

STRIDES

Science, Technology, Research, Innovation & DEvelopmentS

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

EDITORIAL

FROM HEAD OF DST MEDIA CELL

Science in India has moved forward on the basis of principles enshrined in its science policy. However, the policy has changed from time and again as per the needs of the country and the challenges ahead. As our life and livelihood adjusts to the new normal, the Office of the Principal Scientific Advisor to the Government of India and the Department of Science and Technology (DST) have responded to the need for a new Science, Technology and Innovation Policy and initiated a process for its formulation.

The process, a consultative one, is reaching out to a wide range of stakeholders to formulate evidence driven, inclusive & bottom-up National Science Technology and Innovation Policy (STIP 2020). This issue of the newsletter encapsulates policy formulation process and the institutional structures that are driving it. It also features several initiatives of DST and its institutes on COVID 19 as well as many interesting researches in science.

—DR AKHILESH GUPTA, EDITOR-IN-CHIEF

COVER STORY

PUBLIC & EXPERT CONSULTATION TOWN HALL MEET FOR STIP 2020 LAUNCHED

STIP 2020 Town Hall Meet, the Track-I public & expert consultation process for the formulation of STIP 2020 was launched by the PSA to the Government of India Professor K VijayRaghavan and Secretary, DST Professor Ashutosh Sharma on June 12, 2020.

The Office of the Principal Scientific Advisor to the Government of India (Office of PSA) and the Department of Science and Technology (DST) have started a consultative process for the formulation of a new National Science Technology and Innovation Policy (STIP 2020) reaching out to a wide range of stakeholders.

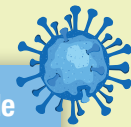
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From Head of DST Media Cell Covid News Highlights
Cover Story

INSIDE THE E-NEWSLETTER

Popular Science Stories
DST Overseas

New Initiatives
STIP 2020 SECRETARIAT



COVID NEWS HIGHLIGHTS



Kerala Start-up with SCTIMST to launch IoT based used mask disposal smart bin & UV light-based disinfection device to beat COVID 19

VST Mobility Solutions, a Startup headquartered at Cochin, has launched an automated mask disposal machine as part of efforts to develop products helping to combat the Covid-19.

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DST releases information brochure on health & risk communication programme focusing on COVID-19

NCSTC has released an information brochure for a recently launched programme on health and risk communication 'Year of Awareness on Science & Health (YASH) with focus on COVID-19'. The programme focuses on enhancing public understanding and awareness on science and health for better preparedness to cope up with the present and future challenges.

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ARCI & Mekins develop UVC-based multipurpose disinfection cabinet for containing surface contamination of COVID 19

ARCI, an autonomous R&D Centre of DST, Govt. of India and MEKINS Industries have co-developed a UVC-based Cabinet for disinfecting non-critical hospital items, laboratory wear, and PPEs in the research laboratories to prevent surface contamination of COVID 19.

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DST building resilience of SC & STs against COVID 19 through S&T interventions

SEED division of DST is providing grant-in-aid support to several Knowledge Institutions (KIs), and S&T based NGOs for the holistic development of SC and ST communities to help them tide over the nationwide lockdown that affected livelihood and economic condition of the communities.

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▶ SCTIMST joins hands provide voluntary service in efforts to combat COVID-19

▶ COVID 19 testing & research lab at IASST will help treat positive cases early & combat the disease in North East

▶ Sree Chitra Tirunal Institute joins hands with Tata Sons to augment production of COVID-19 testing Kits

▶ NCVTC to develop of host-directed antivirals for COVID 19

▶ IIT, BHU to re-purpose approved drugs from DrugBank database for treating COVID-19 by targeting SARS-CoV-2 main protease

▶ DST initiates COVID-19 India National Supermodel for monitoring infection transmission & aid decision-making by policy-makers

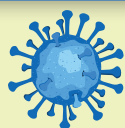
▶ DST-SERB supports study for identification of structure-based potential antivirals against COVID 19

▶ Comfortable face mask designed by CeNS could encourage public to use it for long hours

▶ RNA extraction kit Agappe Chitra Magna launched commercially for detection of COVID 19

▶ TDB approves technologies to augment Indias efforts to combat COVID 19

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DST OVERSEAS

Research proposals invited for COVID-19 for bilateral collaboration in science between India & Australia

Hon'ble Prime Minister of India Shri Narendra Modi and the Hon Scott Morrison MP, Prime Minister of Australia jointly announced a Special COVID-19 Collaboration in 2020 during an India-Australia Leaders' Virtual Summit on 04 June 2020.

