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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

NRDC license manufacturing of NavRakshak

The National Research Development Corporation (NRDC) has licensed the manufacturing know-how of NavRakshak, a Personal Protective Equipment (PPE) Suit, to five companies in the Ministry of Micro, Small and Medium Enterprises (MSME) sector. The PPE has been tested and certified at the Institute of Nuclear Medicine and Allied Sciences (INMAS), Defence Research Development Organisation (DRDO).

GNPs synthesized to fight against cancer

The National Centre for Polar and Ocean Research (NCPOR) and the Goa University (GU) have successfully synthesized gold nanoparticles (GNPs) using psychrotolerant Antarctic bacteria through a non-toxic low-cost way in order to be used as composite therapeutic agent to fight cancer, virus, diabetes and cholesterol. The GNPs displayed enough anti-bacterial properties by inhibiting the growth of Sulphate-reducing bacteria (SRB) and its sulphide production by damaging the genetic information of the DNA of the bacterial cell.

Copper-coated jute bead prove useful in protecting water

Researchers at the Indian Institute of Technology (IIT) Madras have shown that simple copper-coated jute beads are highly effective in protecting water and preventing microbial contamination. IIT Madras researchers showed that the copper that was coated on the jute beads did not leach to a large extent into the water.

Artificial sponge to convert waste to health

Research group at CSIR-IICT [Indian Institute of Chemical Technology] have identified new synthetic strategies to produce rigid organic cage/sponge-like molecules called Porous-Organic-Polymer (POP), which soaks in organic biomass. The future plan would be the prospective utility of POP-based catalysts for Synthetic Waste-Plastics transformation to liquid fuel.

Umifenovir secures DCGI approval for phase III clinical trials

CSIR constituent lab CSIR-Central Drug Research Institute (CDRI) Lucknow, has received permission for carrying out Phase III randomized, Double-blind, Placebo-controlled trial of efficacy, safety, and tolerability of antiviral drug Umifenovir. This drug has a good safety profile and acts by preventing the entry of virus into human cells and also by priming the immune system. The Phase III Clinical Trials will be carried out at King George's Medical University (KGMU), Dr Ram Manohar Lohia Institute of Medical Sciences (RMLIMS) and ERA's Lucknow Medical College and Hospital, Lucknow. Umifenovir is mainly used for the treatment of influenza and has recently come into prominence due to its potential use for COVID 19 patients

Partnership between IIT Delhi and UN's World Food Program

UN's World Food Programme (WFP) and the Indian Institute of Technology (IIT), Delhi join hands to develop innovative solutions for enhancing the efficiency and effectiveness of the Government's food safety nets through operations research. The overall objective of this partnership is to use advanced analytics and operations research to develop practical solutions that support long-term strategic planning of procurement, storage, and movement of food grains by agencies such as the Food Corporation of India (FCI) and, at the same time, create cost-effective supply chain networks for distribution of these food grains under the Targeted Public Distribution System (TPDS) at the state level.

First I-Lab launched to speed up COVID-19 testing in remote areas

In order to speed up testing of COVID-19 suspects, the first mobile diagnostic unit I-Lab (Infectious disease diagnostic lab) was launched on 18 June in New Delhi. I-lab is a Biosafety Level (BSL)-2 facility with on-site enzyme-linked immunosorbent assay (ELISA), RT-PCR, and Bio chemistry analysers. It can run 50 RT-PCR and 200 ELISA tests in a day. This mobile unit can be deployed in remote areas and can be lifted from Automotive Chassis and can be put on goods train for sending it to any location in the country. The Lab is as per the National Accreditation Board for Testing and Calibration Laboratories (NABL) specification.

Special Update: Institute of Nuclear Medicine and Allied Sciences

The Institute of Nuclear Medicine and Allied Sciences (INMAS) is working in the area of biomedical and clinical research with reference to radiation, neurocognitive imaging and CBRN research. The main thrust areas of INMAS are the development of radioprotectors, development of diagnostics and therapeutic approaches using noninvasive imaging techniques, neurocognitive and endocrine functional assessment of human body.

The Institute also pursues a strong research programme with application in various stress-related disorders using NMR techniques including metabolomics, in vivo spectroscopy and functional MRI (fMRI). INMAS has established several non-invasive and innovative nuclear medicine methods. The Institute is now working in biological radioprotection (radiation countermeasures); management of thyroid disorders; nuclear and medical imaging; combat casualty management; CBRNe medical management.

Further details can be found at:
https://www.drdo.gov.in/labs-and-establishments/institute-nuclear-medicine-allied-sciences-inmas