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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

CSIR-NAL researchers develop local non-invasive air ventilators

CSIR-National Aerospace Laboratories (NAL), along with professionals from CSIR-Institute of Genomics and Integrative Biology (IGIB) have indigenously designed and developed the non-invasive bilevel positive airway pressure ventilator – SwasthVayu to treat Covid-19 patients. SwasthVayu is a microcontroller based precise closed-loop adaptive control system with a built-in biocompatible “3D printed manifold and coupler” with Highly Efficient Particulate Air Filter (HEPA).

Indian scholars develop effective Nanoparticles-based cancer drug

Team of Scientists from Regional Centre for Biotechnology (Haryana), Amity University and National Institute of Immunology (New Delhi) have developed cancer treatment using nanoparticles called nanomicelles with fewer side effects and more effectiveness. The team is now working on developing nanomicelles that can carry multiple drugs instead of one drug which would increase the overall efficacy of the treatment method.

40th Indian scientific expedition to Antarctica

The 40th Indian Scientific Expedition to Antarctica (ISEA) has been launched to understand global climate change by studying polar regions, the contribution of climate change towards global sea level rise, background aerosol properties, variability in sea ice cover and phenomenon like Antarctic haze and ozone concentration.

Chandrasekhar limit

The Chandrasekhar Limit, in astrophysics, is the maximum mass theoretically possible for a stable white dwarf. The limiting value was named for the Indian-born astrophysicist Subrahmanyan Chandrasekhar, who formulated it in 1930.

Second COVID vaccination mock-drill

In light of coronavirus vaccine roll-out, the central government is going to execute a second mock drill on vaccine administration to ensure efficient planning and management for vaccine delivery in 700 and more district of all states and Union Territories (UT), on January 8, 2021 to ensure efficient planning and management of world's biggest COVID-19 vaccination programme. Around 1.7 lakh vaccinators and 3 lakh vaccination team members have been trained on the process to be followed at the vaccination sites which include beneficiary verification, vaccination, cold chain & logistics management, bio-medical waste management, Adverse events following immunization (AEFI) management and reporting on Co-WIN software, which has been developed by the Health Ministry for real time information on vaccine stocks, their storage temperature and individualized tracking of beneficiaries for COVID-19 vaccine.

IITians shed light on wastewater surveillance that warn of COVID-19 spikes

Surveillance of untreated wastewater can warn officials about an impending spike or decrease in COVID-19 cases up to two weeks in advance, according to a study conducted by scientists at the Indian Institute of Technology (IIT), Gandhinagar, who analysed SARS-CoV-2 RNA in the 43 samples from four wastewater treatment plants during August 7 to September 30 period in 2020. This study will help the water authorities to identify the hotspots in a city to provide up to 2 weeks of time lead for improvising smart and demand driven interventions for Covid-19 management. Studies have reported that the novel coronavirus is present in the faeces of infected individuals. Genetic material (RNA) from the virus has been found in sewage entering treatment plants.

National Environmental Standards Laboratory

The Foundation Stone of National Environmental Standards Laboratory was laid when the National Atomic Timescale and Bhartiya Nirdeshak Dravya Pranali was dedicated to the Nation. The Indian Standard Time is matching the International Standard Time with the accuracy range of less than 3 nanoseconds, which will be a big help for International Space Research Organization (ISRO), who are working with cutting edge technology. Banking, railways, defense, health, telecom, weather forecast, disaster management and many similar sectors will be benefited greatly from this achievement. While the Bhartiya Nirdeshak Dravya dedicated to the nation today, would help the industry to make quality products in sectors like Heavy metals, Pesticides, Pharma and Textiles by drafting a 'Certified Reference Material System'.

Special Update: National Institute of Mental Health and Neurosciences (NIMHANS)

The National Institute of Mental Health and Neuro Sciences (NIMHANS) is a multidisciplinary institute for patient care and academic pursuit in the field of mental health and neurosciences. NIMHANS is synonymous with providing high standards of clinical care, quality training and cutting-edge research in the frontier areas. NIMHANS has produced more than 1,000 Psychiatrists, about 600 Clinical Psychologists and Psychiatric Nurses so far, who are working in both national and international contexts.

Further details can be found at:
<https://www.mohfw.gov.in/>