

STRIDES

Science, Technology, Research, Innovation & DEvelopments



BRINGS NEWS ON S&T DEVELOPMENT FROM DST SUPPORT AND BEYOND

EDITORIAL

FROM HEAD OF DST MEDIA CELL

Challenging times bring out the best in us. This was proved once more as the scientific community braced itself to fight the COVID 19 crisis 'facing the country'. Scientists delving into the world of microbial life, micro matter, nano-materials, answering questions about life and matter, now focused on relevant solutions. The Department of Science and Technology (DST), its autonomous and attached institutions, scientists, S&T entrepreneurs, business incubators and industry joined hands to customize their existing R&D, technologies and innovations to meet the need of the hour.

A COVID-19 Task Force was set up in DST to identify technologies from R&D labs, academic institutions, startups, and MSMEs to fund nearly market-ready solutions for diagnostics, testing, health care delivery solutions, equipment and supplies. With overall direction and guidance from Secretary, DST, the team was mobilized in 24 hours and soon proposals for solutions started pouring in. Key autonomous institutions/Divisions of DST which contributed significantly to COVID-19 related R&D initiatives include; Technology Development Board (TDB), Science & Engineering Research Board (SERB), Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), National Science & Technology Entrepreneurship Development Board (NSTEDB), Nano Mission, Science for Equality, Empowerment and Development (SEED) and International Bi-lateral Division. This newsletter puts together some of the fruits of the hard work that went into preparing for the battle against the pandemic.

—DR AKHILESH GUPTA, EDITOR-IN-CHIEF

COVER STORY



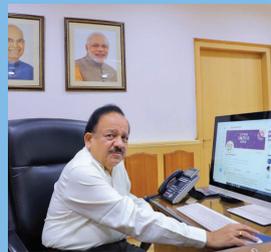
CHITRA GENELAMP-N MAKES CONFIRMATORY TESTS RESULTS OF COVID-19 POSSIBLE IN 10 MINUTES

Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum, has developed a diagnostic test kit that can detect COVID-19 in 10 minutes, with sample to result time less than 2 hours. A total of 30 samples can be tested in a single batch in a single machine allowing a large number of samples to be tested each day.

"Development of a novel, inexpensive, rapid confirmatory for the diagnosis of COVID-19 by Sree Chitra in record time is a compelling example of how a creative team of clinicians and scientists working together seamlessly can leverage knowledge and infrastructure to make relevant break throughs"

—Prof Ashutosh Sharma

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DR HARSH VARDHAN LAUNCHES 'COVID INDIA SEVA', AN INTERACTIVE PLATFORM FOR CITIZEN ENGAGEMENT ON COVID-19

Union Minister of Health & Family Welfare, Dr Harsh Vardhan launched the COVID India Seva, which provided an interactive platform to establish a direct channel of communication with millions of Indians amid the pandemic. This initiative is aimed at enabling transparent e-governance delivery in real-time and answering citizen queries swiftly, at scale, especially in crisis situations like the ongoing COVID-19 pandemic. Through this, people can pose queries @CovidIndiaSeva and get them responded to in almost real time. @CovidIndiaSeva works off a dashboard at the backend that helps process large volumes of tweets, converts them into resolvable tickets, and assigns them to the relevant authority for real-time resolution.

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From Head of DST Media Cell Latest News Highlights
Cover Story

INSIDE THE E-NEWSLETTER

COVID Response at Community Level
DST Overseas

DST's COVID-19 Combat Leaders
Featured Institution



DST launches nationwide exercise to map & boost Covid-19 solutions with R&D, seed & scale up support

Rising to the National Call to combat the public health crisis arising out of Covid-19 pandemic, the Department of Science & Technology (DST) is synergising and consolidating the various activities carried out by the Ministry of S&T and its network of autonomous institutions and scientific bodies across the country.

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Indian industries respond enthusiastically to TDBs invitation for proposals for fighting COVID-19

The Indian industry and the start-up ecosystem have responded enthusiastically to the invitation by the Technology Development Board (TDB), a statutory body of the Department of Science and Technology (DST), for proposals from Indian companies and enterprises for supporting technologically innovative solutions towards fighting COVID-19.



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DST-SERB announces first set of approved projects to combat COVID-19 & related respiratory infections

The first set of 5 projects has been selected by DST-SERB, to be supported for further development into implementable technologies in response to the COVID-19 crisis in the country. In view of increasing the load of COVID-19 infections in India, the Department of Science and Technology-Science and Engineering Board (DST-SERB) announced several special research project calls to urgently ramp up national R&D efforts against the epidemic.

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DST sets up rapid response centre at SINE, IIT Bombay to combat COVID-19

Department of Science & Technology, Government of India in a rapid response to combat COVID-19 global pandemic approved setting up of a Centre for Augmenting WAR with COVID-19 Health Crisis (CAWACH) at a total cost of Rs 56 Cr to scout, evaluate and support the innovations and start-ups that address COVID-19 challenges.

