

STRIDES

SCIENCE, TECHNOLOGY, RESEARCH, INNOVATION & DEVELOPMENTS

Showcasing DST achievements in S&T and innovation

EDITORIAL

The new age has brought the era of disruptive technologies which are poised to transform the future of how we lead our lives, carry out our livelihoods and shape our economies. Anticipating the centrality of such technologies in the lives of our present and future generations, the Government of India set up the NM-ICPS mission in 2018.

The torch bearers of this Mission are the 25 Technology Innovation Hubs (TIHs) established across the country, in reputed academic institutes. They focus on Technology Development and Translation, Human Resource and Skill Development, Entrepreneurship & Start-ups Development and International Collaborative Research in synergy with the industry for translation and commercialization of technologies.

Besides, their individual effort to boost new and emerging technologies to power National initiatives, the TIHs also work in collaboration in specific areas. The first demonstration of such collaborative work was the organisation of the ATMAN programme which initiated the movement to provide potential promising start ups with financial and technical assistance for proof of concept, prototype development, product trials, and market entry to facilitate their success in the market place in specific areas on National importance.

The journey of the hubs as well as their first collaborative effort has been highlighted in this newsletter.

Editor-In-Chief: Dr Akhilesh Gupta

Cover Story



Union Minister Dr Jitendra Singh says, StartUps are the torch-bearers of India's Amrit Kaal journey over the next 25 years

Addressing the Agri-Tech Start-up Conclave titled "ATMAN-2023", Dr Jitendra Singh called for wider synergy among the Research, Academia, StartUps and Industry for having a win-win proposition not only for innovative product development, but also for effective national and global branding and marketing.

[Read More...](#)

Meet new DST Secretary



Prof. Abhay Karandikar, an electrical engineer who is known for his contributions to the telecommunications sector of the country has taken over the charge of Secretary DST. He developed the concept of "Frugal 5G Network" to enable affordable rural broadband connectivity & contributed to telecom policy & regulations that were included in national-level telecom policies.

[Read More...](#)

INSIDE THE E-NEWS LETTER

Editorial & Cover Stories

Scientific Stories

NM-ICPS



Scientific Stories

Agri-start-ups recommended for technical & financial support from pool of Rs 20 Cr

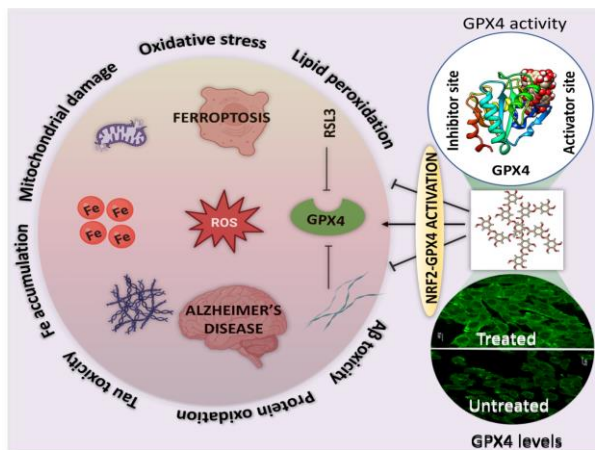
Experts recommended 24 start-ups for technical as well as financial support from a total fund of Rs 20 Cr allocated for accelerating promising ideas, innovations, and technologies.



[Read More...](#)

Potential treatment route for Alzheimer's disease found in natural polyphenol

Scientists have found that highly abundant naturally occurring plant-based polyphenols (PPs) like tannic acid found in twigs of trees like Chestnut and Oak can modulate the ferroptosis-AD axis to yield a safe, cost-effective strategy for combating AD and reduce the societal burden of this debilitating neurodegenerative disorder.



[Read More...](#)

Tunable covalent framework with ultrahigh surface area can help tackle challenges of CO2 Capture

Scientists have developed a new procedure to construct a covalent framework with ultrahigh surface area and devised strategies to enhance the area of adsorbent surface to make carbon capture more efficient.

