

# STRIDES

SCIENCE, TECHNOLOGY, RESEARCH, INNOVATION & DEVELOPMENTS

Showcasing DST achievements in S&T and innovation



## EDITORIAL

As India led from the front leveraging science engagements under its G20 Presidency to navigate towards Research and Innovation for Equitable Society, the country emerged as a world leader driving S&T and innovation to promote inclusiveness; empowered citizenship; environmental integrity and protection; peace, prosperity, and wellbeing in the spirit of Vasudhaiva-Kutumbakam (One Earth, One Family, One Future).

Research Ministers reaffirmed their commitment to open, equitable, and secure research and innovation collaboration in Materials for sustainable energy; circular bio-economy; eco-innovations for energy transition; and sustainable blue economy --- the priority topics of the G20 RIIG, for developing solutions that address societal and global challenges.

The outcome document and chair summary finalised and adopted during the Ministerial Meeting reaffirmed the critical role of research and innovation for enabling inclusive and sustainable development and resolved to support efforts for transforming research and innovation systems to respond to the changing world of the 21st century and address tomorrow's challenges.

Thanks to India's leadership, the countries involved are now set to work towards a common understanding of the values and principles that underline open, transparent, and reciprocal international research cooperation to create a path where research and innovation can positively impact global development and foster a better understanding between nations through science diplomacy.

G20 science engagements that took place through a series of meetings in different parts of India in 2023 coordinated by the Department of Science and Technology (DST) could be the harbinger for more sustainable, accessible, inclusive, resilient, and adaptive systems based on common principles that underpin open, transparent, reciprocal, and accountable international research cooperation, heralding the beginnings of a new world order.

This special issue of this newsletter captures the essence of deliberations during this series of meetings.

Editor-In-Chief: Dr. Akhilesh Gupta

EDITORIAL

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DEPARTMENT OF  
SCIENCE AND TECHNOLOGY

सत्यमेव जयते





# G20 SCIENCE ENGAGEMENTS



**Dr. Jitendra Singh urges the G20 countries to "rise above differences" for addressing the challenges confronting the world and act for global well-being in the spirit of one family**

In his welcome remarks at G-20 Research Ministers Meeting in Mumbai, Dr Jitendra Singh said, India recognizes the significance of international collaboration and knowledge sharing in addressing the complex challenges of our times.

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**G20 Research Ministers resolve to transform research and innovation systems to address the challenges of tomorrow**

The Research Ministers of the G20 members and invitee countries, while endorsing and supporting the four priority discussion areas identified by India's Presidency for Research and Innovation Initiative Gathering (RIIG), re-affirmed

the critical role of research and innovation for enabling inclusive and sustainable development and resolved to support all efforts for transforming research and innovation systems to respond to the changing world of the 21st century and address the challenges of tomorrow.

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**Scientific challenges and opportunities for a sustainable blue economy discussed at G20 RIIG Conference at Diu**

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**G20 RIIG experts discussed mechanisms to collaborate and work for Sustainable Energy Technologies**

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**G20 RIIG Conference on Circular Bio-Economy begins in Dibrugarh today**

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**Best practices & policy models of G20 nations for sustainable energy transition discussed at G20 Research Innovation & Initiative Gathering Conference**

Experts deliberated on best practices and policy models of G20 nations for sustainable energy transition at the G20 RIIG Conference on Eco-Innovations for Energy Transition organised at Dharamshala, Himachal Pradesh.

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**Science administrators discuss Research and Innovation for Equitable Society at G20 RIIG inception meeting at Kolkata**

The initiation meeting of the Research and Innovation Initiative Gathering (RIIG), an important part of India's science engagements, kicked off in Kolkata, bringing together scientists & administrators from different areas together to discuss research and innovation for equitable society.

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# COLLABORATIVE SCIENCE STORIES



## Union Minister Dr. Jitendra Singh visits technology showcase & launches several initiatives targeted towards low carbon economy during CEM 14/MI 8 meeting

The Technology Showcase was organized under three parts – Vehicle and Charging, Infrastructure Showcase (by SIAM, TERI, CALSTART, and Drive to Zero), Mission Innovation (by DST), and Clean Tech Start-up.

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## New algorithm to quantify terrestrial RFI in space for earth orbiting radio astronomy experiments

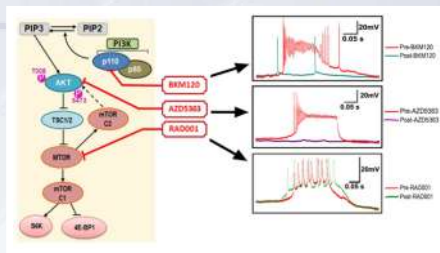
A new algorithm developed by scientists that is capable of estimating and mapping the unwanted RFI signals in space, can help design instruments that are capable of offering optimal operations in the presence of RFI and thereby, enriches the data obtained from the future space-based Astronomy missions.

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## New study offers hope for children suffering from intractable epilepsy

A new study has unravelled mechanisms that lead to certain epilepsies of genetic origin in pediatric population, providing hope for a larger cohort of children suffering from related brain disorders. This research has bridged basic neurobiology and translational biomedical research, that can be the precursor for modern precision medicine. It also highlighted the relevance of repurposing of cancer drugs to treat neurodevelopmental disorders

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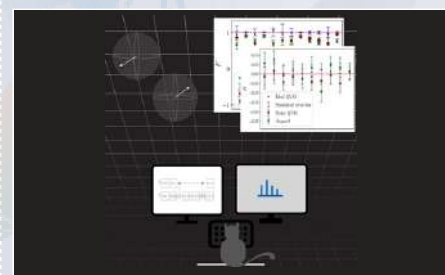


## Indian and Belgian astronomers highlight success of collaboration in space sciences

Experts from India and Belgium and also from United States, Canada, Poland, SriLanka, South Africa, Ethiopia, Kenya highlighted the advantages of scientific collaborations in stimulating

activities in space sciences at the international workshop of the Belgo-Indian Network for Astronomy and astrophysics (BINA) organised by The Aryabhata Research Institute of Observational Sciences (ARIES), an autonomous institute under the Department of Science & Technology (DST), Ministry of Science & Technology, Govt. of India.

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## Quantum computers may help test fundamental physics providing universal programmable setup for quantum experiments

A group of scientists from RRI, an autonomous institute of DST in a collaborative research have used quantum computers to perform some precision tests of the fundamental aspects of the quantum theory called Sorkin and Peres tests.

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# GLIMPSES OF MINISTERIAL MEETING



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