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

JNCASR Bengaluru examined adjuvant molecules to fight antibiotic resistance

Researchers from the Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bengaluru studied nonantibiotic compounds called antibiotic adjuvants, which target bacterial resistance and could be used in combination with obsolete drugs for an improved therapeutic regime. Currently, β-lactamase inhibitors are the only type of approved adjuvants. JNCASR researchers have highlighted the importance of structure-activity relationship, in-vivo toxicology studies, pharmacokinetic, and pharmacodynamic studies to aid in developing of other types of adjuvants. The team has stressed the importance of targeting more complicated forms of infection like biofilms and the need to investigate host-modulating properties of different adjuvants.

IISER Bhopal developed AI tool to track intestinal microbial metabolism

Researchers at the Indian Institute of Science Education and Research (IISER) Bhopal developed an Artificial Intelligence (AI) based device, called 'GutBug', to track how microbes metabolize different types of food and drugs in the human gut. The device provided information on the specific bacterial enzymes, reactions, and bacteria involved in the process of digestion and nutrient absorption by the human intestine. A curated database of 363,872 enzymes from approximately 700 bacterial strains of the human gut and a substrate database containing 3,457 enzymes were used to train the AI model. The device has been tested on 27 different molecules, including polysaccharides and flavonoids and proved precise with up to 97 percent success rate.

India tops world nations in AI skill penetration

India had the highest Artificial Intelligence (AI) skill penetration rate in a study published on INDIAai, a web portal launched by the Government of India. The report analysed the performance of world nations in: research and development; technical performance; technical AI ethics; the economy; education; public and governance; diversity; and, public opinion. The AI skill penetration rate is a metric created by employment-focused social media platform, LinkedIn, that measures the prevalence of various AI-related skills across occupations. Furthermore, a large proportion of AI projects on the code hosting platform, GitHub, were contributed by software developers in India in 2022 (24.2%). India stood 5th in the private investment in AI by geographic area, while the country also held the fifth position in the number of newly funded AI Companies by geographic area in 2022.

INCOIS carried out mapping study to probe coastal erosion threats

Indian National Centre for Ocean Information Services (INCOIS), an autonomous organization of the Ministry of Earth Sciences (MoES), Govt. of India, carried out Coastal Vulnerability Index (CVI) mapping to assess the probable implications of sea-level rise along the Indian coast. This exercise generated maps using seven input parameters, i.e. shoreline change rate, sea-level change rate, coastal elevation, coastal slope, coastal geomorphology, significant wave height and tidal range. MoES through its institutes is also providing technical solutions and advice to the State Governments and Union Territories (UTs) to deal with coastal erosion threats. National Centre for Coastal Research (NCCR), Chennai is monitoring the shoreline erosion since 1990 using remote sensing data and geographic information system (GIS) mapping techniques. Totally, 6907.18 km long coastline of the mainland were analysed for the period from 1990 to 2018.

Special update: IIT Madras 'Entrepreneurship Summit 2023'

Indian Institute of Technology (IIT) Madras, Entrepreneurship Cell hosted the eighth edition of its annual 'Entrepreneurship Summit' (E-Summit) and promoted innovation and entrepreneurship from 7th to 9th April 2023. Around 640 start-ups participated in the 'Innovators Conclave' with another 400 taking part in the 'Start-up Conclave.' The E-Summit 2023 was the first-ever student-run entrepreneurial festival in India to have received all ISO, G20, and UNESCO Certifications and catered to over 800 start-ups in various sectors with participation from over 400 colleges across India. This E-Summit also provided a platform for exchange of ideas and sharing of best practices that would lead to successful start-ups in India.