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▶ Sree Chitra Tirunal Institute develops magnetic nanoparticle-based RNA extraction kit for PCR and LAMP tests for COVID-19
DST supported healthcare startup developing rapid test for detection of COVID-19

▶ JNCASR develops versatile coating to stop spread of viruses like influenza and COVID-19

▶ DST approves funding for developing a gel for nasal passage as prevention for COVID-19

▶ SCTIMST scientists design super absorbent material for safe management of infected respiratory secretions

▶ SCTIMST ties up with Wipro 3D to manufacture automated ventilators to meet COVID-19 related crisis

▶ DST funded startup develops kits for testing asymptomatic COVID-19 infections & gears up for vaccine production

▶ IIT Kanpur researchers to design a cost-effective virucidal coating of surgical masks for preventive measures against COVID-19

▶ Study to identify biomarkers to predict progression from non-severe to severe COVID-19 cases can help interventions

▶ RRI scientists explain the relevance of the mathematical model

▶ CeNS uses electrostatics of materials to develop Tribo E mask to protect healthy individuals from COVID-19

▶ A predictive model by JNCASR can help prepare for medical needs for COVID-19





DST OVERSEAS



Rural Women from Assam prepare products like hand sanitizer, homemade mask to combat COVID-19

Rural Women Technology Park (RWTP) under CSIR-North East Institute of Science and Technology, Jorhat, Supported by SEED Division, Department of Science and Technology (DST), have engaged rural women to prepare various products such as hand sanitizer, homemade mask, and liquid disinfectant to be distributed freely among family members and poor people in the nearby village to help combat COVID-19 in the area.

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Integrated geospatial platform to help area-specific strategies & decisions in COVID-19 outbreak

The Department of Science and Technology (DST), Government of India, has created an Integrated Geospatial Platform out of available geospatial datasets, standards-based services, and analytic tools to help decision making during the current COVID-19 outbreak and aid devising area-specific strategies to handle the socio-economic impact in the recovery phase.

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Women in Hoshiarpur district of Punjab prepare homemade masks for villagers to fight COVID-19

In GugwaalHaar village situated in Hajipur Block of District Hoshiarpur, Punjab, a group of young women, are working tirelessly to safeguard their residents of their village and those in the vicinity, vulnerable migrant workers and ration and food supply distributors from COVID-19 infections by making and distributing face masks free of cost. The group led by the village Sarpanch Sh Narinder Singh.

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DST supported NGO network tackle COVID-19 at community level through S&T interventions

The network of S&T enabled NGOs spread across 22 states of India, supported by the Science for Equity Empowerment and Development (SEED) Division of the Department of Science and Technology (DST) have demonstrated capabilities in containing COVID-19 through various S&T interventions and complimented the efforts of the Government at different States and below levels.

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IUSSTF boosts Indo-US virtual networks to address COVID-19 challenges

The Indo-U.S. Science and Technology Forum (IUSSTF), has invited Proposals for 'COVID-19 Indo-U.S. Virtual Networks' that would allow Indian and U.S. scientists and engineers currently engaged in COVID-related research to carry out joint research activities through a virtual mechanism, leveraging existing infrastructure and funding. Proposals that convincingly demonstrate the benefits and value of the Indo-U.S. partnership to advance research and address critical challenges related to COVID-19 are encouraged.

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Innovative ideas invited by US India S&T Endowment Fund to address COVID-19 challenge

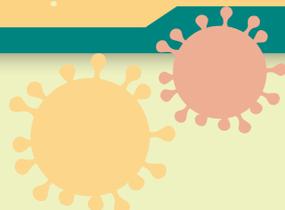
The United States-India Science & Technology Endowment Fund (USISTEF) has invited Proposals for joint U.S.-India S&T based entrepreneurial initiatives that address 'development and implementation of new technologies, tools, and systems to address COVID-19 related challenges.

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NEW INITIATIVES

- ▶ Proposals invited on COVID-19 & related respiratory viral infections
- ▶ TDB invites technology proposals for fighting COVID-19
- ▶ Special Call under SATYAM to fight against COVID 19
- ▶ DST invites short-term proposals for developing antiviral Nano-coating and Nano based material for scale up by industry and startups to combat COVID-19

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DST'S COVID-19 COMBAT LEADERS

PROF. ASHA KISHORE



Prof. Asha Kishore, MD, DM, Director, SCTIMST
Prof. Asha Kishore is first woman Director of Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Trivandrum, an Institute of National Importance Govt. of India under the Department of Science and Technology (DST) has been instrumental in motivating her team of scientists to bring solutions to meet the COVID-19 challenge facing the country

One of the first Indian Neurologists to be trained in the subspecialty of Movement Disorders, at the University of British Columbia, Canada, she and her team established the first Comprehensive Care Centre for Movement Disorders in India at SCTIMST.

Her research contributions in understanding the long term outcome of deep brain stimulation in Parkinson's disease, the pathophysiology of levodopa induced dyskinesia, impulse control disorders in PD, pathophysiology of Writers cramp, plasticity of motor cortex in health, aging and movement disorders are substantial. She has also won several awards for outstanding performance in medicine from various agencies. She has been a constant encouragement to the team which worked on solutions for the COVID-19 crisis through the challenging times.

The task force team

DST set up a COVID-19 Task Force for mapping of technologies from R&D labs, academic institutions, startups, and MSMEs, and to coordinate the effort to find nearly market-ready solutions in the area of diagnostics, testing, health care delivery solutions, equipment supplies, etc. At DST, the team was led by Secretary, DST with Dr Neeraj Sharma, Dr Akhilesh Gupta, Dr Anita Gupta, Scientists G, DST; Prof Sandeep Verma, Secretary, SERB and Ms Anju Bhalla, JS, Admin as members. Dr Akhilesh Gupta was designated as DST's nodal officer on COVID-19 and Ms Anju Bhalla as the Nodal officer on COVID-19 related public grievances.

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FEATURED INSTITUTION



Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum

An Institute of National Importance under Govt. of India



Amid lockdown, SCTIMST gears up to meet COVID-19 pandemic with R&D, technologies & products

Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST) is an Institution of National Importance under the Department of Science and Technology, Govt. of India stood out with its research, technologies, and innovations to meet the need of the hour in India's fight against COVID-19.

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VIGYAN PRASAR
(An Autonomous
Organisation of DST)