	
Opening balance	0.84
Grant received under OH-35	76.71
Total funds available under OH-35	77.55
Expenditure under OH-35	
Building and electrical installation	24.93
Academic equipment	10.15
Equipment for specialised centre	
• Infrastructure (furniture/computers, etc)	4.54
• Periodicals/journals/books for library	18.05
Total Expenditure under OH-35	57.67
Grant under OH-31 and OH-36	
Opening balance	-23.77
Grant received under OH-31 and OH-36	508.89
Institute Income	82.00
Total funds available under OH-31 and OH-36	567.12
Expenditure under OH-31 and OH-36	
Salary and related items (OH-36)	212.10
Pension and other terminal benefits (OH-31)	117.84
Scholarship payments (OH-31)	96.93
Non-salary, non-pension items (OH-31)	148.44
(Other components) Total Expenditure under OH-31 and OH-36	575.31

The balance of the Corpus Fund as on 31 March 2019 was ₹264.94 crore, and the balance of the Institute Endowment account as on 31 March 2019 was ₹114.66 crore





Publications

Papers published in national and international journals

1. Dandekar, R., Picardo, J.R., Pushpavanam, S. 2018. Layered two-phase flows in microchannels with arbitrary interface-wall contact angles. *Chemical Engineering Science* 192: 1058-1070. doi: 10.1016/j.ces.2018.08.036
2. Adachi, I., Auye, T., Zupanc, A., et al. 2018. First evidence for $\cos 2\beta > 0$ and resolution of the Cabibbo-Kobayashi-Maskawa quark-mixing unitarity triangle ambiguity. *Physical Review Letters* 121 (26). Cited by: 1. doi: 10.1103/PhysRevLett.121.261801
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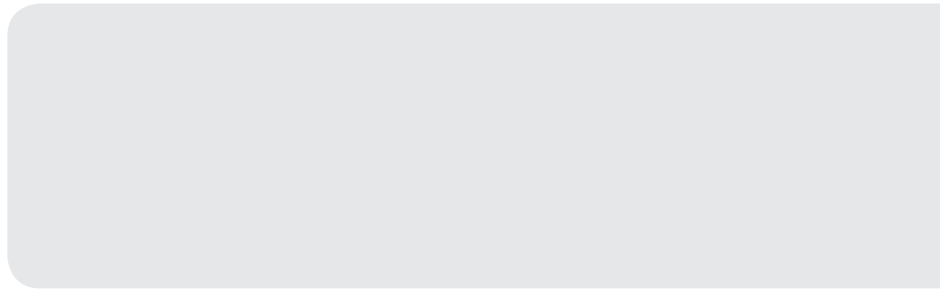
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Appendix 1: The Senate

Chairman: Prof. Bhaskar Ramamurthi

Sl. No.	Name	Department
1.	Amit Kumar	Aerospace Engineering
2.	Bhaskar K	Aerospace Engineering
3.	Chakravarthy S.R.	Aerospace Engineering
4.	Luoyi Tao	Aerospace Engineering
5.	Murthy Haradanahalli S N	Aerospace Engineering
6.	Nandan Kumar Sinha	Aerospace Engineering
7.	Ramakrishna M	Aerospace Engineering
8.	Ramakrishna P A	Aerospace Engineering
9.	Sameen Abdulvahab	Aerospace Engineering
10.	Sivasambu Mahesh	Aerospace Engineering
11.	Sriram P	Aerospace Engineering
12.	Sujith R I	Aerospace Engineering
13.	Sunetra Sarkar	Aerospace Engineering
14.	Muruganandam T M	Aerospace Engineering
15.	Velmurugan R	Aerospace Engineering
16.	Anuradha Banerjee	Applied Mechanics
17.	Arockiarajan A	Applied Mechanics
18.	Lakshmana Rao C	Applied Mechanics
19.	Mahesh Panchagnula	Applied Mechanics
20.	Manivannan M	Applied Mechanics
21.	Prasad Patnaik B S V	Applied Mechanics

