

Research Recap from Dean (Research & Development) - Dr. Sumohana S. Channappayya

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The research community at IIT Hyderabad (IITH) has risen to the challenge of tackling COVID-19. Research efforts have focused on the development of sanitizers, masks, face shields and protective wear, ventilators and other hardware, drugs and vaccines, sensors, detectors and air purifiers, mobile apps and software, and understanding the socio-economic effects of COVID-19.

IITH has been actively serving the local community through the preparation and supply of 100 litres of sanitizers to the district collectorate. IITH faculty have been preparing sanitizers for supporting the operations of essential services of the IITH campus. An IITH incubated startup has helped in the manufacture of sanitizer bottles and masks for the local community.

The Center for Healthcare Entrepreneurship (CfHE) has been playing a major role in developing solutions to the problems thrown up by COVID-19. Startups incubated at the CfHE have designed low-cost portable ventilators, designed face masks and personal protective equipment (PPE), wearables for patient monitoring, designed antiviral coatings for PPE among other extremely useful solutions.

Faculty at IITH has been focused on designing UV based disinfectants, low-cost portable and scalable mechanically actuated

ventilators, Li batteries for thermal scanners and equipment, identifying drug targets for SARS-Cov-2, developing vaccine candidates, air purifiers, to name a few. Additionally, faculty are engaged in the development of software and mobile apps for data collection, IoT solutions for remote temperature monitoring, cough simulators, data analytics solutions. Further, since the pandemic is expected to have serious socioeconomic consequences, faculty are engaged in understanding the effects of the virus on the financial markets, and other socio-economic factors and indicators.

Importantly, IITH faculty are building models to predict the evolution of the pandemic based on various factors such as the aggressiveness of contact tracing and isolation, movement of the population, lockdown period etc. It is hoped that these models could be shared with the local and state government for planning and intervention.

Overall, IITH has risen to the occasion and has contributed on several fronts in the fight against COVID-19. IITH will continue these efforts and leave no stone unturned in its efforts to combat and curb this pandemic that has affected not just our city, district, state or country but humanity at large.