FISD FORUM FOR INDIAN SCIENCE DIPLOMACY

NEWS ALERT

Forum for Indian Science Diplomacy

RIS's Science Diplomacy News Alert is your fortnightly update on Indian and global developments in science research, technological advancements, science diplomacy, policy and governance. The archives of this news alert are available at http://fisd.in. Please email your valuable feedback and comments to science.diplomacy@ris.org.in

GLOBAL

Ocean Economy & Future Technology Conference held in Oman

The city of Muscat, Oman hosted a two-day conference on Ocean Economy and Future Technology from 11th to 12th February, 2019 in collaboration with the International Forum Science and Technology Diplomacy (IFSTD). The event aimed at developing a global understanding on ocean sustainability through science and technology diplomacy and highlighting future technologies & innovation in the ocean economy. The conference was in conjunction with the annual meeting of the Foreign Ministries S&T Advice Network (FMSTAN).

'Ocean Plastic Innovation Challenge' to address plastic waste problem

The National Geographic Society and Sky Ocean Ventures are jointly holding a competition "the Ocean Plastic Innovation Challenge" to source ideas from around the world for addressing the growing plastic waste crisis. The challenge is split in three tracks, each designed to address a different part of the plastics pollution problem.

Mind reading machine developed using AI technology

Researchers from the Columbia University have built a system that could turn thoughts into speech. It uses brain wave patterns to convert them into understandable dialogue with the help of speech synthesisers and artificial intelligence. The system is based on Auditory Stimulus Reconstruction which is an inverse mapping technique that finds the best approximation of the acoustic stimulus from the population of evoked neural activity.

3-D Printing Technique unveiled for replicating complex structures

The device, termed as "the Replicator" works on the principle of Computed Tomography (CT) scan, but in reverse. It can replicate complex structures using projections of light in a special resin.

Carbon Capture approach using Crystalline Aqueous Guanidine Sorbent

A new research study demonstrates a promising approach to CO_2 which is based on crystallization of bicarbonate-water clusters with a simple guanidine compound. The technique also requires significantly less energy than other state-of-the-art carbon capture technologies. Carbon Capture and Storage offers the prospect of limiting the increase in the atmospheric Carbon-di-oxide concentration and thereby the global temperatures.

World's first dexterous and sentient hand prosthesis developed and successfully implanted

An osseo-neuromuscular implant to control a dextrous hand prosthesis has been successfully placed to a female Swedish patient. It is significant improvement over the conventional prosthetic hands that rely on superficial electrodes that deliver limited and unreliable signals which only allow control of a couple of gross movements. The newly developed titanium implants, on the other hand, provide tactile sensations making it clinically viable and much efficient prosthetic hand. The breakthrough technology is a part of the European project DeTOP under the Horizon 2020.

Purdue University develops a chemical process for polyolefin recycling

Researchers from the Davidson School of Chemical Engineering at Purdue University have developed a new technology to transform the world's polyolefin waste into useful products such as clean fuels. The chemical process involves selective extraction and hydrothermal liquefaction. The research study aligns with Purdue's Giant Leaps celebrations and showcase Purdue University as an intellectual center solving real-world issues.

INDIA

India released Second Biennial Update Report for the UNFCCC

The Government of India has released its second edition of the Biennial Update Report to the United Nations Framework Convention on Climate Change (UNFCCC). The first report was launched in 2016 and is part of India's commitment to the Climate Change Convention. It provides an insight into the country's commitment towards low carbon growth and the Sustainable Development Goals. The report mentions several clean energy initiatives taken at the policy level during these two years and is supplemented by useful data indicators.

DSIR-IIT Kharagpur to establish MSME Hub for Healthcare Technologies

IIT Kharagpur is going to set up a Common Research & Technology Development Hub (CRTDH) on Technologies for Health care. The project is supported by the Department of Scientific & Industrial Research (DSIR), Government of India. The hub is aimed at supporting healthcare technologies based MSME sector and will also address the issue of accessibility and affordability. IIT Kharagpur has developed niche healthcare technologies and medical devices and this initiative will provide a sustainable model for scaling up such technologies for commercial purposes.

Plan for National Energy Storage Mission in India

A draft on National Energy Storage Mission has been proposed by an Expert Committee of the Ministry of New and Renewable Energy, Government of India. The draft encourages manufacturing, deployment, innovation and cost reduction for the regulation and development of energy storage technologies in the country.

GSAT-31 launched from French Guiana

The Indian satellite, GSAT-31 was launched along with a Saudi geostationary satellite from Korou Launch Base, French Guiana on 6th February 2019. GSAT-31 has a unique configuration allowing it to provide flexible coverage over flexible frequency segments and will be used for DTH, telecommunications, Stock-exchange and e-governance applications.

IITs lay impetus on Artificial Intelligence

IIT Madras inaugurated the Robert Bosch Center for Data Science and Artificial Intelligence on February 6th, 2019. The centre is a joint venture between Bosch and IIT-M and has aims at undertaking foundational research in the field of Artificial Intelligence and data science for creating societal impact. Other IITs like IIT- Hyderabad, IIT-Kharagpur,

IIT-Ropar have either launched courses on AI or are in the process of rolling academic programmes devoted to AI and data sciences.

Successful testing of Solid Fuel Ducted Ramjet Propelled Missile

India successfully test fired the indigenously developed Solid Fuel Ducted Ramjet (SFDR) missile on 10th February 2019. The technology demonstration took place from the Integrated Test Range, Chandipur, Odisha and is expected to accelerate the development of long range air-to-air missiles.

Padma Awards conferred in Science

The Government of India declared the list of its annual Padma Awards for the year 2019, prior to the Republic Day. The government has acknowledged the exemplary work done by many distinguished experts from the field of Science & Technology. The scientific sub-categories include Nuclear Science, Industrial Technology, Space Sciences, Agriculture, Environment and Medicine.

We welcome your comments and valuable suggestions. Please write to us for receiving publications, updates and notices regarding seminars, conferences etc.

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