Embassy of India, Berne 27 July 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

Airborne test of COVID-19

Institute of Microbial Technology (IMTECH) in Chandigarh and Centre for Cellular and Molecular Biology (CCMB) in Hyderabad are to conduct study by taking air samples from hospital ICUs, isolation centres and public transports to check for COVID-19 presence in air droplets. The sampling is done through specialized machines with suction pumps that trap air samples in a filter.

Bacterial study to understand diabetes and fibrosis

Indian Institute of Technology (IIT) Guwahati researchers have shown how some specialised protein molecules, ATP-Binding Cassette transporters (ABC), found on the cell membranes of all biological cells, help to carry carbohydrate molecules into cells from outside. It would enable better understanding of the causes and effects of a range of disorders, including cystic fibrosis, hypercholesterolaemia and diabetes.

NCPOR - Phytoplankton bloom

National Centre of Polar and Ocean Research (NCPOR), Goa observed in 2017 an unprecedented phytoplankton bloom in the Maud Rise polynya with high concentration of 'chlorophyll a' since 1978. The study suggests that the occurrence of phytoplankton bloom may turn it into a potential sink of atmospheric carbon dioxide through biological pumping and convert it into carbon and energy for the essential base of the marine food web.

IIT Kanpur gets Rs 1.96 billion from Centre to fight cyberthreats

Government of India approved Rs 1.96 billion (approx. CHF 26.13 million) for setting-up a national technical centre at IIT Kanpur to counter growing cyber threats. Known as C3ihub - Cybersecurity and Cybersecurity of Cyberphysical systems Innovation Hub, the centre will include foreign faculty from countries such as Israel and the US.

Serum Institute begins manufacturing Oxford COVID-19 vaccine

Pune-based Serum Institute of India has begun manufacturing the Oxford vaccine (ChAdOx1 nCoV-19) for novel coronavirus. According to Serum Institute, the company intends to manufacture two-three million doses by end-August 2020. The company will begin manufacturing vaccines of such quantity that meets the requirements of a commercial-scale batch for a multicentric phase-3 trial of the vaccine. The production of vaccines, based on the safety and immunogenicity data of the phase-3 trial carried out in India, will trigger production of the vaccines even before the results are formally available.

Cipla and CSIR fast-track repurposed drug Favipiravir

Cipla has scaled up the process in their manufacturing facility and approached Drug Controller General of India (DCGI) for permission to launch of a repurposed drug Favipiravir for COVID-19 in India. CSIR-Indian Institute of Chemical Technology (CSIR-IICT) has developed a cost-effective process using locally available chemicals to synthesize Favipiravir and transferred the technology to Cipla Limited. According to the Indian Institute of Chemical technology (IICT), the technology provided by CSIR-IICT is very efficient, as Key Starting Materials (KSMs) are manufactured locally, which makes it affordable and allows Cipla to make large quantities of the product within a short span of time.

Genetics could help diagnose type-1 diabetes in Indians

Researchers at the KEM Hospital and Research Centre, Pune; CSIR-Centre for Cellular and Molecular Biology (CCMB), Hyderabad; and the University of Exeter in the UK have found that a genetic risk score is effective in diagnosing type-1 diabetes in Indians. The genetic risk score takes into account detailed genetic information that is known to increase the chance of developing type-1 diabetes. The score may be used at the time of diabetes diagnosis to help decide if someone has type-1 diabetes. Although based on European data, the researchers found that the test is effective in diagnosing the right type of diabetes in Indians, even in its current form. They have also found genetic differences between the populations, indicating that the test could be further improved to enhance outcomes for Indian populations.

Special Update: National Metallurgical Laboratory. Jamshedpur

The foundation stone for National Metallurgical Laboratory was laid by Hon'ble Sri C. Rajagopalachari on 21st November, 1946. It was formally inaugurated and dedicated to the nation on 26th November, 1950 by Pandit Jawaharlal Nehru "in a spirit of hope and in a spirit of faith in the future'. The laboratory was an element of Sir Shanti Swaroop Bhatnagar's vision of providing India with a network of research institutions for taking the country ahead in science and technology. CSIR-NML played a significant role in the industrial revolution of India starting from 1950 especially in the areas of mineral processing, iron and steel making, ferroalloys and extraction of non-ferrous metals, notably magnesium. Asia's largest creep testing facility was also set up at CSIR-NML in the early 1970s and even today it ranks as the second largest creep testing lab in Asia.

Further details can be found at:
http://nmlindia.org/