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NEW INITIATIVES

- ▶ The Year of Awareness on Science & Health (YASH)
- ▶ INSA-SERB Photo and Film Competition on 'Science through My Eyes'

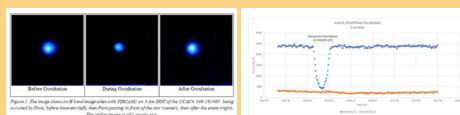
- ▶ INST synthesises inorganic-organic hybrid compound that can inhibit breast, lung & liver cancer cells
- ▶ ARCI develops erosion-resistant, eco-friendly coatings for airplanes engine components
- ▶ A device that can detect gastric disorders from exhaled breath
- ▶ ARCI develops Self-cleaning textiles with nanostructured Titania that can save water detergent and electricity
- ▶ 3 DST institutes among top 30 Indian Institutions in Nature Index
- ▶ Visible light assisted gasochromic sensing of nicotine from cigarette smoke by metal-organic nanotube
- ▶ JNCASR signs MoU with incubated company for scaling up technology for reducing CO₂ to methanol & other useful chemicals
- ▶ ARCI develops new environment friendly way to shape ceramics through 3D printing with Methyl Cellulose
- ▶ Aerosol characterization and radiative effects at High Altitude site in Western-Trans Himalayas

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Observation of Plutos stellar occultation on June 6, 2020, using ARIES Telescopes could help investigation of dwarf planets atmosphere

ARIES, an autonomous institute of DST, in collaboration with an international team including groups within India PRL, IIST, IIA, followed the occultation of a bright star UCAC4 340-192403 by the dwarf planet Pluto on June 6, 2020.

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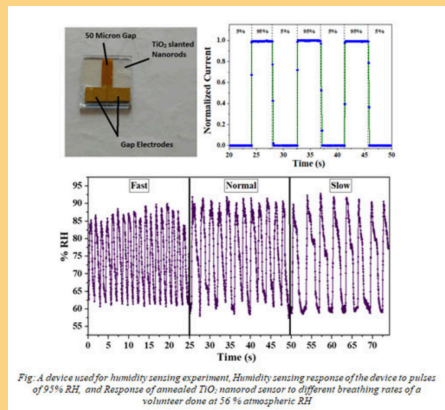
ARCI's easy-to-clean coating technology can increase efficiency of solar panels

Scientists at ARCI, an autonomous organization of DST, have developed nanoparticle-based coating for solar panels that can minimize dust deposition and enables easy cleaning by the action of water. It can prevent a reduction in efficiency of the panels due to soiling.

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ARCI researchers with easy-to-clean coated 320 Watt silicon solar panel



CeNS develops humidity sensor for rapid measurement of relative humidity in labs & human breath analysis

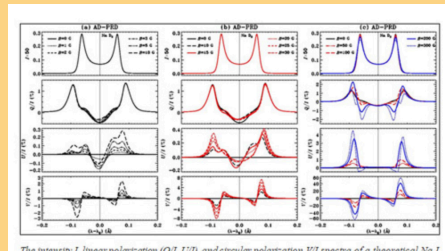
CeNS Bangalore, an autonomous institute of DST, Government of India, has developed a metal oxide semiconductor (MOS) based humidity sensor, which can easily detect humidity in the laboratory as well as dehydration in patients through breath analysis.

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New code to probe the physical conditions of the Sun and the stars using spectral line polarization

Scientists at IIA Bengaluru, an autonomous institute of DST, Government of India, have developed an efficient numerical code to probe into the physical conditions that prevail in the Sun and the stars and the mysteries behind them.

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The intensity I, linear polarization (Q, U, V), and circular polarization (V) spectra of a theoretical No 1 D₂ line for a range of field strength values (as indicated in the figure legend). Both angular and frequency redistribution in the scattering process are taken into account

Powering the formulation process of the new Science, Technology & Innovation Policy

A Secretariat with in-house policy knowledge and data support unit, built with a cadre of DST-STI Policy fellows, has been set up at DST (Technology Bhavan) to coordinate the complete process, will jointly and seamlessly function between Office of PSA and DST. It involves

officials from Office of PSA, DST, and DST STI policy fellows. STIP-2020 secretariat coordinates the complete process and interplays between the 4 tracks.

The STIP 2020 formulation process is organised into 4 highly interlinked tracks, which will reach out to a large number of stakeholders for consultation in the policy formulation. Track I involves an extensive public and expert consultation process through Science Policy Forum - a dedicated

platform for soliciting inputs from larger public and expert pool during and after the policy drafting process. Track II comprises experts-driven thematic consultations to feed evidence-informed recommendations into the policy drafting process. Twenty-one (21) focused thematic groups have been constituted for this purpose. Track III involves consultations with Ministries and States, while Track IV constitutes apex level multi-stakeholder consultation.



Dr Akhilesh Gupta
HEAD STIP-2020

OFFICIALS OF O/O PSA & DST



Dr B Chagun Basha



Dr. Sunil Aggarwal



Dr Akhilesh Mishra



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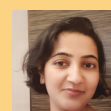
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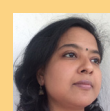
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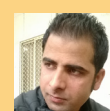
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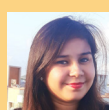


Dr. Sheeraz Ahmad Alaie

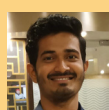
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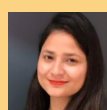
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Ashwini Dayama



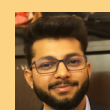
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DSTcommunication@vigyanprasar.gov.in, communicationdst@gmail.com

Editor-in-Chief: Dr Akhilesh Gupta

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