

STRIDES

Science, Technology, Research, Innovation & DEvelopmentS

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

EDITORIAL

FROM VIGYAN PRASAR DIRECTOR'S DESK

February is an auspicious month for science with the commemoration of announcement of Raman Effect being celebrated as National Science Day. Government of India designated 28 February as National Science Day (NSD) in 1986. Since then, theme-based science communication activities are carried out all over the country on this occasion. This time, the achievement of 'Women in Science' was highlighted.

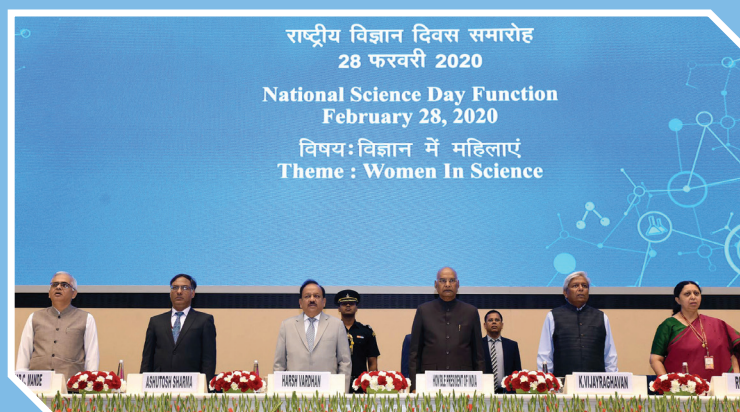
In order to boost the participation of women in science, initiatives for gender advancement and equality in academic and research institutions were announced. President Ram Nath Kovind conferred national awards for science communication and popularization and women excellence awards for meritorious women scientists.

The month also saw a symposium on conservation, preservation and management of World Heritage in physical and digital space and a month long exhibition in the National Museum showcasing digital versions of some of India's culture, heritage, monuments and forts.

In the newsletter we invite you to enjoy stories on how remote villages in water scarce Bundelkhand receive water supply with DST Support, how science exhibitions should focus on educating young students, a new low cost device for automatic testing of visual acuity of tiny tots and much more.

—DR. NAKUL PARASHAR, EDITOR-IN-CHIEF

COVER STORY



NATIONAL SCIENCE DAY BRINGS GENDER EQUALITY IN SCIENCE: PRESIDENT ANNOUNCES KEY INITIATIVES

President of India Ram Nath Kovind announced three key initiatives for gender advancement and equality in academic and research institutions on the occasion of National Science Day in a function held at Vigyan Bhavan. This year the theme for National Science Day is "Women in Science."

Vigyan Jyoti is an initiative that will create a level-playing field for girls in high school to pursue Science, Technology, Engineering, and Mathematics (STEM) in their higher education. The Gender Advancement for Transforming Institutions (GATI) will develop a comprehensive Charter and a framework for assessing the Gender Equality in Science, Technology, Engineering and Mathematics (STEM). An online portal for science and technology resources for women will provide E-resources related to all women-specific government schemes, President Kovind highlighted.

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From Vigyan Prasas Director's Desk
Cover Story

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Meet the Scientist
Featured Institution



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NEWS HIGHLIGHTS



Heritage Symposium discusses conservation in physical & digital space

Department of Science and Technology (DST) in collaboration with Indian Institute of Technology (IIT) Delhi and Ministry of Culture organised the two-day symposium to discuss conservation, preservation and management of World Heritage in physical and digital space.

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Movement to inspire rural entrepreneurship spreads far & wide with DST support

Vigyan Ashram is running Fab Lab since 2002, whose operations are supported under the core support program. Youth between 15-20 years of age can join one year residential program of DBRT where the core staff of VA engages students of DBRT course in the various field trials and pilot studies.

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- ▶ Remote villages in water scarce Bundelkhand receive water supply with DST Support
- ▶ Science exhibitions should focus on educating young students: Dr. Jitendra Singh
- ▶ 14 scientists awarded Swarna Jayanti Fellowships for 2018-19
- ▶ New low cost device for automatic testing of visual acuity of tiny tots
- ▶ Drinking water issues in Greater Mumbai mapped using GIS for location specific solutions
- ▶ Conference explores abundance of elements in understanding the universe
- ▶ Vigyan Prasar initiates Vigyan Samachar—India's first S&T news agency
- ▶ Nano Jatha-workshop at Pondicherry fosters Nanotech business environment
- ▶ Lol signed with group of industries for funding industry relevant research engagement
- ▶ TIFR Swarnajayanti Fellow to study plasticity for better design of materials
- ▶ Maharashtra farmers develop high yielding onion varieties with better shelf life
- ▶ Autonomous institute under DST develops revolutionary device to screen TB
- ▶ IISc Swarnajayanti fellow to work on creating particles that can shape future quantum computing
- ▶ Conference on Quantum Frontiers fosters collaboration between academia & industry
- ▶ Bangalore scientists develop real-time breath monitoring device which can detect asthma, sleep apnoea
- ▶ New mobile app can help people measure Haemoglobin level in remote areas

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FORTHCOMING EVENTS

Festival of Innovation and Entrepreneurship (FINE) 2020

MARCH 22-24, 2020,

BANGALORE

Organized by the Department of Science and Technology (DST) and the National Innovation Foundation – India (NIF) under the aegis of Rashtrapati Bhavan, the Festival of Innovations and Entrepreneurship (FINE) is a unique effort in the sense that it promotes Science, Technology and Innovation and together will bring about a cultural shift amongst citizens for profound interest in Entrepreneurship.