Sl. No.	Name	Department
22.	Ramakrishnan Swaminathan	Applied Mechanics
23.	Ramasubba Reddy M	Applied Mechanics
24.	Ramesh K	Applied Mechanics
25.	Sayan Gupta	Applied Mechanics
26.	Sivakumar M S	Applied Mechanics
27.	Sujatha Narayanan Unni	Applied Mechanics
28.	Vengadesan S	Applied Mechanics
29.	Amal Kanti Bera	Biotechnology
30.	Anju Chadha	Biotechnology
31.	Chandraraj K	Biotechnology
32.	Gopala Krishna Aradhyam	Biotechnology
33.	Guhan Jayaraman	Biotechnology
34.	Karunakaran D	Biotechnology
35.	Mahalingam S	Biotechnology
36.	Michael Gromiha M	Biotechnology
37.	Nitish R Mahapatra	Biotechnology
38.	Rama Shankar Verma	Biotechnology
39.	Rayala Suresh Kumar	Biotechnology
40.	Sanjib Senapati	Biotechnology
41.	Sathyanarayana Naidu G	Biotechnology



Sl. No.	Name	Department
42.	Srinivasa Chakravarthy V	Biotechnology
43.	Subramaniam K	Biotechnology
44.	Suraishkumar G K	Biotechnology
45.	Abhijit P. Deshpande	Chemical Engineering
46.	Arun K Tangirala	Chemical Engineering
47.	Kannan A	Chemical Engineering
48.	Nagarajan R	Chemical Engineering
49.	Niket Satish Kaisare	Chemical Engineering
50.	Tapobrata Panda	Chemical Engineering
51.	Preeti Aghalayam	Chemical Engineering
52.	Pushpavanam S	Chemical Engineering
53.	Raghuram Chetty	Chemical Engineering
54.	Ragunathan Rengasamy	Chemical Engineering
55.	Rajagopalan Srinivasan	Chemical Engineering
56.	Ramanathan Srinivasan	Chemical Engineering
57.	Ravi R	Chemical Engineering
58.	Ravi Krishna R	Chemical Engineering
59.	Sai P S T	Chemical Engineering
60.	Shankar Narasimhan S	Chemical Engineering
61.	Sreenivas Jayanti	Chemical Engineering
62.	Sridharakumar N	Chemical Engineering
63.	Susy Varughese	Chemical Engineering
64.	Tanmay Basak	Chemical Engineering
65.	Upendra Natarajan	Chemical Engineering
66.	Archita Patnaik	Chemistry
67.	Bhaskaran S	Chemistry
68.	Bhyrappa P	Chemistry
69.	Debashis Chakraborty	Chemistry
70.	Dhamodharan R	Chemistry
71.	Dillip Kumar Chand	Chemistry
72.	Edamana Prasad	Chemistry
73.	Govindasamy Sekar	Chemistry
74.	Indrapal Singh Aidhen	Chemistry
75.	Mangala Sunder K	Chemistry
76.	Mishra A K	Chemistry

Sl. No.	Name	Department
77.	Muraleedharan K M	Chemistry
78.	Narasimha Murthy N	Chemistry
79.	Pradeep T	Chemistry
80.	Rajakumar B	Chemistry
81.	Ranga Rao G	Chemistry
82.	Sangaranarayanan M V	Chemistry
83.	Sanjay Kumar	Chemistry
84.	Sankararaman S	Chemistry
85.	Selvam P	Chemistry
86.	Sundargopal Ghosh	Chemistry
87.	Varadaraju U V	Chemistry
88.	Vidyasagar K	Chemistry
89.	Alagusundaramoorthy P	Civil Engineering
90.	Amlan Kumar Sengupta	Civil Engineering
91.	Ananthanarayanan K	Civil Engineering
92.	Appa Rao G	Civil Engineering
93.	Arul Jayachandran Sanjeevi	Civil Engineering
94.	Benny Raphael	Civil Engineering
95.	Bhairavavajjula Nageswara Rao	Civil Engineering
96.	Boominathan A	Civil Engineering
97.	Devdas Menon	Civil Engineering
98.	Dodagoudar G R	Civil Engineering
99.	Gandhi S R	Civil Engineering
100.	Indumathi Manivannan Nambi	Civil Engineering
101.	Karthik K Srinivasan	Civil Engineering
102.	Koshy Varghese	Civil Engineering
103.	Lelitha Devi Vanajakshi	Civil Engineering
104.	Ligy Philip	Civil Engineering
105.	Manu Santhanam	Civil Engineering
106.	Meher Prasad A	Civil Engineering
107.	Mohan S	Civil Engineering
108.	Murali Krishnan J	Civil Engineering
109.	Murthy B S	Civil Engineering



