

STRIDES

Science, Technology, Research, Innovation & DEvelopmentS

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

EDITORIAL

FROM HEAD OF DST MEDIA CELL

The spirit of giving back to the roots was all pervading as eminent members of the scientific diaspora from all across the world came together to interact with the Hon'ble Prime Minister at the Vaishvik Bhartiya Vaigyanik (VAIBHAV) Summit, a global virtual summit of overseas and resident Indian Researchers and Academicians.

While VAIBHAV brought together scientific diaspora all over the world, Chief Minister of one State, Deputy Chief Ministers from 3 States, S&T Ministers from 12 other States, senior officials from all 28 States and 4 Union Territories of India, Member Science, NITI Aayog, Principal Scientific Adviser to GOI and several Secretaries to Government of India came together to discuss the new Science, Technology and Innovation Policy (STIP 2020) reflecting the spirit of unity in diversity in the variety of suggestions and the enthusiasm to implement the policy in its true spirit.

Innovation to combat COVID 19 are gradually seeing the light of the day as startups take them to the final stages and use them at a pilot scale. The October issue of the Newsletter STRIDES covers all these as also the new research achievements from the DST institutions. The newsletter features work of DST's autonomous institute ARIES.

—DR AKHILESH GUPTA, EDITOR-IN-CHIEF

COVER STORY



PRIME MINISTER EMPHASIZED THE IMPORTANCE OF CONNECTING & CONTRIBUTING FOR CREATING AN IDEAL RESEARCH ECOSYSTEM AT THE VAIBHAV SUMMIT

Hon'ble Prime Minister

Shri Narendra Modi highlighted the importance of connecting and contributing to form a long-lasting association for empowering India and our planet while inaugurating the Vaishvik Bhartiya Vaigyanik (VAIBHAV) Summit, a global virtual summit of overseas and resident Indian Researchers and Academicians.

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DR. HARSH VARDHAN INVITES STATES TO PARTICIPATE IN FORMULATING STIP 2020

Union Minister for Science Technology, Earth Sciences, Health & Family Welfare Dr. Harsh Vardhan has called on the states to join the exercise of building an

evidence-driven, inclusive national Science, Technology and Innovation policy STIP 2020, that would percolate to the grassroot level.

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From Head of DST Media Cell Covid News Highlights

Cover Story

DST Overseas

INSIDE THE E-NEWSLETTER

Popular Science Stories

New Initiatives

Meet the Scientist

Featured Institution

COVID NEWS HIGHLIGHTS



Multiple options for COVID 19 detection kits from start-ups on the cards through support of CAWACH Initiative of NSTEDB, DST

India will soon have the option of choosing from several COVID 19 rapid detection technologies that start-ups are working on currently. A technology to conduct rapid molecular tests at small clinics, points of entry like airports, or small laboratories, a lab on palm platform for Rapid Antibody Test and a test kit with a reader enabling direct antigen testing in suspected COVID samples are some of them.

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New age sustainable disinfectants and sanitizers may bring relief from chemical ones with side effects

The days of suffering from dry, itching hands due to rinsing them multiple times with chemical disinfectants and soap as protection against contact infection of COVID 19 may soon be over. A number of start-ups based in different parts of India are now armed with a range of sustainable alternatives to conventional chemical-based decontaminants that can disinfect surfaces and even microcavities.

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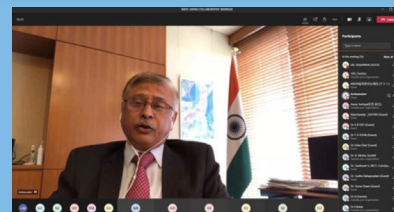
Dignitaries deliberate on The Other Side of the Pandemic as part of DST Golden Jubilee Discourse series

Dignitaries discussed the challenges and opportunities that the COVID 19 pandemic brought out at an online panel discussion on 'The Other Side of the Pandemic' organized as part of the DST Golden Jubilee Discourse series commemorating 50 years of DST.

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DST OVERSEAS



India & Japan deliberated on ways to strengthening health care for elderly

Experts from India and Japan discussed ways in which the two countries can collaborate to strengthening health care for older people and reimagine aging and the research, demonstration, and implementation required for the same at a webinar organised to celebrate International Day of Older Persons.

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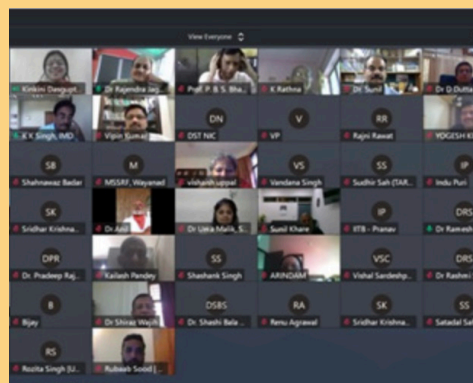
India designated Vice-Chair of OECD Working Group on GLP

India has been designated the 'Vice-Chair' of Good Laboratory Practice (GLP) Working Group of the Organisation for Economic Co-operation and Development (OECD), recognising the contribution of the Indian GLP programme.

