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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

IITians develop AI-based mobile app for COVID

Researchers at the Indian Institute of Technology (IIT) Mandi has developed an artificial intelligence (AI) based biometric application to continuously monitor and accurately detect the identity of a home quarantined COVID-19 patient. The mobile application, dubbed LakshmanRekha, uses a combination of biometric verification, geofencing and AI so that no patient can breach the assigned quarantine space.

IITians team up with startup to develop un-manned drone

Indian Institute of Technology (IIT) Kanpur Aeronautics department developed an unmanned drone-helicopter, in collaboration with a startup EndureAir. It operates on petrol and can carry weight up to 5 kilograms and is meant for long-endurance surveillance and can also be used for vaccine distribution.

CSIR-IICT license novel fluorophones to TCI Japan

The CSIR-Indian Institute of Chemical Technology (CSIR-IICT) has licensed the indigenously-made novel fluorophores technology to Tokyo Chemical Industry (TCI) CO Ltd, Japan. The BODIPY-based novel fluorophores could be used for intracellular mitochondrial tracking during various disease conditions.

Dr. Sekharipuram Narayaniyer Seshadri

Dr. Sekharipuram Narayaniyer Seshadri (1937–1986) was an Indian control engineer and the head of the Reactor Control Division of the Bhabha Atomic Research Centre. Dr. Seshadri was known for his work on the control systems for satellite communication, earth station antennas, tracking and telemetering of rockets, and traction motors for high power locomotives. Dr. Sehadri was awarded the Shanti Swarup Bhatnagar Prize for Science and Technology, one of the highest Indian science awards for his contributions to Engineering Sciences in 1978.

Ministry of Science and Technology gets 20% more funds than last year

Ministry of Science and Technology (S&T) has been allocated INR 14,793.66 crore in the budget 2021-22, a 20 percent increase from the current fiscal. In the budget 2021-22, the Department of Science and Technology (DST) has been earmarked INR 6,067.39 crore, while the Department of Biotechnology (DBT) has been given INR 3,502.37 crore and the Department of Scientific and Industrial Research (DSIR) INR 5,224.27 crore. The Ministry of Earth Sciences (MoES) has been allocated INR 1,897.13 crore, separately in order to facilitate a Deep Ocean Mission for more than INR 4000 crore over a five-year period. The mission will cover deep ocean survey exploration and projects for the conservation of deep-sea biodiversity. A budget of INR 50,000 crore has been allocated over five years for the creation of a National Research Foundation (NRF). This organisation will fund research across a range of disciplines, from science and technology to humanities. There is also a substantial increase in investment in Health Infrastructure and the Budget outlay for Health and Well-being of 137 percent.

CSIR-CMERI demonstrate prototypes of advanced mob control vehicles

Council of Scientific and Industrial Research- Central Mechanical Engineering Research Institute (CSIR-CMERI), Durgapur, has developed and demonstrated its three advanced and indigenously designed variants; ‘Compact, Medium, Heavy’ category of Mob Control Vehicles (MCVs) to elevate modern technical support. The Heavy category of these MCV prototypes has a 7.5-ton payload capacity. While the Medium category is of 2.5-ton payload capacity, the Compact one is a tractor-based vehicle for easy maneuvering. The operational units have height adjustable front shovel, retractable protective front shield, all round irritant spray system, foam spray system and tear smoke munitions system. The other capabilities are cabin pressurization system, retractable multi-barrel tear gas launcher with appropriate electronic vision systems, wide-angle surveillance, multi-channel video transmission system, GPS tracker and, GPS navigator.

CSIR-IICT develop and patent waste-to-Gas plant

Council of Scientific and Industrial Research - Indian Institute of Chemical Technology (CSIR-IICT) has developed and patented the technology to convert the waste to wealth, based on ‘Anaerobic Gas lift Reactor (AGR) for generation of methane-rich biogas and nutrient-rich bio-manure. The Biogas plant at Bowengally vegetable market was installed as a ‘Swachh Bharat Mission’ initiative. It has a capacity to treat 10 tonnes of market and vegetable waste every day generating 400-500 units of electricity, and replace about 30 kg of Liquefied Petroleum Gas (LPG) on a daily basis. About 1,400 tonnes of market and vegetable waste has been used for generation of 34,000 m3 of biogas converted to 32,000 units of electricity. Average electricity bill of the agricultural market committee got reduced to INR 1.5 lakh from INR 3 lakh per month.

Special Update: The National Institute of Urban Affairs (NIUA)

The National Institute of Urban Affairs (NIUA) is India’s leading national think tank on urban planning and development. NIUA was appointed as an apex body to support and guide the Government of India in its urban development plans. Since then, it has worked closely with the Ministry of Housing and Urban Affairs, alongside other government and civil sectors, to identify key areas of research, and address the lacunae in urban policy and planning.

Further details can be found at:
https://www.niua.org