DST
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 SCIENCE, Technology, Research, Innovation & DEvelopmentS

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

EDITORIAL

India's hosting of the Second United Nations World Geospatial Information Congress (UNWGIC 2022), which took place this month, bears increased significance as the country announced new liberalised guidelines for geospatial data last year. This historic decision makes all geospatial data produced using public funds, except classified geospatial data collected by security/law enforcement agencies, accessible for scientific, economic, and developmental purposes to all Indian Entities and without any restrictions on their use. India thus has become part of the global endeavor to geo-enable all without leaving anyone behind --- the pertinent theme for UNWGIC 2022.

Experiments on quantum entanglement, which recently received the 2022 Nobel Prize in Physics, also witnessed major advances by Indian scientists, like an efficient way to quantify quantum entanglement in higher dimensional systems. The month also saw experts discussing the role of hydrogen in making India carbon neutral. Scientists developed transparent visible-near infrared electrodes which can be useful for optoelectronic devices, identified possible origin of core radio emissions in black hole sources as well as found a drug delivery solution that can improve cancer management and treatment, all of which finds place in this newsletter.

The newsletter also features the Science and Engineering Research Board (SERB).

-EDITOR-IN-CHIEF

COVER STORY



SecondUnitedNationsWorldGeospatialInformationCongressinauguratedinHyderabadInInaddressthrough

Hon'ble Prime Minister of India, Shri Narendra Modi, said "There is a need for an institutional approach by the international community to help each other during a crisis".

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Union Minister Dr Jitendra Singh says, the Indian G e o s p a t i a l Economy is expected to cross Rs 63,100 crore by 2025

at a growth rate of 12.8%

Union Minister Dr Jitendra Singh said, geospatial technology has become one of the key enablers in socio-economic development by enhancing productivity, ensuring sustainable infrastructure planning, effective administration, and aiding the farm sector. Read More

Editorial Cover Story	Popular Science Stories International	INSIDE THE E-NEWSLETTER	New Initiatives Meet the Scientist	Featured Institutions





POPULAR SCIENCE STORIES





Governor, Telangana highlights importance of geospatial technologies for practical planning, management decision-& making

Dr.(Smt.)TamilisaiSoundararajan, Hon'ble Governor, Telangana, emphasised on the importance of geospatial technologies for practical planning, management and in decision-making at the valedictory session of the UNWGIC 2022.

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Experts discuss role of hydrogen in making India carbon neutral

Experts from academia and industry deliberated about the current status of hydrogen as a source of energy and the role it can play in making India carbon neutral at the International Platform on Hydrogen Economy - An Industry-Academia Conclave on September 30, 2022.

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Community seed initiative traces & restores heritage rice varieties in Tamil Nadu

Around 20 heritage rice varieties of Tamil Nadu are being traced, collected, redeemed, and restored atleast through 10 community seed banks benefiting more than 500 farmers in the state.

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developed highly Newly visible-near transparent infrared electrodes can be useful for optoelectronic devices

A new material that possesses high transparency in the visible and NIR (near infra-red) range and is also highly conducting could have promising applications as transparent electrodes (TEs) in the optoelectronic devices.

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Research points at possible origin of core radio emissions in black hole sources

bank : A new study has the potential to explain the origin of the core radio emission from a variety of black hole sources which has so far remained a mystery.

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Sugar-coated pouches in body fluids can help detect cancer

Dr. Tatini Rakshit laboratory, supported by Inspire faculty grant of the Department of Science and Technology (DST), at Shiv Nadar Institute of Eminence, Delhi, in collaboration with SNBNCBS, Kolkata, Saha Institute of Nuclear Physics, Kolkata and IIT Bhilai, Chhattisgarh has unravelled the contour lengths of HA on a single cancer cell-derived EV surface.

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A drug delivery solution can improve cancer management and treatment

A novel site-specific drug delivery method using gold nanoparticles can improve management and treatment of cancer.

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POPULAR SCIENCE STORIES



scientists find Indian efficient way to quantify entanglement quantum in higher dimensional systems

Experiments on quantum entanglement (where several particles behave like a single unit even when they are separated), which received the Nobel Prize in Physics in 2022 have seen a major achievement by Indian scientists, who have found a simpler way to quantify the amount of entanglement in higher dimensional systems.

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Sugar-coated pouches in body fluids can help detect cancer **Read More**

Harnessing

quantum

entanglement for futuristic energy storage technology Read More

The first clinic in the country dedicated for Fontan patients inaugurated at Thiruvananthapuram

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Students showcase their spatial thinking in localising **SDGs**

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Geo-enabled community to resolve challenges **Read More**

village empowered their water

Experts discuss significance of geospatial information for supporting sustainable development **Read More**

Importance of **Integrated** Geospatial Information Framework for supporting development sustainable goals discussed at UNWGIC **Read More**

Conference brings together astronomy instrumentation experts in Bengaluru **Read More**

INTERNATIONAL

Indo-Swiss Joint S&T meeting discusses future cooperation for science in overcoming societal challenges

The need for focusing on strategic goals based on societal challenges was discussed at the Indo-Swiss Science & Technology Joint Committee Meeting, highlighting science's relevance in society.

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India- Norway Joint Working Group on S&T discusses extension of co-operation to new areas

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NEW INITIATIVES

Call for proposals on Industry Research & Development Fellowship Programme (IRDFP) Read More

DST-DAAD Call 2022

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MEET THE SCIENTIST

DR AKHILESH GUPTA SECRETARY, SERB



FEATURED INSTITUTION



SERB steering research in India, creating a talent pool and building a robust scientific ecosystem

The Science and Engineering Research Board (SERB) promotes and funds competitive and quality scientific research and development with popular programmes and schemes like Core Research Grant, Start-up Research Grant, Scientific and Useful Profound Research Advancement (SUPRA), and SERB--POWER fellowship to position science and technology as the fulcrum for social and economic change.

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DR. AKHILESH GUPTA, SENIOR ADVISER AT THE DEPARTMENT OF SCIENCE AND **TECHNOLOGY** (DST), has assumed additional charge of Secretary of the Science and Engineering Research Board (SERB).

Dr. Gupta heads the Policy Coordination and Programme Management Division (PCPM) division and is overall in charge of 5 National Missions at DST.

A distinguished atmospheric scientist, Dr. Gupta is renowned for his work on tropical cyclone, monsoon meteorology, locationspecific weather prediction, weather and climate modelling, STI policy areas like open science, equity & inclusion, STI financing, system interconnectedness, and so on. He was one of the authors of India's National Action Plan on Climate Change (NAPCC) and head of the Secretariat, which drafted India's new Science, Technology, and Innovation Policy that is under finalization.

With a post-graduate degree from Lucknow University in Physics and a doctorate degree from IIT Delhi in Atmospheric Sciences, he joined the India Meteorological Department and later the National Centre for Medium-Range Weather Forecasting, both currently under the Ministry of Earth Sciences.

He is a Fellow of the Indian National Academy of Engineering (FNAE), Indian Meteorological Society (FIMS), and Association of Agrometeorologists (FAAM).

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