

## Top 20 ideas from students & Project staffs of IITG for COVID-19 Challenge



Organized by IIT Guwahati jointly with IIT Guwahati Research Park

Crowd Control Using Drones (Mitigating risk by keeping local crowds and gatherings in check) ANGANA BHATTACHARYA, Research Scholar, Dept. of Physics

Proposes to increase the

Proposes to increase the awareness of citizens about monetary schemes, via an 'app' designed by the team so as to effectively release their economic pressure during COVID-19 pandemic.



Compact and cost-effective ventilator designi MRIDUMONI PHUKON Research Scholar, Dept. ofi

research Scholar, Dep To resolve the expected shortage of ventilators due to the COVID-19 pandemic, with pandemic, with a extended goal to make it low cost s to reach out to the and middle-inco



A Combinatorial Approach to Screen Covid-19 Patient from Normal Fluor Cold SUBRATA MONDAL Research Scholar, Dept. of Chemistry

Proposes a combination of analytical tests and computational methods to computational methody to converge in on the real COVID-19 cases, circumventing the use of the standard COVID-19 detection kit, and thus reducing the economic burden.

Economic assistance to the citizens VEDIKA KULKARNI, B.Tech, Dept. of CSE

Proposes to increase the awareness of citizens about monetary schemes, via an 'App' designed by the team, so as to effectively release netr economic pr during COVID-19 pandemic:

Novel optical technique to characterize the RNA sequence of SARS-CoV-2 BIKRAM BARUTI,

Proposes to make an Propses to make an interference pattern based detection of the nucleotide variants of the viral RNA. This will help to detect region wise mutation of the viral genome, on a global scale, hence having many applications.

Study of cured covid patients SONALI UTAGE, B.Tech, Mechanical Engg

Developing a machine learning based pattern recognition algorithm, to find useful data from cured cases of COVID-19.

One-step cost-effective fabrication of the highly efficient electrochemical sensor for instant detection of COVID-19 SUPRIYA DAS, Research Scholar, Dept. of Chemistry

Research Schotar, vep. of whome Proposes a paper based sensing approach with mobile interfacing, capable of breath as well as saliva testing, intending to bring down cost and testing time,

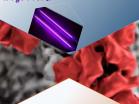


Repurposing of FDA approved drug for targeting NEDD8 activating engyme (NAE) of ubiquitination pathways to combat SARS-CoV-2 infection KEDAR SHARMA

Proposes a virtual screening based approach for evaluatin various PDA approved drugs factivity against a specific viro engyme, validation by computanalysis and evaluation by culture studies.

Autonomous UVC Bot PRATEEK MANOCHA, B.Tech, Dept. of EEE

Proposes robot based solutions using high intensity Ultraviolet sources capable of automated disinfection of



Rapid diagnosis of positive COVID-19 patient via RT-LAMP technique 19 patient via Ki "LAM" te GUNDAPPA SAHA, Research Scholar, Dept. of BSBE

Developing a RT-LAMP based test kit for virus detection, capable of being produced in an urgent basis, relieving the dependence or

The approach of inhibiting the endosomal acidification to accomplish anti-viral effects KAMAL SHOKEEN, Research scholar, Dept. of 858E

Proposes a method based on increasing the pH inside endosomes, so as to disrupt critical SARS-CoV viral

Detachable Door Handle Sanitizer System VISHWAS MISHRA,

Proposes a gravity assisted self-replenishing sanitizer unit based on a special detachable foam covering on door handles.

A traditional medicine approach for treatment of SARS-CoV-2 YOYA VASHI, Project Staff; Dept. of BSBE

Idea based on developing anti-viral compounds from natural plant based products. Low cost, and fever side effects are the expected benefits.



Possible therapeutic targets o SARS-COV-2 Infection Cycle SHAMBHAVI PANDEY, B.Tech, 3<sup>rd</sup> yr, Dept. of BSBE

approaches based on interference with the critical steps of the virus host interaction



Proposes an exploratory approach for finding out the immuno-boosting constituents from Ayurvedic drugs and natural products, to resist SARS-CoV.



etection of SARS-CoV-2 using Ultrasensitive Magnetic nanoparticle DNA probe-based PCR assay SUDHIR MORLA, Research Scholar, Dept. of BSBE

Proposes a Sandwich assay involving both gold and magnetic nanoparticles for signal amplification, followed by PCR based detection, which is more sensitive than conventional ELISA & PCR.

Indoor Sanitization Robot - An autonomous wheeled robot with multiple disinfectant spray nozzles to sanitize indoor places AMAN GOSWAMI, B.Tech, Dept. of Mechanical Engg.

Proposes to develop an automatic robot capable of cleaning an disinfecting floors and walls, using disinfectant spray

Eco-friendly Accessories to Prevent COVID-19 Impact on Mother Earth ABHISHEK SINGH earch Scholar, Centre for the

Proposes to address the non-recyclable material and wastes overload associated with the over trade associated with the management of the COVID-19 pandemic; by developing equivalent bio-degradable plastic alternatives.

Rapidly Manufacturable Emergency Ventilator for COVID-19 and related respiratory pandemics JOSEPH THARION, Sr. ProjectEngineer, NECBH

Proposes a basic design of a ventilator which can be assembled and set to go with local resources, so as to cope up with urgent scale ups needed during respiratory pandemics:

Smart N95 mask with nanor protection & enhanced ventilation SOMNATH CHANDA, Research Scholar, Centre for the

Proposes to address the shortcomings of the N95 mask by incorporating Activated charcoal adsorbant:

