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NEWS ALERT

Forum for Indian Science Diplomacy

RIS 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

UN Environment Assembly (UNEA-4) meet in Nairobi, Kenya

The fourth session of the UN Environment Assembly took place in Nairobi, Kenya from 11th to 15th March 2019. The theme of the session was “Innovative Solutions for Environmental Challenges and Sustainable Consumption and Production (SCP)”. The UNEA-4 was focused on food systems, resource efficiency through life-cycle approaches and sustainable business development. It was preceded by the fourth meeting of the Open-Ended Committee of Permanent Representatives to UNEP (OECPR-4) that took place between 4th and 8th March 2019.

Science Diplomacy Award for SESAME

The Synchrotron-light for Experimental Science and Applications in the Middle East Laboratory (SESAME) received the 2019 award for science diplomacy by the American Association for the Advancement of Science (AAAS). It was recognised for bringing political adversaries together by creating joint spaces for facilitating scientific collaboration among eight countries of the region.

Dr Soumya Swaminathan appointed Chief Scientist at WHO

The World Health Organization has revamped its senior management structure, which includes the creation of new positions and divisions which will help WHO achieve its triple billion targets in its new five-year strategic plan. Dr. Soumya Swaminathan former DG of ICMR India will be chief scientist and one of the two Deputy Director Generals, heading the new chief scientist division created to strengthen WHO’s core scientific work and ensure the quality and consistency of WHO’s norms and standards. A new program pillar, Universal Health Care and the Life Course has been created. The creation of the chief scientist division is expected to offer and improve career opportunities for scientists at the organization. WHO has also announced a new department of digital health, as well as a new division of emergency preparedness to complement WHO’s work on emergency response.

Four new DNA alphabets added post discovery of new bases

According to a new study, the DNA structure would have four synthetic bases along with the four natural ones, resulting in an eight-letter language ‘hachimoji’ after the Japanese words for ‘eight’ and ‘letter’. The new pairs named S & B and P & Z possess variations in

terms of their bonding patterns. Prior to this, it was known that the DNA stores genetic information in the four chemicals known as G (Guanine), C (Cytosine), A (Adenine) and T (Thymine).

Smart Material developed for biomedical applications

Researchers at the Syracuse University have developed a material having potential biomedical applications, for biomedical applications. The Shape Memory Polymer (SMP) can change shape in response to external stimuli like temperature changes or exposure to light because of its enzymatic sensitivity.

Breakthrough research in carbon capture and storage technology

As per a new research study, scientists have harnessed liquid metals to turn carbon dioxide back into solid coal having potential to transform the carbon capture and storage process. The research is a collaboration-based study with researchers from RMIT University, UNSW and Monash University (Australia), University of Munster (Germany), Nanjing University of Aeronautics and Astronautics (China) and North Carolina State University (US).

New method for Cancer Detection developed

Scientists from the University of Illinois, Chicago and Queensland University of Technology, Australia have developed a device which can isolate individual cancer cells from patient blood sample. The device could potentially provide a rapid, cheap and accessible biopsy method for cancer detection and its effective and targeted treatment.

Alloy Material developed for reactor lining

A new tungsten-based alloy that can resist fracture and can withstand unprecedented amounts of radiation without damage has been developed at the Los Alamos National Laboratory, USA. The blend could prove to be extremely useful extreme irradiation environments such as magnetic fusion facilities.

INDIA

PM-STAC & introduced Nine Science and Technology Missions

The Principal Scientific Adviser to the Government of India, Prof. K. Vijay Raghavan recently shared details of the nine national missions guided by the Prime Minister Science, Technology & Innovation Advisory Council (PM-STIAC). The nine missions of national importance through the PM-STIAC, aim to understand and conserve our biodiversity and develop sustainable processes, leverage precision health for personal wellbeing, recover wealth from waste, develop and use artificial intelligence, quantum computing, connected mobility solutions and other technologies to address frontier scientific questions and our challenges, thereby enabling sustainable development for India and the planet.

Global health leaders adopt 'Delhi Declaration' on digital health

The concluding session of the '4th Global Digital Health Partnership Summit,' adopted the Delhi Declaration on digital health for sustainable development, which called for WHO's leadership in digital health and for it to establish a specific mechanism to centrally coordinate digital health to assist its Member States. The Summit is an international collaborative effort of governments and multinational organisations dedicated to improving the health and well-being of their citizens through the best use of evidence-based digital technologies. It was held 25th February to 27th February 2019 and was attended by ministers and government officials from over 34 countries.

Key missions launched by Department of Biotechnology

Department of Biotechnology in the Ministry of Science and Technology, Government of

India, celebrated its 33rd Foundation Day with the theme as "Celebrating Biotechnology: Building Indian as an Innovation Nation". The Health Minister announced key missions which are expected to transform the health, agriculture and energy sectors, on the occasion.

"Signal Chip" unveils India's first indigenous semiconductor chips

India's first Indigenous Semiconductor Chips were unveiled by Bengaluru based semiconductor company "SIGNALCHIP" for 4G/LTE and 5G NR MODEMs recently. This could have huge implications for India's data security and data sovereignty, besides the positive economic implications. At present only 8 companies and a few countries can design and build such advanced semiconductor chips. A high-powered Committee formed by the Government of India and headed by Stanford University professor A.J. Paulraj to outline a road map for 5G telecom services had suggested breaking into the IPRs of 5G.

Twin Success for Quick Reaction Surface-to-Air Missile

Defence Research and Development Organisation (DRDO) successfully test fired indigenously developed Quick Reach Surface-to-Air missiles (QRSAM) from ITR Chandipur, off the Odisha Coast on 26th February 2019. The test flights successfully demonstrated the robust Control, Aerodynamics, Propulsion, Structural performance and high manoeuvring capabilities thus proving the design configuration. The indigenously developed state-of-the-art QRSAM will significantly boost the defence capabilities of India's armed forces.

IIT Madras collaborates to develop Atmospheric Moisture Extraction technologies

IIT Madras has joined hands with a private technology firm, Teertha to develop a low-cost device that can generate potable water from atmospheric air using solar power. The device, named Nero, can produce four to five litres of potable water a day.

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Research and Information System for Developing Countries

Core IV B 4th Floor, India Habitat Centre, Lodi Road, New Delhi 110003, India

Tel:-011- 24682176, E-mail: science.diplomacy@ris.org.in

Website: www.fisd.in

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