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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

Scientists demonstrate nanoparticle to kill bacteria

Scientist from Anna University along with Australian researchers have demonstrated how drug resistant strains of bacteria could be killed by a hybrid material of nanocomposites made up of silver nanoparticles and a graphene derivate. Researchers have thus explored an alternative treatment option with nanocomposites as opposed to antibiotics.

India's next gen supercomputer to aid in weather forecasting

The Ministry of Earth Sciences will house the third best computing facility in the world by inducting a next generation supercomputer with a capacity of 15 petaflops. The high-performance computer will be used to model activities with specific applications on severe weather, urban meteorology and ocean services.

Scientist develop software to predict ailing heart

Indian Scientists have developed a computer software to monitor irregular heartbeats of a patient by reading deviations in peaks of a single heartbeat, made up of P,Q,R,S and T waves. The study was done at Shri Shankaracharaya College of Engineering and Technology and Chhattisgarh Swami Vivekananda Technical University, Bhilai in Chhattisgarh.

IIT develops PPE coveralls

IIT Delhi's Department of Textile and Fibre Engineering has developed the technology for Personal Protective Equipment (PPE) Coverall against COVID-19. The special-grade polyurethane coating of the coverall repels oil and water, which also blocks the coronavirus easily.

NCL develops face masks

A group of scientists at CSIR-National Chemical Laboratory (NCL) have designed face masks, which can filter out 99 per cent bacteria. The certified masks blocked 99.9 percent of the human pathogen Staphylococcus aureus and 92.63 percent of the particulate filter.

Potential Chemicals to block Coronavirus

Researchers from the CSIR-Institute of Himalayan Bioresource Technology in Palampur have identified organic chemicals in tea plants that could be potentially used to stop the proliferation of the novel coronavirus. They have found that the chemicals, known as polyphenols, bind to a specific viral protein more efficiently than three commercially available anti-HIV drugs approved for treating COVID-19 patients. Using computer-based models, the scientists screened 65 bioactive chemicals found in tea plants. Of the effective polyphenols, theaflavin-3-O-gallate, oolonghomobisflavan-A and theasinensin-D formed stable bonds with the viral protein.

NCCR, India working against marine pollution

The National Center for Coastal Research (NCCR), Ministry of Earth Sciences (MoES), is presently working on improving the country's capabilities in controlling marine pollution. NCCR intends to conduct a model case study to trace pollutants from the source and to also do an impact assessment of marine outflow from pharmaceutical companies in Pondicherry, Srikakulam, and Mangalore. NCCR (Chennai) had recommended new safe limits for lead, arsenic, mercury, chromium, zinc, cadmium, copper and different other pesticides under the Environment (Protection) Amendment Rules, 2020. Accordingly, the Ministry of Environment, Forest and Climate Change (MoEFCC) has amended the Environmental (Protection) Rules, 1986, reflecting the new regulations. It is expected that these new standards would go a long way in securing underwater life as envisaged in the United Nations Sustainable Development Goal-14.

Ashwagandha takes lead in IIT study to be COVID-warrior

According to a collaborative study of International Laboratory for Advanced Biomedicine, DAILAB, which is an international laboratory formed out of the collaboration between the Department of Biotechnology (DBT), India and the National Institute of Advanced Industrial Science and Technology (AIST), Japan, natural compounds from Ashwagandha (Withania somnifera) and Propolis could be potential drug candidates against COVID-19. The researchers targeted the main SARS-CoV-2 enzyme for splitting proteins, known as the Main protease (Mpro), which plays a key role in mediating viral replication by using natural compound called Withanone (Wi-N) derived from Ashwagandha and Caffeic Acid Phenethyl Ester (CAPE), an ingredient of Propolis to interact with and block the activity of Mpro. Current research on Ashwagandha provides hints on its direct anti-viral activities.

Special Update: National Centre for Coastal Research (NCCR)

NCCR, based in Chennai, India, is envisaged to develop and improve the country's capabilities in addressing the challenging problems prevailing in the coastal zone, which have societal, economical and environmental implications. These activities of NCCR offer scientific and technical support to coastal communities and stakeholders for integrated and sustainable use of resources towards socio-economic benefit of the society. The NCCR is mandated to provide best possible technological and scientific services / support for sustainable management of coastal areas by developing and improving capabilities related to coastal water quality, coastal processes, shoreline management, coastal hazards- vulnerability and coastal ecosystems through multi disciplinary and integrated research programmes.

Further details can be found at:
https://www.nccr.gov.in/