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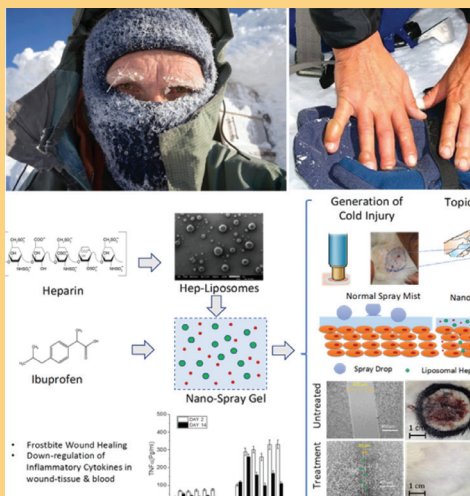
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Organisation of DST)



Brightest message of star collapse from space: Indian scientists participate in a study

A team of scientists from more than 20 countries, including two scientists from Aryabhata Research Institute of Observational Sciences (ARIES), an Autonomous Institution of the Department of Science and Technology have spotted the highest energy photons from Gamma-ray bursts (GRBs).

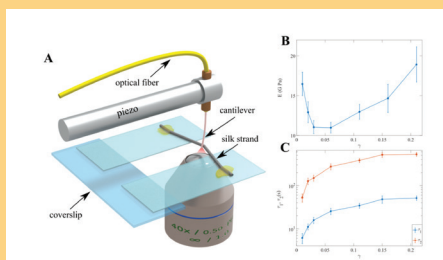
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New spray gel developed by INST could help take the bite out of frostbite

Scientists at the Institute of Nano Science and Technology (INST) in Mohali, an autonomous institution under the Department of Science & Technology, have developed a cold-stable spray gel that could be administered on-site for the immediate treatment of frostbite injuries and heal the wound.

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Banking on the spider for future fibres

Scientists from the Raman Research Institute (RRI), an autonomous institute of Department of Science and Technology along with IISER Thiruvananthapuram and Azim Premji University, have revealed interesting mechanical behaviour of the silk fiber of the spider.

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New molecule against MDR *Acinetobacter baumannii* from JNCASR

A new polymer-based anti-bacterial compound has been found to be highly active against multidrug-resistant *Acinetobacter baumannii*, an organism responsible for a range of life-threatening infections such as pneumonia and meningitis.

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New Programme of Cooperation was concluded during visit of the Brazilian President to India

A new Programme of Cooperation for 2020-23 in the field of Renewable energy including low carbon technologies; Earth system sciences including ocean sciences and climate change; Innovation and entrepreneurship; Information and communications technologies; Sustainable use of biodiversity; Biotechnology and human health and Agriculture was concluded and exchanged in presence of the Hon'ble Prime minister of India and Brazilian President on January 25, 2020. Aim to complement and deepen the ongoing bilateral cooperation between scientists, researchers and funding institutions, based on the principles of reciprocity, mutual benefits, mutual respect and sustainability.



NEW INITIATIVES

- ▶ SERB-IRHPA Call for proposals on COVID-19 and related respiratory viral infections
- For more detail: <http://www.serb.gov.in/home.php>

MEET THE SCIENTIST

DR. N.C. TALUKDAR



Director of the Institute of Advanced Study in Science & Technology (IASST)

Dr. Talukdar's focuses on research in the area of microbial diversity, plant-microbe interaction and their role in agroecosystem has been published in high impact journals, patented and translated into integrated nutrient management package in agriculture for soil and crop health improvement. His current research on traditional knowledge based drug discovery for metabolic syndrome has successfully developed herbal formulation against type-II diabetes which is undergoing clinical trial in Ayush mode. He has more than 97 research publications and 12 patents.

Dr. Talukdar who was Director of the Institute of Bio-resource and Sustainable Development (IBSD), an AI under DBT, is known as an institution builder and has built three laboratories in North-East India. He built infrastructure in Assam Agriculture University (AAU) for commercial production of microbial inoculants and later infrastructures such as Animal house, Zebra fish facility and sophisticated equipment laboratory for medicinal plant product development and testing in IBSD. He established a Microbial Repository Centre as a National Facility in IBSD for preservation of bacterial and fungal cultures isolated by researchers from Indo-Burman Biodiversity and Sikkim Himalaya biodiversity hotspots. A 40-acre Bioresource Conservation Park has been established in Harouro, Imphal which houses a rich collection of plants of more than 70 species of Zingiberaceae family, 40 minor edible fruits, aquatic fauna and high value plants.

During his tenure from 2015-2020, IASST which was taken over by DST as one of its AIs in 2009, grew exponentially. He played a significant role in improvement of economic and social status of several tribal villages of Assam through tech information.

Dr. Talukdar was a recipient of Canadian Commonwealth Fellowship, Food and Agricultural Organisation, Rome Fellowship and serving as Chairman/member of task force, academic, research and administration committees of different organisations. He carried out postdoctoral research in Hebrew University of Jerusalem, Israel and University of Warwick, UK.

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FEATURED INSTITUTION



RRI soaring ahead in astrophysics, soft condensed matter, & other physics areas

Founded in 1948 by Nobel Laureate, Sir C V Raman, to continue his studies and basic research after he retired from the Indian Institute of Science, RRI was restructured to become an aided autonomous research institute receiving funds from the Department of Science and Technology of the Government of India.

Astronomy being one of the focus areas of the institution, the Astronomy and Astrophysics group at the institute is continuously delving into the physical, chemical, and dynamic properties of celestial objects to unravel the mysteries of the universe that stares at us when we look up at the sky.

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This e-newsletter created by the DST communication team at Vigyan Prasar brings you brief information on scientific achievements and activities supported by DST. Each brief, links to detailed information on DST website. If there is any DST supported popular science event which requires wider outreach please share it with us. We also welcome your feedback/suggestions at

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Editor-in-Chief: Dr Nakul Parashar

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