[Read More...](#)

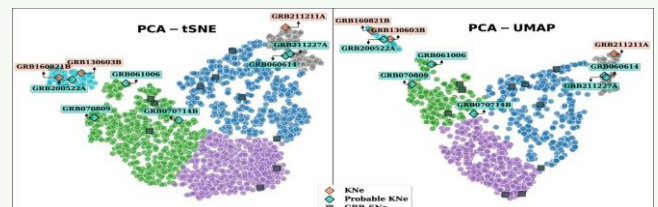
New integrative onsite toilet treatment system could unlock circular economy potential of sanitation

A newly developed integrative-modular-onsite toilet treatment system that provides the complete solution for human waste coupled with resource recovery could help unlocking the circular economy potential in sanitation.

[Read More...](#)

Machine Learning challenges earlier concepts about formation of long and short duration Gamma-Ray Bursts

Machine learning algorithms have revealed unexpected complexity in Gamma-Ray Bursts (GRBs), challenging earlier concepts that Long-duration GRBs, originate from the collapse of massive stars and short-duration GRBs, arise from compact binary mergers.



[Read More...](#)

Long-lost wild relative of Ayurvedic therapeutic plant Chopchini rediscovered in Arunachal Pradesh

The long-lost plant species, Smilax turbans, a wild counterpart of a plant that possesses anti-inflammatory properties and enhances the functioning of the immune system, has been rediscovered during a search in the pristine forests of Arunachal Pradesh.

[Read More...](#)



Different rates of star formation in spiral and irregular galaxies can help understand dark matter & gravitational instabilities

Characteristic differences between star formation in spiral galaxies and irregular galaxies identified by scientists has raised important questions regarding the role of dark matter in regulating star formation and the growth of gravitational instabilities.

[Read More...](#)

Transforming construction for a low carbon future

Innovative low carbon construction materials developed using 3D printing technology can now be used for carbon sequestration and utilisation to reduce carbon emissions in the building industry are in line with the National "net-zero" targets by 2070.

[Read More...](#)

New pathway designed to improve electronic properties of nitride semiconductors

Scientists have found a new way to increase the efficiency of nitride semiconductors used in thermoelectricity, plasmonics, and artificial synaptic devices.



[Read More...](#)

Scientists fabricated optically active flexible biodegradable polymer-nanocomposite films

Researchers have fabricated an optically active biodegradable nanocomposite film with excellent mechanical properties that can be used as a stretchable optical devices like flexible display, flexible organic LED, etc.

[Read More...](#)

New chemically stable cathode material can make Li-ion batteries more efficient

A newly synthesized crystalline, chemically stable material, belonging to the class of crystalline porous organic polymers with permanent porosity and highly ordered structures, could enhance energy density of found to be ideal as a cathode for Li-S batteries and make them more efficient.

[Read More...](#)

Study of energetic ion variations during substorm intervals can help improve accuracy of space weather forecasting

[Read More...](#)

SARS-CoV-2 virus variant that showed rapid transmission in Assam, can help predicting local spread of the disease

[Read More...](#)

DST carried out Special Campaign 2.0 from November, 2022 to August, 2023 for disposal of pending matters & promoting Swachhata

[Read More...](#)

WHAT'S NEW?



- [BRICS 6th Call for proposal-2023](#)
- [DST CETP Call Module 04 \(CCUS\) Pre-proposal Submission](#)