Sl. No.	Name	Department
110.	Murty C V R	Civil Engineering
111.	Raghukanth S T G	Civil Engineering
112.	Rajagopal K	Civil Engineering
113.	Ramamurthy K	Civil Engineering
114.	Ravindra Gettu	Civil Engineering
115.	Robinson R G	Civil Engineering
116.	Saravanan U	Civil Engineering
117.	Sathish Kumar S R	Civil Engineering
118.	Satyanarayana K N	Civil Engineering
119.	Shiva Nagendra S M	Civil Engineering
120.	Sivanandan R	Civil Engineering
121.	Sudheer K P	Civil Engineering
122.	Srinivasan K	Civil Engineering
123.	Veeraragavan A	Civil Engineering
124.	Anurag Mittal	Computer Science and Engineering
125.	Chandrasekhar C	Computer Science and Engineering
126.	Deepak Khemani	Computer Science and Engineering
127.	Gonsalves T A	Computer Science and Engineering
128.	Hema A Murthy	Computer Science and Engineering
129.	Janakiram D	Computer Science and Engineering
130.	Kamakoti V	Computer Science and Engineering
131.	Krishna Moorthy Sivalingam	Computer Science and Engineering
132.	Madhu Mutyam	Computer Science and Engineering
133.	Narayanaswamy N S	Computer Science and Engineering
134.	Pandurangan C	Computer Science and Engineering
135.	Ravindran B	Computer Science and Engineering
136.	Siva Ram Murthy C	Computer Science and Engineering

Sl. No.	Name	Department
137.	Sreenivasa Kumar P	Computer Science and Engineering
138.	Sukhendu Das	Computer Science and Engineering
139.	Andrew Edwin Raj T	Electrical Engineering
140.	Anjan Chakravorty	Electrical Engineering
141.	Amitava Dasgupta	Electrical Engineering
142.	Anil Prabhakar	Electrical Engineering
143.	Aravind R	Electrical Engineering
144.	Balaji Srinivasan	Electrical Engineering
145.	Bijoy Krishna Das	Electrical Engineering
146.	Christopher	Electrical Engineering
147.	Devendra Jalihal	Electrical Engineering
148.	Enakshi Bhattacharya	Electrical Engineering
149.	Giridhar K	Electrical Engineering
150.	Harishankar Ramachandran	Electrical Engineering
151.	Jagadeesh Kumar V	Electrical Engineering
152.	Jhunjhunwala A	Electrical Engineering
153.	Karmalkar S	Electrical Engineering
154.	Krishna Vasudevan	Electrical Engineering
155.	Mahesh Kumar	Electrical Engineering
156.	Nandita DasGupta	Electrical Engineering
157.	Rajagopalan A.N.	Electrical Engineering
158.	Ravinder David Koilpillai	Electrical Engineering
159.	Sarathi R	Electrical Engineering
160.	Shanti Bhattacharya	Electrical Engineering
161.	Shanthi Pavan Y	Electrical Engineering
162.	Shanthi Swarup K	Electrical Engineering
163.	Sridharan K	Electrical Engineering
164.	Srikrishna Bhashyam	Electrical Engineering
165.	Srinivasan Umesh	Electrical Engineering
166.	Vinita Vasudevan	Electrical Engineering
167.	Asokan Thondiyath	Engineering Design
168.	Nilesh J. Vasa	Engineering Design
169.	Krishnakumar R	Engineering Design
170.	Rengaswamy Jayaganthan	Engineering Design



