

STRIDES

Science, Technology, Research, Innovation & DEvelopmentS

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

EDITORIAL

FROM VIGYAN PRASAR DIRECTOR'S DESK

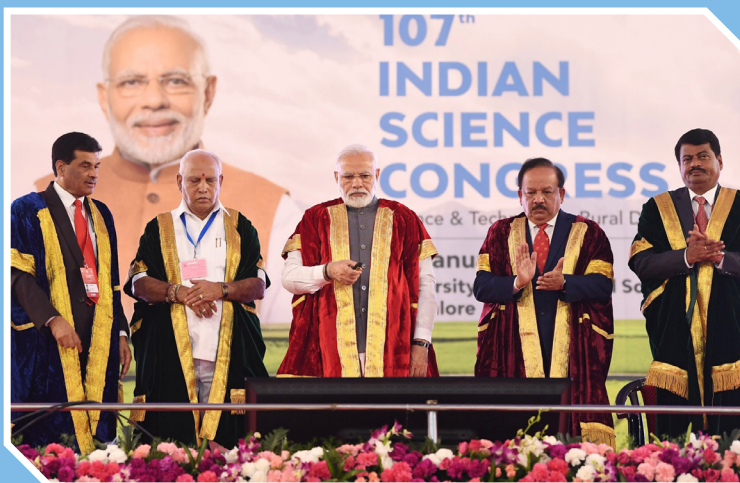
The New Year brought cheers with the Hon'ble Prime Minister addressing India's largest annual gathering of scientific luminaries from countries across the world—the Indian Science Congress. The event brought innovation in its very conception by hosting the first Farmer's Science Congress where it was wonderful to see the farmers enthusiastically exhibiting their innovations. Scientists too emphasised how scientist-farmer interactions can boost innovations to the next level and this can benefit the people in general.

Former President of India Bharat Ratna Shri Pranab Mukherjee gave away the Dr A P J Abdul Kalam IGNITE Awards 2019 to 21 creative and innovative children for their 18 distinct ideas and innovations.

In the newsletter we invite you to enjoy stories on how students of College of Technology and Engineering, Maharana Pratap University of Agriculture & Technology, Udaipur developed a natural polymer which has potential to absorb water multiple times of its own mass and releases slowly as per requirement of a plant and also about new DNA markers found in Asian populations that can help disease investigations. It also talks about initiatives for bringing women into stem nationwide and much more.

—DR NAKUL PARASHAR, EDITOR-IN-CHIEF

COVER STORY



HONORABLE PM INAUGURATES ISC ENCOURAGING YOUNGSTERS TOWARDS S&T FOR RURAL DEVELOPMENT

India's largest annual gathering of scientific luminaries from countries across the world, the 107th session of Indian Science Congress, was inaugurated on January 3, 2020 by Hon'ble Prime Minister Sri Narendra Modi who called on the young scientists to 'Innovate, Patent, Produce and Prosper'.

The Prime Minister said, "The growth story of India depends on its achievements in the Science & Technology sector. There is a need to revolutionize the landscape of Indian Science Technology and Innovation."

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NEWS HIGHLIGHTS



Innovative minds should keep trying: Former President at IGNITE awards

Hon'ble former President of India Bharat Ratna Shri Pranab Mukherjee gave away the Dr A P J Abdul Kalam IGNITE Awards 2019 to 21 creative and innovative children for their 18 distinct ideas and innovations. An exhibition to showcase all award-winning ideas by young, creative minds of this nation was also organized on this occasion.

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DST supported Polymer regulating water requirement of plants awarded

Students of College of Technology and Engineering, Maharana Pratap University of Agriculture & Technology, Udaipur have developed a natural polymer which has potential to absorb water multiple times of its own mass and releases slowly as per requirement of a plant. It has received the first prize in carbon tech theme award the world's largest green business competition organised by the Climate Launch Pad and Netherlands government.

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- ▶ Two Lakh new DNA markers found in Asian populations can help disease investigations
- ▶ Workshop initiates nationwide effort to encourage girls towards science
- ▶ IIT Delhi scientist develops tech for recycling E-Waste & recover metals
- ▶ Indian and Korean institutions join hands to develop training system for robot assisted surgeries
- ▶ DST water innovation centre to enhance water & food security launched at Jodhpur
- ▶ Brace to assist children with clubfoot promises freedom from disability
- ▶ Technologies for decontamination and safe disposal of hospital waste developed
- ▶ Solar Digital Night Schools bring back students to formal education
- ▶ Creativity in research, innovation spirit boosts S&T: DST Secretary at FM Rainbow
- ▶ INST Mohali develops corrosion-free high-voltage integrated energy storage device

FORTHCOMING EVENTS

National Science Day

Every year on February 28, is celebrated as the National Science Day. The programme was initiated by DST to trigger science popularization activities throughout the country and to disseminate scientific education about the current issues of science and technology amongst the citizens of the country. The programme starts around the national science day and activities like lectures, quiz, radio, television shows, open houses and debate etc. are organized around a central theme.

