Project Theme: Antiviral nano-coating for materials used for making N-95 respirator and medical masks

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Project Summary:

Currently almost the whole world is facing COVID-19 pandemic, caused by a novel corona virus, SARSCoV-2, as declared by the World Health Organization (WHO). SARS-CoV-2 is a highly contagious virus which spreads through the droplet from coughs or sneezes of an infected person. As per the recent reports, the virus can remain infectious on surfaces for several hours to days and if any person touches this active surface and then touches his/her mouth, nose or eyes, the virus will infect him/her. Although, simple disinfectants can break the delicate envelope that surrounds the SARS-CoV-2, practically it's not possible to sanitize all the surfaces all the time. We plan to develop antiviral nano-coating based on polyelectrolyte to provide enhanced layer of protection in the personal protective equipment used by the frontline healthcare workers.

Objectives:

- Preparation of antiviral nano-coating based on polyelectrolytes.
- Investigation of the efficiency of the antiviral nano-coating.

Expected outcome of the proposal

The major outcome of the proposed project will contribute to the development of antiviral nano-coating for materials used for making N-95 respirator and medical masks. The coating is expected to be there for long, no matter how many times it is touched, or even cleaned. Once validated, personal protective equipment, used by frontline healthcare personnel can be coated with it, to impart enhanced protection and safety to them.