Sl. No.	Name	Department
171.	Shankar Ram C S	Engineering Design
172.	Srikanth Vedantam	Engineering Design
173.	Venkatesh Balasubramanian	Engineering Design
174.	Aysha Iqbal Viswamohan	Humanities and Social Sciences
175.	Jyotirmaya Tripathy	Humanities and Social Sciences
176.	Malathy Duraisamy	Humanities and Social Sciences
177.	Muraleedharan V R	Humanities and Social Sciences
178.	Senkamalam Periyasamy Dhanavel	Humanities and Social Sciences
179.	Srilata K	Humanities and Social Sciences
180.	Sreekumar N	Humanities and Social Sciences
181.	Sudhir Chella Rajan	Humanities and Social Sciences
182.	Suresh Babu M	Humanities and Social Sciences
183.	Swarnalatha R	Humanities and Social Sciences
184.	Umakant Dash	Humanities and Social Sciences
185.	Arun Kumar G	Management Studies
186.	Ganesh L S	Management Studies
187.	Kamalanabhan T J	Management Studies
188.	Krishna Prasanna P	Management Studies
189.	Madhumathi R	Management Studies
190.	Prakash Sai L	Management Studies
191.	Rajendran C	Management Studies
192.	Saji K Mathew	Management Studies
193.	Srinivasan G	Management Studies
194.	Sundarraaj R P	Management Studies
195.	Thenmozhi M	Management Studies
196.	Thillai Rajan A	Management Studies
197.	Arindama Singh	Mathematics
198.	Chidella Srinivasa Rao	Mathematics
199.	Ponnusamy S	Mathematics

Sl. No.	Name	Department
200.	Radha R	Mathematics
201.	Rama R	Mathematics
202.	Sanyasiraju Y V S S	Mathematics
203.	Satyajit Roy	Mathematics
204.	Sivakumar K C	Mathematics
205.	Sundar S	Mathematics
206.	Thamban Nair M	Mathematics
207.	Vetrivel V	Mathematics
208.	Arunn Narasimhan	Mechanical Engineering
209.	Babu V	Mechanical Engineering
210.	Balaji C	Mechanical Engineering
211.	Chandramouli P	Mechanical Engineering
212.	Dhiman Chatterjee	Mechanical Engineering
213.	Gnanamoorthy R	Mechanical Engineering
214.	Krishnan Balasubramaniam	Mechanical Engineering
215.	Krishna Kannan	Mechanical Engineering
216.	Mallikarjuna J M	Mechanical Engineering
217.	Mani A	Mechanical Engineering
218.	Prakash Maiya M	Mechanical Engineering
219.	Prasad B V S S S	Mechanical Engineering
220.	Raghavan V	Mechanical Engineering
221.	Raghu Prakash V	Mechanical Engineering
222.	Raju Sethuraman	Mechanical Engineering
223.	Ramesh A	Mechanical Engineering
224.	Ramesh Babu N	Mechanical Engineering
225.	Samuel G L	Mechanical Engineering
226.	Sarit K Das	Mechanical Engineering
227.	Seshadri Sekhar A	Mechanical Engineering
228.	Shaligram Tiwari	Mechanical Engineering
229.	Shankar Krishnapillai	Mechanical Engineering
230.	Shamit Bakshi	Mechanical Engineering
231.	Srinivasan K	Mechanical Engineering
232.	Srinivasa Reddy K	Mechanical Engineering
233.	Sujatha C	Mechanical Engineering
234.	Sujatha Srinivasan	Mechanical Engineering
235.	Sundararajan T	Mechanical Engineering



