

## **NIPER-G, HAL team up for 3D antimicrobial face-shields**

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### **NIPER Files patent for its 3D products developed & designed with view to contain covid-19**

National Institute of Pharmaceuticals Education and Research (NIPER)-Guwahati, a premier Institute of National Importance under the Department of Pharmaceuticals, Union Ministry of Chemicals and Fertilizers, Govt. of India is committed to providing a useful contribution cum solution in terms of developing Personal Protective Equipment's (PPEs) to avoid the fatal spread of COVID-19 transmission .

Director Dr U S N. Murty informed that he signed MoU with the Hindustan Antibiotic Limited (HAL, a PSU under Dept. of Pharmaceuticals, Govt. of India), Pimpri, Pune for large scale industrial-grade manufacturing and commercialization of their 3D printed antimicrobial face-shields.

NIPER-Guwahati has also filed both an Indian design patent and provisional patent at Indian Patent Office, New Delhi on their 3D printed antimicrobial face-shields.

NIPER-G has designed, developed & validated 3D-printed antimicrobial face-shield to control the spread of novel coronavirus, after careful analyses of several resources for risk measurement and on how viruses spread through bare hands and other body cavities like oral, ophthalmic & olfactory, etc. (even though ear as well). Some of the salient features of their developed 3D printed antimicrobial face-shields include, highly occlusive, transparent, easy-to-design, low cost, easy to wear, antimicrobial in nature, excellent chemical stability, non-fragile and easy to clean with the existing sanitizers or any alcoholic disinfectant.

In addition to this, NIPER-G designed & developed a 3D-printed multi-layer antimicrobial face mask to control the spread of novel coronavirus. The first layer of this mask will be anti-bacterial casing, the second layer will be the sanitizing layer and reducing exposure of airborne particulates. finally, the third layer will be the medicinal layer to prevent extra microbial attacks, etc.

Finally, NIPER-G has also developed & validated a 3D-printed hands-free multi-tasking object for opening or closing of the doors, windows, drawers (both vertical & horizontal), refrigerator handle, elevator buttons, laptop/desktop keyboards, including turning on/off switch buttons. This product is very handy, user-friendly, non-fragile, and easy to clean with the existing sanitizers or any alcoholic disinfectant.