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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

Enhanced crop productivity

To understand how microbes interact with in a co-culture, researchers from Indian Institute of Technology (IIT) Madras have, through computer-based modelling, developed a novel algorithm to identify metabolic interactions between bacteria, in order to enhance crop yield in lesser time. The algorithm is based on the popular computer science area called network theory, where the interactions between different elements define their associations.

Brighter LED lights

Researchers from the Indian Institute of Technology (IIT), Guwahati and Imperial College London, UK, have developed a tailored 'meta-grid' of nanoparticles that could make light-emitting diodes (LEDs) even brighter, energy-efficient and durable by reducing Fresnel reflection loss at the chip/encapsulant interface, within a fixed photon escape cone, based on tuning the destructive interference phenomena with help of the 'meta-grid'. This process can be easily integrated into the current LED manufacturing process as well as cater to a wide range of optical gadgets.

CSIR and DU launch add-On course on Analytical Toxicology

Council of Scientific and Industrial Research-Indian Institute of Toxicology Research (CSIR-IITR), Lucknow and Hindu College, University of Delhi have launched an Add-on Course on Analytical Toxicology. This course, which has real-world application, has been offered in light of the new 2020 education policy, to strengthen the link between research and teaching at the undergraduate level.

UPES to turn PPE into biofuel

Researchers from the University of Petroleum and Energy Studies (UPES), Dehradun have suggested a method to convert the plastic used in personal protective equipment (PPE) into renewable liquid fuels, to alleviate the problem of dumped PPE during the COVID-19 pandemic. Through Pyrolysis, the PPE waste is to be converted into biofuel using pyrolysis.

Serum Institute of India to produce 100 million doses of COVID-19

Serum Institute of India (SII), the world's largest vaccine manufacturer by volume, has entered into a new landmark partnership with Gavi, The Vaccine Alliance and the Bill & Melinda Gates Foundation, to accelerate the manufacture and delivery of up to 100 million doses of COVID-19 vaccines for India and low- and middle-income countries (LMICs) IN 2021. The funding will support at-risk manufacturing by SII for candidate vaccines from AstraZeneca and Novavax, which will be available for procurement if they are successful in attaining full licensure and World Health Organisation (WHO) Prequalification. SII has set an affordable ceiling price of INR 250 (USD 3) per dose.

Indian, British experts to study impact of antibiotic disposal in waterways

Indian and British experts are joining forces to investigate the impact that releasing antibiotics from manufacturing plants into India's waterways has on the spread of potentially fatal drug-resistant infections. A research programme led by experts from the UK university and the Indian Institute of Technology (IIT) Hyderabad has received roughly INR 12 crore (GBP 1.2 million) UK and Indian funding to explore the role played by India's rivers in increasing antimicrobial resistance (AMR). The new project is part of a GBP 8-million package of UK-India government-backed research aimed at deepening existing scientific research collaboration with five new programmes to tackle antimicrobial resistance (AMR) that could lead to important advances in the global fight against antibiotic-resistant bacteria and genes.

Nokia to set up robotics lab in IISc

Nokia has teamed up with the Indian Institute of Science (IISc), Bengaluru to establish a Center of Excellence (CoE) for networked robotics. According to Nokia, the CoE will promote interdisciplinary research involving robotics, advanced communication technologies and Artificial Intelligence (AI) to develop socially relevant use cases across areas like emergency management, agriculture and industrial automation. Some of the use cases which the collaboration will explore include using drones for remote management of agricultural orchards to promote water conservation and avoid human contact with pesticide, quickly accessing the affected areas during disaster relief and anticipating crop fires.

Special Update: National Institute of Plant Genome Research

The National Institute of Plant Genome Research [NIPGR] is an autonomous institution based in New Delhi. The Institute started to function in the year 1998 with the mandate to undertake, promote and co-ordinate research, train workers and to serve as information resource in identified aspects of plant genomics to build a frontline institution. NIPGR is poised to contribute towards frontier areas of Plant Biology such as, Computational Biology, Genome Analysis and Molecular Mapping, Molecular Mechanism of Abiotic Stress Responses, Nutritional Genomics, Plant Development and Architecture, Plant Immunity, Molecular Breeding, Transgenics for crop improvement and other emerging areas based on plant genomics.

Further details can be found at:

<http://www.nipgr.ac.in>