Sl. No.	Name	Department
236.	Vekatarathnam G	Mechanical Engineering
237.	Balasubramanian M	Metallurgical and Materials Engineering
238.	Bhattacharya S S	Metallurgical and Materials Engineering
239.	Gabbita Durga Janaki Ram	Metallurgical and Materials Engineering
240.	Ganesh Sundara Raman S	Metallurgical and Materials Engineering
241.	Harikumar K C	Metallurgical and Materials Engineering
242.	Kamaraj M	Metallurgical and Materials Engineering
243.	Murty B S	Metallurgical and Materials Engineering
244.	Prathap Haridoss	Metallurgical and Materials Engineering
245.	Ranjit Bauri	Metallurgical and Materials Engineering
246.	Ravikumar N V	Metallurgical and Materials Engineering
247.	Sampath Kumar T S	Metallurgical and Materials Engineering
248.	Sampath V	Metallurgical and Materials Engineering
249.	Sankaran Shanmugam	Metallurgical and Materials Engineering
250.	Subramanya Sarma V	Metallurgical and Materials Engineering
251.	Sundararajan G	Metallurgical and Materials Engineering
252.	Udaychandran Chakkingal	Metallurgical and Materials Engineering
253.	Gandham Phanikumar	Metallurgical and Materials Engineering
254.	Bhattacharyya S K	Ocean Engineering
255.	Krishnan Kutty P	Ocean Engineering
256.	Murali K	Ocean Engineering
257.	Nallayarasu S	Ocean Engineering
258.	Panner Selvam R	Ocean Engineering
259.	Sannasiraj S A	Ocean Engineering
260.	Shanmugam P	Ocean Engineering

Sl. No.	Name	Department
261.	Srinivasan Chandrasekaran	Ocean Engineering
262.	Sundaravadivelu R	Ocean Engineering
263.	Surendran S	Ocean Engineering
264.	Suresh Kumar G	Ocean Engineering
265.	Ananthakrishnan P	Ocean Engineering
266.	Arul Lakshminarayan L	Physics
267.	Ganesan A R	Physics
268.	Harish Kumar N	Physics
269.	James Frederick Libby	Physics
270.	Jatindra Kumar Rath	Physics
271.	Kasiviswanathan S	Physics
272.	Lakshmi Bala S	Physics
273.	Markandeyulu G	Physics
274.	Neelima M Gupte	Physics
275.	Prem B. Bisht	Physics
276.	Ramachandra Rao M S	Physics
277.	Ramaprabhu S	Physics
278.	Sankaranarayanan V	Physics
279.	Santhosh P.N	Physics
280.	Satyanarayana M V	Physics
281.	Sethupathi K	Physics
282.	Srinivas V	Physics
283.	Sriramkumar L	Physics
284.	Subrahmanyam A	Physics
285.	Subramanian V	Physics
286.	Sunil Kumar P B	Physics
287.	Suresh Govindarajan	Physics
288.	Vijayan C	Physics

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1. Dr. Jane Prasad, Registrar
IP&TAFS

Student Members

1. Kandula J Rahul Reddy Academic Affairs Secretary
2. Sudharshan R Research Affairs Secretary
3. Kompella Kasyapa Sriram Students General Secretary



Appendix 2: Board of Academic Courses

Chairman: Prof. V. Jagadeesh Kumar, Dean, Academic Courses

Ex-officio	Dr. Amitava Ghosh, Mechanical Engineering
Prof. K. Ramamurthy	Dr. Parasuram Swaminathan, Metallurgical and Materials Engineering
Prof. A. K. Mishra, Dean, Academic Research	Dr. P. Krishnankutty, Ocean Engineering
Prof. M. S. Sivakumar, Dean, Students	Dr. Manoj Gopalakrishnan, Physics
Members	Time Table Committee
Dr. Ranjith Mohan, Aerospace Engineering	Dr. Srinivasan K, Chairman, Time Table Committee
Dr. Dr.M. Manivannan, Applied Mechanics	Member - Ex-Officio
Dr. Vignesh Muthuvijayan, Biotechnology	Dr. Samuel G L, Advisor, WSS, ME
Dr. Ethayaraja Mani, Chemical Engineering	Dr. Ranga Rao G, Chief Advisor, MITr
Dr. Edamana Prasad, Chemistry	Student Member
Dr. Lelitha Devi, Civil Engineering	Chinmay Agarwal, Academic Affairs Secretary
Dr. Jayalal Sarma, M N, Computer Science and Engineering	Kushal, Students General Secretary
Dr. Palaniappan Ramu, Engineering Design	Invitee
Dr. S. Krishna, Electrical Engineering	Sri P Sarvaharna, DR (Research)
Dr. Sabuj Kumar Mandal, Humanities and Social Sciences	Secretary - Ex-officio
Dr. Chand A K B, Mathematics	Mr. D. Ravee, Deputy Registrar (Courses)
Dr. Lata Dyaram, Management Studies	

