



Embassy of India, Berne

# INDIA SCIENCE AND INNOVATION WEEKLY

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

## **TDB-DST Partners with Aloe Ecell for Ecofriendly Primary Battery Innovation**

In consonance towards the initiative, 'Mission LiFE' (Lifestyle for Environment), the Technology Development Board (TDB), Ministry of Science & Technology (MeiTY) collaborated with Aloe Ecell Pvt. Ltd., an innovative startup for commercializing the Eco-friendly-1.5V AA size Aloe Vera-based batteries. Leveraging the inherent properties of Aloe Vera, Aloe Ecell formulated an electrolyte that not only matches the performance of established market standards but also champions environmental responsibility. The company would create facilities for commercial production of primary batteries in Rajasthan. MeiTY also added that the core objective of the project harmonizes seamlessly with 'Mission LiFE's' ethos – to introduce lifestyle choices in harmony with ecological well-being.

## **IIT Kanpur Introduced Novel Touch Sensitive Braille Learning Device**

Indian Institute of Technology Kanpur (IIT Kanpur) introduced ground-breaking novel touch sensitive Single Refreshable Braille Cell Based Braille Learning Device with a Touch Sensitive Array that aimed at revolutionizing Braille literacy for visually impaired and blind individuals. The device offers an affordable, self-learning solution that has the potential to transform the lives of visually impaired and blind individuals. This innovative device serves as a powerful tool for beginners embarking on their journey to learn braille.

## **IIT-Madras' AMTDC Partnered with Fifth Generation Technologies**

To develop smart manufacturing solutions for small and medium manufacturers, Indian Institute of Technology Madras' (IIT Madras) Advanced Manufacturing Technology Development Center (AMTDC), a Centre of Excellence partnered with Fifth Generation Technologies India Pvt. Ltd. The collaboration would also focus on conducting advanced research and development of smart manufacturing technologies for Small and Medium Manufacturers (SMM). The key outcome envisaged from this partnership is the development of AI and Machine Learning-based techniques to drive real-time optimization of different machining processes within the SMM shops. This could help lower operational costs and improve efficiencies.

## **DARE Organised G20 Technical Workshop on "Climate Resilient Agriculture" 4-6 September 2023 in Hyderabad**

Department of Agricultural Research and Education (DARE), Ministry of Agriculture and Farmers Welfare (MAFW) organised the G20 Technical Workshop on "Climate Resilient Agriculture" that aimed to brought together experts from around the world. DARE's Workshop discussed and highlighted the challenges of Climate Change and emphasized the cooperation and exchange of information to enhance the skills and competencies of countries in addressing challenges posed by climate change. With the theme of One Earth, One Family, and One Future, that celebrates the spirit of togetherness and harmony amongst us to ensure a bright future for the world, MAFW also added that climate change are already being experienced by all of us and the recommendations emanated from this workshop would give direction towards attaining climate-resilient agriculture.

## **Special Update: Chandrayaan-3 Mission to send Information About Moon's Atmosphere**

Department of Space, Govt. of India reported that the Chandrayaan-3 mission is expected to send information about Moon's atmosphere, soil, minerals etc, which would be the first of its kind for the scientific community across the world. The main focus of the science payloads onboard Chandrayaan-3 is to provide an integrated assessment of the lunar surface features, including the thermal properties and surface elements of the lunar topsoil (regolith) as well as the plasma environment near the surface. Vikram Lander carries seismometer (ILSA), ChaSTE, Langmuir Probe (RAMBHA-LP), and a laser retroreflector array payloads and the Pragyan Rover carries Alpha Particle X-ray Spectrometer (APXS) and Laser Induced Breakdown Spectroscopy (LIBS) payloads. The payloads would assess the lunar seismic activities and the impact of meteors on the lunar surface.