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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 generate clean fuel hydrogen from water at low-cost

A team from Indian Institute of Technology (IIT) Delhi, in collaboration with Oil and Natural Gas Corporation (ONGC) Energy Centre, India, have succesfully split water by a process known as Sulphur-Iodine (SI) thermochemical hydrogen cycle to generate low-cost, clean hydrogen fuel for industrial consumption. A state-of-the-art experimental and theoretical approach was employed to develop a cost-effective hetrogeneous catalyst that can withstand high temperature and corrosive consitions.

Indian startup fires world's first fully 3D-printed rocket engine

Indian space startup Agnikul Cosmos has become the world's first company to successfully test a fully 3D printed rocket engine, called Agnilet. The rocket engine is capable of carrying upto 100 kilos to low earth orbit (LEO), which is around 700 kilometers above the Earth's surface.

GSI experts find the oldest fossil

Two experts from Geological Survey of India (GSI) have discover world's oldest animal in the Bhimbetka Rock Shelters in Madhya Pradesh, called Dickinsonia, which lived nearly 570 million years ago. The team used the technique of image-based 3D modelling to carefully compare the fossil with other discoveries and found it to be a genuine fossile of the genus Dickinsonia, which lived during the Late Ediacaran period.

ISRO collaborate with MapmyIndia to develop indigenous mapping portal

Indian Space Research Organisation (ISRO) and location and navigation technology solutions provider MapmyIndia has partnered up to offer India's best, and fully indigenous, mapping portal, and geospatial services. It combines the power of MapmyIndia's digital maps and technologies with ISRO's catalogue of satellite imagery and earth observation data. The Department of Space (DoS), to which ISRO belongs to, has entered into an Memoredum of Understanding (MoU) with the parent company of MapmyIndia, CE Info Systems, to combine their geospatial expertise and build holistic solutions by leveraging their geoportals. This collaboration will enable them to jointly identify and build holistic geospatial solutions utilising the earth observation datasets, Navigation with Indian Constellation (NavIC), Web Services, and APIs (application programming interface) available in MapmyIndia, Bhuvan, Visualisation of Earth observation Data and Archival System (VEDAS), and Meteorological and Oceanographic Satellite Data Archival Centre (MOSDAC) geoportals.

IIT Madras incubated start-up P-beam launches 'Made in India' bikes

Pi-beam, a start-up incubated at IIT Madras has launched 'PiMo', an E-bike with a claimed range of 50kms, top speed of 25kmph and charging time of two hours. According to the company, 90 per cent of the crucial components, including the batteries and controllers are made in India. The e-bike which resembles an electric bicycle in design is targeted towards personal and commercial needs. According to the company, the e-bike neither requires a registration nor would the rider have to possess a license. It also offers a 'Battery Swapping' Technology, through which a drained battery can be exchanged for a fully charged battery at designated locations.

NCCR scientist analyze phytoplankton biomass in east and west coast India

Scientists at the National Center for Coastal Research (NCCR) have explored how changes in primary producers of phytoplankton such as Suspended Solid Concentrations (SSC) are affecting the secondary producers of phytoplankton biomass such as nitrogen, phosphorous and silicat. Phytoplankton is an indicator of primary marine productivity and an important component of the seafood web on which regional fisheries depend. Phytoplankton biomass growth is minimum along the East coast of India (ECI) due to higher load of SSC as compared to the West coast of India (WCI), which significantly reduces zooplankton biomass and therefore the fisheries population.

Special Update: Indian Meteorological Department

India Meteorological Department (IMD) was established in 1875. It is the National Meteorological Service of the country and the principal government agency in all matters relating to meteorology and allied subjects. The mandates of IMD are; To take meteorological observations and to provide current and forecast meteorological information for optimum operation of weather-sensitive activities like agriculture, irrigation, shipping, aviation, offshore oil explorations, etc.; To warn against severe weather phenomena like tropical cyclones, norwesters, duststorms, heavy rains and snow, cold and heat waves, etc., which cause destruction of life and property.; To provide meteorological statistics required for agriculture, water resource management, industries, oil exploration and other nation-building activities.; To conduct and promote research in meteorology and allied disciplines.

Further details can be found at:
https://mausam.imd.gov.in/