Appendix 3: Board of Academic Research

Chairman: Prof. A. K. Mishra, Dean (Academic Research)

1.	Prof. V. Jagadeesh Kumar, Dean (Academic Courses)	Member - Ex-Officio
2.	Prof. M. S. Sivakumar, Dean (Students)	"
3.	Dr. T M Muruganandam, Aerospace Engineering	Member
4.	Dr. Shaikh Faruque Ali, Applied Mechanics	"
5.	Prof. K. Subramanian, Biotechnology	"
6.	Dr. R. Vinu, Chemical Engineering	"
7.	Dr. Raghu Kanth S T G, Civil Engineering	"
8.	Dr. Dillip Kumar Chand, Chemistry	"
9.	Dr. Sutanu Chakraborti, Computer Science and Engineering	"
10.	Prof. B. Krishna, Electrical Engineering	"
11.	Dr. G Saravana Kumar, Engineering Design	"
12.	Dr. K. Srilata, Humanities and Social Science	"
13.	Dr. A. V. Jayanthan, Mathematics	"
14.	Dr. Usha Mohan, Management Studies	"
15.	Dr. Abhijit Sarkar, Mechanical Engineering	"
16.	Dr. S. R. Bakshi, Metallurgical and Materials Engineering	"
17.	Prof. Abdus Samad, Ocean Engineering	"



18.	Dr. S. Sivaramakrishnan, Physics	"
19.	Dr. G. Ranga Rao, Chief Advisor, MITr, Chemistry	"
20.	R Sudharshan, Research Affairs Secretary	Student Member
21.	Kompella Kasyapa Sriram, Students General Secretary	"
22.	Shri D. Ravee, Deputy Registrar (Courses)	Invitee
23.	Dr. S. Sathyan (IDRP Coordinator)	IDRP Invitee
24.	Shri R. Esakkimuthu, Joint Registrar (Research)	Secretary - Ex-officio

Appendix 4: Board of Students

Chairman: Prof. M. S. Sivakumar, Dean (Students)

Members

Prof. A.K. Mishra, Dean (Academic Research)
Prof. V. Jagadeesh Kumar, Dean (Academic Courses)
Prof. R. Nagarajan, Dean (International Alumni Affairs)
Prof. Satyanarayana N Gummedi, Chairman, Council of Wardens
Prof. P.N. Santhosh, Advisor (Sports)
Prof. Nandita DasGupta, Advisor (Cultural)
Dr. Arockiarajan, Advisor (Co-curricular)
Prof. Manu Santhanam, Advisor (Placement)
Prof. G. L. Samuel, Advisor (Weaker Section)
Prof. G. Ranga Rao, Advisor (MITr)
Prof. P. Chandramouli, Advisor (Internship)
Prof. P. Sudarshan, Advisor (CMGFS/SLC)
Dr. Mahesh Panchagnula, Advisor (IAR Affairs)
Dr. Ravindran Balaraman, Faculty Head (CFI)
Dr. Bobby George, Deputy Faculty Head (CFI)
Dr. Preeti Agalyam, Advisor, T5E and Extra Mural Lecture
Dr. V. Vijayalakshimi, Advisor (Saathi)
Dr. Ashwin Mahalingam, Advisor, E-cell
Prof. K C Sivakumar, Chief Coordinator (NSS)
Dr. G. Suresh Kumar, Chief Coordinator (NCC)
Dr. P. Shanmugam, Chief Coordinator (NCC)
Dr. Benny Raphael, Chief Election Officer
Dr. Gopalkrishna, Chair, Mess Monitoring Committee
Dr. Palaniappan Ramu, Co-Advisor (S-reach)
Mr. V. Swaminathan, Deputy Registrar (Administration)
Mr. R. Esakkimuthu, Joint Registrar (Academic)
Lt. Col. (Retd.) Jayakumar, Joint Registrar (Students)