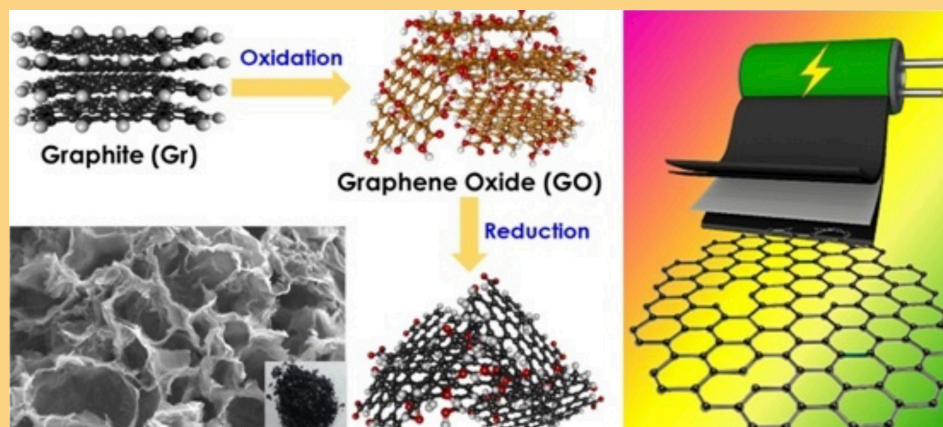
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IISER & SPEL Pune jointly develop indigenous Graphene-Supercapacitor

IISER Pune has developed a process technology for generating functionalized graphene at low-cost for the development of graphene-based supercapacitors for energy storage to be fabricated at SPEL Pune. This project of 'High-Performance Graphene-Based Supercapacitor' is supported and funded by Technology Mission Division (Energy & Water), DST under Materials for Energy Storage programme.

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Local artisans elevate knowledge to S&T based building materials enterprise

The project introduced construction technology that adds value to local resources, built skills across the construction value chain and set up local production units for continued supply of resource efficient and low carbon building materials to develop culturally and climatically conducive models of housing and village public buildings.

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India Sweden High-Level Innovation Dialogue announces several Collaborations

The India-Sweden High Level Policy Dialogue on Innovation Policy was jointly inaugurated by the Prime Minister of India Hon'ble Narendra Modi and His Majesty, the King of Sweden Carl XVI Gustaf, on 2 December 2019, at Hyderabad House in New Delhi. The Dialogue created a platform with key stakeholders in a triple helix format from the government, private sector, and academia to provide overall strategic direction for joint innovation policy formulation.



NEW INITIATIVES

- ▶ India-Denmark Joint research on Cyber Security—Call for Proposals
- ▶ India-Uzbekistan Joint research Call for Proposals-2019

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MEET THE SCIENTIST

PROF. SANTANU BHATTACHARYA



Director, Indian Association for the Cultivation of Science (IACS)

Professor Santanu Bhattacharya is an elected fellow of the Indian National Science Academy, the Indian Academy of Sciences and The World Academy of Sciences. His research work has often led to conversations across disciplines in order to identify new areas of innovation. He is among the first few in India who started research in the area of chemical biology. Some of the modern methods of therapeutics that he works on are at the cross sections of cell biology, chemistry and materials science. He spearheaded the design of unnatural and natural lipids and peptides, their assemblies and non-canonical forms of nucleic acids, which contributed to the understanding in diverse fields such as membrane biophysics, drug design and gene delivery etc. His work further extends to soft, colloidal and polymeric matter, biomaterials, covalent-organic frameworks, Langmuir films, nanocomposites, and sensor design. He has published about 290 papers and reviews in refereed journals (h-index ~ 66).

He has been a Professor and was the Chairman (2012-15) of Organic Chemistry, at the Indian Institute of Science, Bangalore. Dr. Bhattacharya received his PhD from the Rutgers University, New Brunswick, NJ, USA (1988), and had a post-doctoral stint under the tutelage of Professor Har Gobind Khorana, Nobel laureate at the Massachusetts Institute of Technology, Cambridge, MA, USA - the theme of his studies being signal transduction of membrane proteins. He is a recipient of several honors and awards including the Swarnajayanti Fellowship, National Bioscience Award for Career Development award (DBT), S. S. Bhatnagar Prize, G D. Birla Prize, Ranbaxy Prize and the TWAS Prize in Chemistry.

As Director of the IACS, the oldest institution of its kind in Asia, which fetched the only Nobel Prize in Science from the work done here, he brought about many changes including converting this grand old institution into a deemed to be Research University.

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FEATURED INSTITUTION



INST an autonomous institute of Department of Science & Technology which is encouraging all aspects of nanoscience and nanotechnology with major thrust on the areas such as agricultural nanotechnology, sensors, medical nanotechnology, nanotechnology based solutions for energy and environment with the ultimate goal to make a difference to society through nanoscience and technology.

INST brings together biologists, chemists, physicists, materials scientists and engineers having interest in nanoscience and technology. The scientists, having strengths in basic science together with more application oriented mind from different backgrounds, work together by joining hands as a cohesive unit, under a congenial work environment, on a common platform apart from carrying out their individual research.

It generates processes, technologies and devices directed towards national priorities especially in sectors like Agriculture, defence, healthcare, energy, environment and water.

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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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