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NEW INITIATIVES

- ▶ Call for R&D Proposals for support under NSDI during 2021-22
- ▶ Call for Proposal for DST-NGP Summer/ Winter School in Geospatial S&T sub-scheme under National Geospatial Programme (NGP)



Science-Society-Setu webinar series initiated to strengthen S&T capacity of NGOs & Communities

DST Secretary Prof. Ashutosh Sharma underlined the need to create knowledge that is relevant for different sections of our society at the Science-Society-Setu for AatmaNirbharBharat (S34ANB), a web clinic series by Science for Equity Empowerment and Development SEED Division, DST.

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Countrywide S&T infrastructure facilities to be accessible to industry & startups

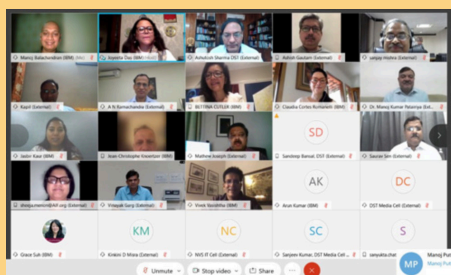
DST is restructuring its FIST (Fund for Improvement of S&T Infrastructure in Universities and Higher Educational institutions) programme under which it supports scaling up of the network of infrastructural facilities for teaching and research in Universities and higher educational institutions to cater to high-end S&T infrastructural requirements of startups and industries.

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Shanti Swarup Bhatnagar awardees demystification of transformation of glass to crystal can help dispose liquid nuclear waste

Glass is a non-crystalline, often transparent amorphous solid which is mostly formed by rapid cooling of its molten form. However, under certain conditions, during its formation, molten glass may rebel and transform to a crystal - the more stable state, an avoidable process called devitrification.

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DST collaborates with IBM to build STEM career opportunities for girl students

Existing opportunities for meritorious girls to nurture their interest in STEM will be expanded and a learning platform scaled to make learning relevant and foster scientific spirit among the country's youth in partnership with IBM. DST and IBM India announced collaborations to scale up to two DST initiatives--Vigyan Jyoti and Engage with Science (Vigyan Prasara).

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▶ Chemical behavior of skin pigment can give a clue to design of materials for semi-conductors & supercapacitors

▶ Bhatnagar awardees research opens up prospects of bio-inspired materials for energy & biotechnology sector

▶ Newly identified tectonically active zone in Himalayas could alter earthquake study & prediction

▶ Collation of India's hydrogen & fuel cells research status launched

▶ MoUs with premier academic institutions to boost manufacture & establishment of supercomputing infrastructure in India

▶ Uttarakhand State Level Consultation Meet on STIP 2020 harps on promoting indigenous & traditional technologies

▶ Woman scientist with break-in career finds solution for nuclear weapons in dust particles

▶ Newly designed additive molecules may obviate need for long pipelines for transporting natural gas

▶ Dissolved trace and heavy metal content gives River Ganga a cleaner reputation

▶ Setting the stage for energy storage in India

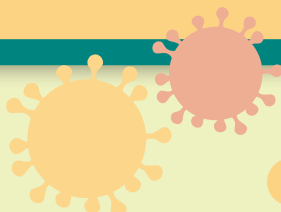
▶ New wheat variety helps farmers in a village in Maharashtra double their yield

▶ Data sharing given highest attention by our government: DST Secretary at the STS Forum

▶ Map reconstructing solar magnetic field from 1915 to 1965 can help predict Sun's future

▶ How Science is helping our drive for self-sufficiency: DST Secretary

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MEET THE SCIENTIST

PROF. DIPANKAR BANERJEE



Director of the Aryabhata Research Institute of Observational Sciences (ARIES), Nainital.

Prof. Dipankar Banerjee's area of interest is the Sun and the solar atmosphere. His work involves theoretical and numerical modeling using data from ground and space-based instruments. His work has enriched our understanding of the Sun and its impact on Space Weather.

He is the co-chair of the Science working group of the "Aditya" mission. Aditya is the first dedicated Indian mission to study the Sun, expected to be launched by ISRO around 2021. He is also the project coordinator for the National Large-Solar Telescope Project (NLST). NLST is a proposed 2-meter ground-based telescope planned to be installed at a Himalayan site. He is also involved with NASA's PUNCH mission.

He is an astrophysicist with a bachelor's degree in physics (St. Xavier's College) and a master's degree in theoretical physics from University of Kolkata. He has obtained his Ph.D. from Indian Institute of Astrophysics and completed two postdoctoral tenures in reputed institutions in Europe.

FEATURED INSTITUTION



ARIES exploring emerging questions of Astronomy, Atmosphere and associated engineering sciences

Aryabhata Research Institute of Observational Sciences (ARIES), a research institute based in the pristine hilly ambience of Nainital, houses three optical telescopes and focuses its research on Astronomy & Astrophysics, atmospheric and engineering sciences. The Astronomy and Astrophysics division concentrates on solar, planetary, stellar, galactic, and extragalactic astronomy, including stellar variabilities, X-ray binaries, star clusters, nearby galaxies, quasars, and inherently transient events like supernovae and highly energetic gamma-ray bursts.

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