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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

Researchers at IIT-Mandi Developed New Method to Fight Plastic Pollution

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Researcher at Indian Institute of Technology (IIT)-Mandi developed a new method photocatalyst that efficiently converts plastics into hydrogen and other useful chemicals when exposed to light, which promises to help, transform plastic into hydrogen. Researchers also found that 100% degradation happened within four hours when they used the catalyst in which iron oxide was present in the polypyrrole matrix in the ratio of about 4% by weight & tested it on polylactic acid, a plastic extensively used in food packaging, textiles, medical items, and cosmetics industries. The study was funded by the Ministry of Education's Scheme for Promotion of Academic and Research Collaboration (SPARC).

Indian Institutes Developed Copper Based Nanoparticle Coatings on Fabric

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Ministry of Electronics and Information Technology (MeitY) reported that International Advanced Research Centre for Powder Metallurgy & New Materials (ARCI), Hyderabad & Centre for Cellular & Molecular Biology (CCMB), & Resil Chemicals Pvt Ltd, Bangalore, developed copper based nanoparticle coatings on fabric, that could be used as self-disinfection masks which give 99.9% protection. The efficacy of the coated fabric against SARS CoV2 was evaluated by CCMB and also tested for other virus and bacteria. The Copper-based nanoparticles have been prepared by a Flame Spray Pyrolysis (FSP).

World's First On-Campus Gas Turbine Facility Established at IIT-Madras

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To build fuel-efficient and less polluting next-generation gas turbines, Indian Institute of Technology (IIT)-Madras along with other contributors established a state-of-the-art expanded gas turbine combustor testing facility at the National Centre for Combustion Research and Development (NCCRD) at IIT-Madras. IIT Madras, also informed that several improved combustor concepts have emerged recently, intending to reduce pollution. However, bringing these concepts into reality requires testing the designs under realistic operating conditions and with this new facility at NCCRD, IIT Madras is expected to bridge this gap as few labs in the world have such capability.

IIT Delhi Startup Developed Highly Effective Antiviral Fabric

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Indian Institute of Technology (IIT)-Delhi incubated a deep-tech healthcare startup Fabiosys Innovations, developed an affordable high-performance medical textile called Fabium, which destroys more than 99% of the bacteria and viruses within 30 minutes. Fabiosys Innovations informed that the high-performance medical textile Fabium is developed using Hi-PAT technology, which makes it highly effective against bacteria, viruses, fungi and could be made with any kind of fabric - Natural or Synthetic; Woven, Non-woven, or knitted. Further, large-scale manufacturing of Fabium requires passing the raw cotton fabric through a set of proprietary chemical formulations while using the standard textile processing machinery, which are commonly available in the Indian textile industry.

Special Update: Petascale Supercomputer Param Shakti Inaugurated at IIT Kharagpur

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Under the National Supercomputing Mission (NSM) - a joint initiative of Ministry of Electronics and Information Technology (MeitY) and Dept. of Science and Technology (DST), a Petascale Supercomputer Param Shakti was inaugurated at IIT-Kharagpur. The new high-performance computational facility Petascale Supercomputer would aid researchers to solve large-scale problems of different fields of Science and Engineering i.e. Computational Fluid Dynamics, Artificial Intelligence, Big Data Analytics, Climate Change & Digital Earth, Computational Biology, Cryptography & Security, Smart Infrastructure & Sustainable Cities, Smart Materials etc. Moreover, this Supercomputing facility would provide industries to reach a position of global esteem.