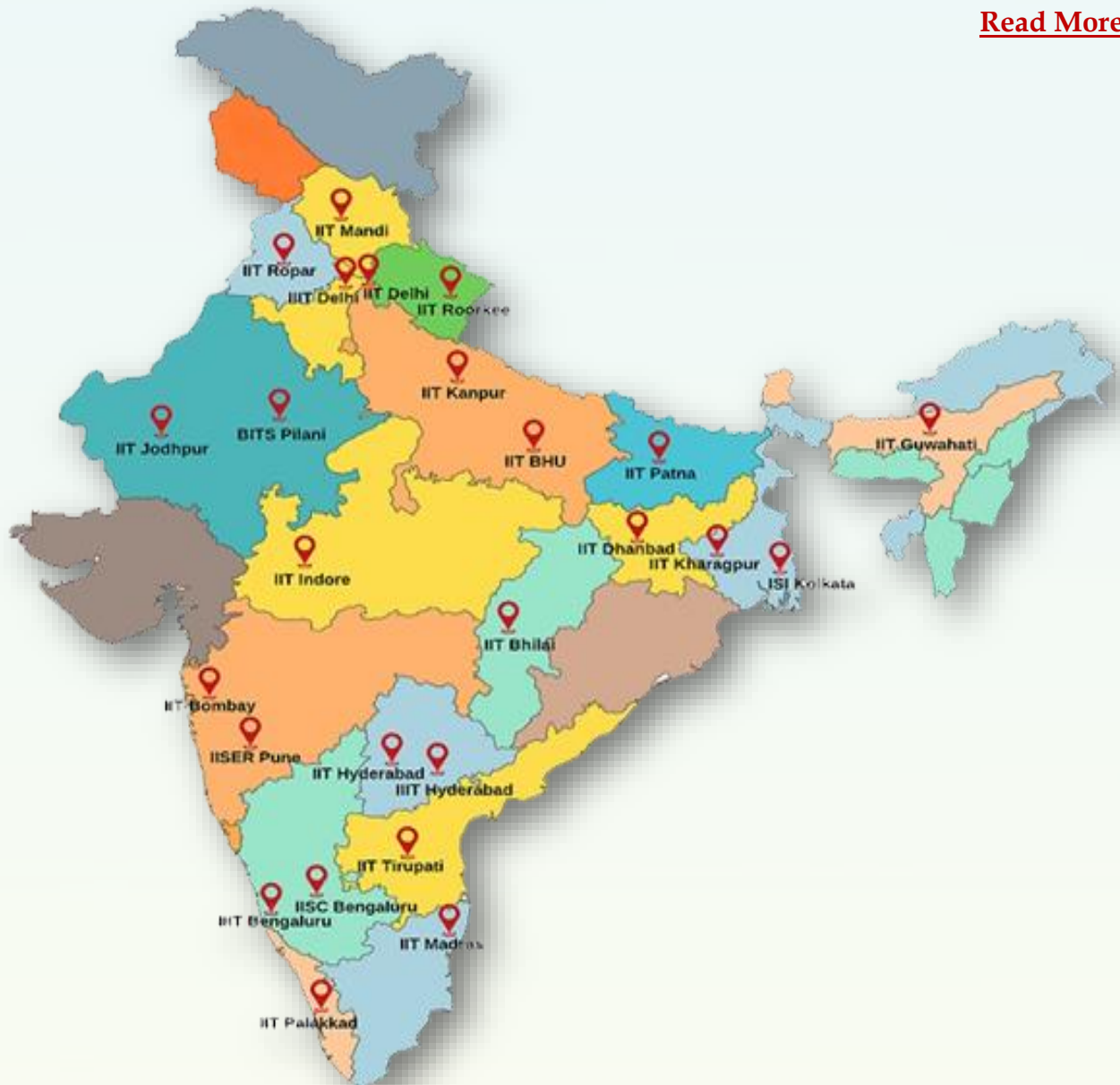
RESEARCH PROPOSAL

- 1
- 2
- 3

NM-ICPS boosting new and emerging technologies to power national initiatives

The National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS) is transforming ideas, concepts and prototypes into market-ready products and boosting new and emerging technologies to power national initiatives in key areas. The 25 Technology Innovation Hubs (TIH) set up across the country under the mission are bringing about the transformation by actively coordinating, communicating, and facilitating technology transfer to industries.

[Read More...](#)



This e-newsletter created by the DST Media Cell at SERB 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 mediacell.dst@gmail.com

Editor-in-Chief: Dr Akhilesh Gupta

Copyright © 2019. All Right Reserved by Department of Science & Technology

Our website:
<https://dst.gov.in/>


FOLLOW US ON



विज्ञान और प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE AND TECHNOLOGY
सत्यमेव जयते

