



Embassy of India, Berne 20 January 2020

INDIA SCIENCE AND INNOVATION WEEKLY

Ask the right questions, and nature will open the door to her secrets.

- Dr. C.V. Raman, The Nobel Prize in Physics 1930

TB Diagnostic test done in India has high diagnostic accuracy

India-made Truenat Mycobacterium tuberculosis (MTB), a molecular test to diagnose pulmonary and extra-pulmonary tuberculosis (TB) and rifampicin-resistant tuberculosis (TB), has shown high diagnostic accuracy with sensitivity and specificity of 83% and 98%. Truenat is battery operated and portable, hence, it can be used in remote places.

Significant breakthrough in fight against malaria

Scientists at the CSIR- Centre for Cellular and Molecular Biology (CCMB) have announced development of an alternative way of gene delivery called the 'Lyse-Reseal' method, which happens within the protozoan parasite that causes Malaria, namely the Plasmodium Falciparum. The group has shown the technique to be as effective as 'electroporation', where pores are created in the cell membrane using electric field to send desired chemicals like DNA.

IIT Kharagpur researchers employ AI in legal cases

Researchers at Indian Institute of Technology (IIT) Kharagpur have evolved an Artificial Intelligence-aided method to automate reading of legal judgments. A research team at the Institute's Department of Computer Science and Engineering has developed two deep neural models to understand the rhetorical roles of sentences in a legal case judgement.

3D-Printed PSI transferred to Industry

The Council for Scientific and Industrial Research (CSIR)-Central Scientific Instruments Organisation (CSIO) has transferred the know-how of "3D Printed Patient Specific Medical Implants" or PSI to the industry. The PSI were developed at "Innovative Additive Research & Manufacturing (iARM) Lab" of the CSIR-CSIO.

Workshop on genetic basis of diseases among various ethnic populations

Researchers from India and USA, who work to understand the genetic basis of diseases among various ethnic populations from different parts of the world, participated in a Workshop organized by Council of Scientific and Industrial Research (CSIR) - Centre for Cellular and Molecular Biology (CCMB), Hyderabad. The Workshop focused on understanding genome information in a better way. Improved information on genome can help fine-tune genome-assisted healthcare, and could even lead to precise, personalized, more effective and economical approaches to healthcare. Researchers are deliberating on genetic and epigenetic basis of different forms of cancer, diabetes, heart and neurological diseases in South Asia and the US.

First Indian e-device to control smog

Indian scientists have developed country's first electronically charged machine with proven potential to address lethal environmental pollution caused by dust and smog. The "electrostatic dust mitigation and smog control device" designed and tested by the Chandigarh-based Central Scientific Instruments Organisation, a lab under the Council of Scientific and Industrial Research, will hit the market in a month after the completion of transfer of technology to the industry. The device works on the principle of storing electronically charged water droplets, which get released once they come into contact with fine particulate matter — PM2.5 and PM10 – and smog. The new device is fast, affordable and consumes one-third water as against conventional devices.

Ariane rocket to launch ISRO's GSAT-30 satellite

India would launch a communication satellite GSAT-30 onboard Ariane-5 launch vehicle (VA 251) from French Guiana on January 17 according to the Indian Space Research Organisation (ISRO). The 3,357-kg satellite is slated to blast off from the Ariane Launch Complex at Kourou, a French territory located along the northeastern coast of South America. The satellite provides Indian mainland and islands coverage in Ku-band and extended coverage in C-band covering Gulf countries, a large number of Asian countries and Australia. The satellite would be extensively used for supporting VSAT network, television uplinking and teleport services, digital satellite news gathering (DSNG), DTH television services, cellular back-haul connectivity and many such applications.

Special Update: National Centre for Cell Science

The National Centre for Cell Science (NCCS), an autonomous organisation aided by the Department of Biotechnology, Government of India, located in Pune. Since its inception, NCCS has been performing cutting-edge research in cell biology, providing valuable services as a national animal cell repository, and supporting human resource development through various teaching and training programmes. NCCS has been at the forefront of basic research in diverse fields of cell biology, especially those addressing important human health issues such as cancer, metabolic disorders, infectious diseases, and regenerative medicine.

Further details can be found at:
<https://www.nccs.res.in/>