



Embassy of India, Berne

INDIA SCIENCE AND INNOVATION WEEKLY

25 September 2023

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

IISc Developed New Approach to Potentially Detect and Kill Cancer Cells

Scientists at the Indian Institute of Science (IISc) developed a new approach to potentially detect and kill cancer cells, especially those which form a solid tumour mass. Scientists created hybrid nanoparticles made of gold and copper sulphide, which could kill cancer cells using heat, and enable their detection using sound waves. The IISc team used a novel reduction method to deposit tiny seeds of gold onto the copper sulphide surface. The resulting hybrid nanoparticles – less than 8 nm in size – could potentially travel inside tissues easily and reach tumours. In the current study, researchers tested nanoparticles on lung cancer and cervical cancer cell lines in the lab and now planned to take the results forward for clinical development.

Medical Cobotics Centre (MCC) Inaugurated in New Delhi

To foster innovation in healthcare, iHub Anubhuti-IIITD Foundation (Technology Innovation Hub of IIIT-Delhi) and iHub Foundation for Cobotics (IHFC, Technology Innovation Hub of IIT Delhi) inaugurated the first of its kind joint medical facility, 'MCC-Medical Cobotics Centre' at the Indraprastha Institute of Information Technology (IIIT) Delhi campus. The Medical Cobotics Centre is aimed at being India's first state-of-the-art technology-enabled medical simulation and training facility for doctors, paramedics, technicians, engineers, biomedical researchers.

IIT-Madras to Work with Industries on R&D and Developing Testing/Validation Standards in 'Green Hydrogen'

Indian Institute of Technology Madras (IIT Madras) along with IITM Research Park is collaborating with industries and research institutes on industrial R&D needs, skill development, creating incubators, testing/validation standards and policy advocacy in the 'Green Hydrogen' sector. A key outcome expected from this initiative is to make 'Hydrogen Valley Innovation Cluster in Tamil Nadu' HVIC-TN, the hub of industrial R&D requirements to bring green hydrogen at an economical price and scale. The HVIC-TN would cater to the needs of green hydrogen ambitions of the State and the country by providing technological solutions, support on R&D, skill development, infrastructure building, techno-economic feasibility, and policy/regulatory recommendations. HVIC-TN would also act as a platform for stakeholders in the hydrogen sector to network and enable faster green hydrogen adoption and transition.

CSIR-NIScPR Commenced One Week One Lab Programme

CSIR-National Institute of Science Communication and Policy Research (CSIR-NIScPR) concluded its successful "One Week One Lab (OWOL)" programme, that was commenced on 11th Sept. 2023. The One Week One Lab programme, aimed at fostering public engagement with sciences and science policy and showcased the achievements of CSIR-NIScPR. The highlight of the event was the release of a special publication on Science Diplomacy that marked a significant milestone in the dissemination of knowledge in the field of science diplomacy.

Special Update: IIT-M to Develop Portable Tool to Detect Heavy Metals in Water and Soil

Indian Researchers at Indian Institute of Technology Madras (IIT-M) developing a point-of-use, portable tool to detect heavy metals in soil and water. The research objective is to package the technology into an engineered device, which would be programmed to provide a non-technical read-out value of the soil quality index on a mobile phone-like application. At present, there are no field-usable or point-of-use solutions that a layperson could operate for heavy metal detection in soil. Highlighting the potential key impact of this technology, IIT-M researchers added that it would give farmers the information they need for deciding which crops to cultivate and when to make interventions. Also the current ongoing research is focused on achieving higher resolution detection capabilities for Copper, Lead, and Cadmium (in ppm levels), as well as detection of specific metals.