Student Members

Mr. Amarjyoti, Speaker (SAC)
Mr. Kompella Kasyapa Sriram, Students General Secretary (SGS)

Mr. Kandula J Rahul Reddy, Secretary (Academic Affairs) (SAA)
Mr. Sudharshan R, Secretary (Research Affairs) (SRA)
Mr. Ayush Choudhary, Chairperson (Sub-committee for General Affairs)
Mr. Sidharth Agrawal, Chairperson (Sub-committee for Cultural Affairs)
Mr. P.Y.V.S. Srikara Ram Charanroy, Chairperson (Sub-committee for Hostel Affairs)
Mr. Shubham Singh Rawat, Chairperson (Sub-committee for Sports Affairs)
Mr. Saroj Kr Kushwaha, Chairperson (Sub-committee for International and Alumni Relations)

Relations

Mr. Akash Mitra, Chairperson (Sub-committee for Academic Affairs)
Mr. MD Saad Hussain Barsania, Chairperson (Sub-committee for Research Affairs)
Mr. Shah Kavish Kulin, Chairperson (Sub-committee for Co-curricular Affairs)
Mr. Ankush kumar Mishra, Chairperson (Sub-committee for Social Equity)
Mr. Parthiv P Kidangoor, Chairperson (Sub-committee for Health, Hygiene and Environment)

Environment

Mr. Mula Vamsi Krishna, Secretary (Co-Curricular Affairs)
Mr. Nihal K, Secretary (Hostel Affairs) (HAS)
Mr. R Kishore Yadav, Secretary (Sports)
Mr. G. Subba Reddy, Secretary (Cultural Affairs, Arts)
Mr. Gear Harishith Srinivas, Secretary (Cultural Affairs, Literary)
Mr. Dhruv Jain, Secretary (International and Alumni relations)
Mr. Raghav S Vaidyanathan, Student Head, CFI and T5E Chief Student Editor

Appendix 5: Board of Industrial Consultancy and Sponsored Research

Chairman: Dr. Ravindra Gettu, Dean, IC&SR

Dr. Krishnan Balasubramanian (Ex-Officio)
Member

Dr. Mahesh Panchagnula, Dean, I&AR (Ex-Officio)
Member

Dr. A. K. Mishra, Dean, Academic Research (Ex-Officio)
Member

Dr. Jane Prasad, Registrar (Ex-Officio)
Member

Dr. Ashok Jhunjhunwala, Department of Electrical
Engineering
Faculty In-charge IITMRP and IITM IC

Dr. P. A. Ramakrishna, Department of Aerospace
Engineering

Dr. S. Vengadesan, Department of Applied Mechanics

Dr. S. Mahalingam, Department of Biotechnology

Dr. Raghunathan Rengaswamy, Department of
Chemical Engineering

Dr. G. Ranga Rao, Department of Chemistry

Dr. K. Rajagopal, Department of Civil Engineering

Dr. B. Nageswara Rao, Department of Civil
Engineering

Dr. V. Kamakoti, Department of Computer Science and
Engineering

Dr. Devendra Jalihal, Department of Electrical
Engineering

Dr. R. Jayaganthan, Department of Engineering
Design

Dr. V. R. Muraleedharan, Department of Humanities
and Social Sciences

Dr. A. Thillai Rajan, Department of Management
Studies

Dr. Sivaram Ambikasaran, Department of
Mathematics

Dr. B.V.S.S. Prasad, Department of Mechanical
Engineering

Dr. C. Sujatha, Department of Mechanical Engineering

Dr. B.S. Murty, Department of Metallurgical and
Materials Engineering

Dr. N. V. Ravi Kumar, Department of Metallurgical and
Materials Engineering

Dr. K. Murali, Department of Ocean Engineering

Dr. R. Sundaravadivelu, Department of Ocean
Engineering

Dr. S. Sivarama Krishnan, Department of Physics

Dr. V. Suresh, S.T.E.O, IC&SR (Ex-Officio)
Secretary

The IIT Madras Director selected two faculty, each from Assistant Professor and Associate Professor, from the below panel as additional members of the IC&SR Board.

