



Embassy of India, Berne

# INDIA SCIENCE AND INNOVATION WEEKLY

14 August 2023

*Ask the right questions, and nature will open the door to her secrets  
- Dr. C.V. Raman, The Nobel Prize in Physics 1930*

## **ARIES Proposed Novel Method to Compute Emission from Accreting Neutron Stars**

Scientists from and Aryabhata Research Institute of Observational Sciences (ARIES), an autonomous institute under the Department of Science & Technology (DST), Government of India and Inter-University Center for Astronomy and Astrophysics (IUCAA) investigated the inflow of matter onto neutron stars (NSs), which are compact stars with masses similar to the Sun, but confined to a very small region like a city and found a novel method to compute emission from accreting neutron stars could help understanding them. According to the ARIES team, "this is probably for the first time any approach to removing degeneracy from two-temperature accretion solutions around NSs has been proposed. Our results would contribute to the understanding of underlying physical processes around NSs."

## **IIT Roorkee Pioneered Novel Catalyst to Alleviate Environmental Impact of Antibiotics**

To alleviate environmental impact of antibiotics, Scientists at the Indian Institute Technology (IIT) Roorkee unveiled an innovative catalyst designed. The team noted that recurrent waves of the COVID-19 virus and its variants have resulted in a huge increase in the use of antimicrobials to control infections. Researchers added that the pioneering strategy aims to effectively detect, mitigate, and disintegrate prevalent antibiotics such as tetracycline and erythromycin that pervade aquatic ecosystems.

## **MeitY Launched 'Indian Web Browser Development Challenge (IWBCD)**

Ministry of Electronics & IT (MeitY) launched the Indian Web Browser Development Challenge (IWBCD). The IWBCD which was an open challenge competition, aimed to inspire and empower technology enthusiasts, innovators, and developers from all corners of the country to create an indigenous web browser with its own trust store with an inbuilt CCA India root certificate, cutting edge functionalities and enhanced security & data privacy protection features. Proposed browser would also focus on accessibility and user friendliness, ensuring built-in support for individuals with diverse abilities. Moreover, the browser envisions the ability to digitally sign documents using a crypto token, bolstering secure transactions and digital interactions. MeitY also added that the challenge addresses one of the critical components 'Web browser'.

## **IISc Successfully Launched 'Agricultural Data Exchange' (ADeX)**

India's first 'Agricultural Data Exchange' (ADeX), which is a collaboration between the Government of Telangana, World Economic Forum, and the Indian Institute of Science (IISc) was successfully launched in Hyderabad on 11th August 2023. ADeX is an open-source, open-standard and inter-operable public good, democratising access to data and enabling the public and private sector to build applications and deliver services that benefit the society. The software platform facilitates secure, standards-based exchange of data between agricultural data users (e.g. agri application developers) and agricultural data providers. In Phase-I, the ADeX Platform is currently deployed in the district of Khammam and over a period, will be expanded to the entire State.

## **Special Update: ISRO Transferred IMS-1 Satellite Technology**

To enhance the private industry participation in the Indian Space sector, the national space agency of India, Indian Space Research Organisation (ISRO) transferred the IMS-1 Satellite Bus Technology to Alpha Design Technologies Pvt. Ltd. (ADTL). NewSpace India Limited (NSIL), the commercial arm of ISRO, facilitated the technology transfer through an agreement signed at the NSIL headquarters. This transfer marks the beginning of satellite-bus technologies developed by ISRO being transferred to private industries. Further, the PSLV is under productionisation by a consortium of industries. ISRO has been enabling private players develop Space technologies by facilitating and extending the expertise thus ensuring both the out-bound and in-bound approaches. The bus serves as a dedicated vehicle for various payloads, enabling Earth imaging, ocean and atmospheric studies, microwave remote sensing, and space science missions while ensuring a quick turnaround time for satellite launches.