

## Report on Webinar on “SARS CoV-2 Testing/Diagnosis: NANOMATERIAL-BASED BIOSENSORS USING PHYSICAL PERSPECTIVE”

Galgotias College of Engineering and Technology, Applied science physics organized a webinar “SARS CoV-2 Testing/Diagnosis: NANOMATERIAL-BASED BIOSENSORS USING PHYSICAL PERSPECTIVE” on 14<sup>th</sup> June 2020. There were more than 200 faculty, research scholar participated from different country like Germany, Korea, Britain, Taiwan and other national research institute and organization. The speaker of webinar was Dr. Sudhist Kumar Srivastava, assistant professor, Gautam Buddha University Greater Noida. The webinar was organized by Dr. Pankaj Pathania assistant professor, applied science physics under the guidance of Dr. Rajesh Tripathi (HOD- Applied science) and Dr. Rajendra Prasad (coordinator- Physics).

As we all know about the current pandemic situations arise because of the SARS CoV-2 virus which causes COVID-19 disease. In response to this pandemic, various countries have made different policies as per their financial conditions, population, etc. For example India fight with this virus by lockdown, low population countries like Sweden believe in hard immunity but South Korea comes out as the most successful policy, “**The policy is testing/ diagnosis**”.

Nanotechnology, specifically the discovery of Graphene in 2004 provides hope for the development of solid-state DNA/RNA sequencing devices for testing/diagnosis. The proposed device is based on Nanopores in the 2D membrane. Using Graphene-based nanopores one can able to do a very interesting DNA/RNA analysis without using any primers as used by transcription-polymerase chain reaction (RT-PCR). It will be a very fast and extremely low-cost diagnosis technique for all known and unknown virus outbreaks. So the development of graphene Nano-pore based solid-state Nano-device will provide a great opportunity for the researchers willing to do work in interdisciplinary research subjects like biophysics.

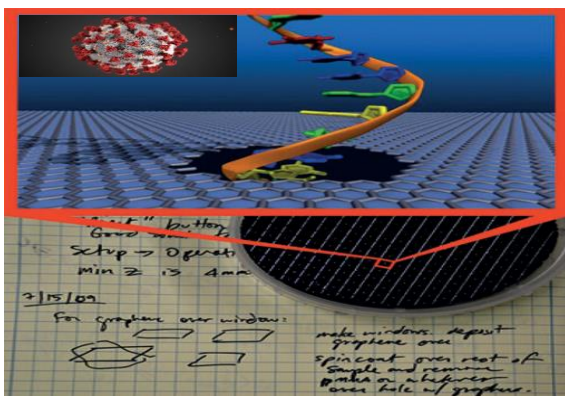


Figure: Illustration of a single-stranded DNA molecule passing through a graphene nanopore. Bottom: Photograph of a solid-state wafer with hundreds of nanopore chips.

The webinar encourages the people working in industrial research for their significant contributions in medical research to make revolutionary transformations in medical diagnosis. The scope proposed devices lie in the well-developed material science, the discovery and understanding of functional materials like Graphene by physicists. Without well-developed material, science, and discovery of graphene one cannot even imagine DNA sequencing. The e-certificate are provides to all participants.