Assistant Professor

Dr. Tuhin Subhara Santra, EDD

Dr. T. N. C. Anand, MEE

Associate Professor

Dr. Mohansankar, ELE

Dr. Ranjish Kumar, CHE

Dr. Shanti Pavan, Department of Electrical
Engineering
Director's nominee

Dr. T. Pradeep, Department of Chemistry
Director's nominee

Appendix 6: Library Advisory Committee

Chairman: Prof. K. Ramamurthy, Civil Engineering

Members

Dr. A. Sameen, Aerospace Engineering

Dr. Abhijit Chaudhuri, Applied Mechanics

Prof. Nitish R Mahapatra, Biotechnology

Dr. Sridharakumar Narasimhan, Chemical Engineering

Dr. G. Sekar, Chemistry

Dr. Subhadeep Banerjee, Civil Engineering

Dr. B. V. Raghavendra Rao, Computer Science and Engineering

Dr. Kavitha Arunachalam, Engineering Design

Dr. Kaushik Mitra, Electrical Engineering

Dr. Anindita Sahoo, Humanities and Social Sciences

Dr. Rupashree Baral, Management Studies

Dr. Sounaka Mishra, Mathematics

Dr. Pallab Sinha Mahapatra, Mechanical Engineering

Dr. Sabita Sarkar, Metallurgical and Materials Engineering

Dr. Tarun K. Chandrayadula, Ocean Engineering

Dr. Aravind G., Physics

Student Member

Kandula J Rahul Reddy, Secretary (Academic Affairs) (SAA)

R Sudharshan, Research Affairs Secretary

Library and Member Secretary

Dr. Mahendra N. Jadhav

Appendix 7: The Finance Committee

Dr. Pawan Goenka Executive Director Mahindra & Mahindra Mahindra Towers, Mumbai	Chairman
Prof. Bhaskar Ramamurthi Director Indian Institute of Technology Madras Chennai - 600 036	Member
Shri. Sukhbir Singh Sandhu Additional Secretary (TE) Department of Higher Education Ministry of Human Resource Development Government of India, Shastri Bhavan, New Delhi - 110 115	(Ex-officio)* Member
Shri. Anil Kumar Director (Finance) Integrated Finance Division, Department of Higher Education, Ministry of Human Resource Development Government of India, Shastri Bhavan, New Delhi - 110 115	(Ex-officio)* Member
Shri. K. Vivekanandan, I.A.S. Director, Directorate of Technical Education Government of Tamil Nadu, Chennai - 600 025	Member
Dr K.P. Indiradevi Director Directorate of Technical Education Government of Kerala, Padmavilasom, Fort Thiruvananthapuram - 695 023	Member
Prof. Koshy Varghese Dean (Administration), IIT Madras	Invitee
Prof. Ligy Philip Dean (Planning), IIT Madras	Invitee
Deputy Registrar (F&A)/Deputy Registrar (Audit) IIT Madras	Invitees
Dr Jane Prasad, IP&TAFS Registrar Indian Institute of Technology Madras Chennai - 600 036	Secretary

Appendix 8: Building and Works Committee

Prof. Bhaskar Ramamurthi Director IIT Madras	Chairman
Shri K Muthu Chief Engineer (Distribution), Chennai Region (South) Tamil Nadu Electricity Board, Electricity Avenue, 5-A, Block, First Floor No. 802, Anna Salai, Chennai - 600 002	Member
Shri Vivek Bansal Superintending Engineer Chennai Central Circle – II Central Public Works Department Shastri Bhavan, Chennai - 600 006	Member
Prof. Ligy Philip Dean (Planning) IIT Madras	Member
Prof. K. Murali Chairman (Engineering Unit) IIT Madras	Member
Dr Jane Prasad, IP&TAFS Registrar IIT Madras	Member – Secretary
Shri H Anantharaman, IRSE Superintending Engineer Engineering Unit IIT Madras	Member

