

If you can't see this message [View it in your browser.](#)



**FORUM FOR INDIAN
SCIENCE DIPLOMACY**

SCIENCE DIPLOMACY NEWS ALERTS | 01-15 APRIL 2019 | ISSUE 11

www.fisd.in

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

[Intergovernmental Conference on marine biological diversity held at UN headquarters, New York](#)

The second session of Intergovernmental Conference (IGC-2) was held from 25th March to 5th April 2019 at the UN headquarters in New York, focusing on the conservation and sustainable use of marine biodiversity of areas beyond national jurisdiction. The meeting was carried out under the broad framework of the UN Convention on the Law of the Sea (UNCLOS) and discussed a “package” of issues including marine genetic resources (MGRs), area-based management tools, environmental impact assessments (EIAs), and capacity building and transfer of marine technology (CB&TT). There was little progress in bridging differences and most delegations merely stated their views. Serious and fundamental differences remained on MGRs with two options: one based on the common heritage of humankind, with oversight and benefit sharing, and the other based on freedom of the high seas and full freedom of exploitation. Both approaches are found in international agreements, and the matter may further complicate by the mandate that IGC should not undermine existing instruments. The President will draft a new text as a basis for discussion at the next session IGC-3 to be held in 19-30 August 2019 in New York. Given the wide differences in approaches, the impact on other international instruments, and the numerous technical issues, it does not seem likely that discussions would progress to a treaty based text soon, and more IGC sessions may have to be scheduled.

[Japan's Moonshot project aimed at solving global problems](#)

The Japanese Government has announced an ambitious new project- the Moonshot Research and Development System, with a budget of Yen 100 billion to tackle carbon emissions and for creating a plastic-free society. The goals of the project will be decided in June 2019, based on advice from a committee of experts and the public. The project will run for at least 5 years, with possible extension top of 10 years, and follows the recently concluded Impulsing Paradigm Change through Disruptive Technologies Program (ImPACT).

Brazil cuts its federal science budget drastically

The government of Brazil has announced cutting its Science Budget by up to 42 percent in to about USD 750 million (down from USD 900 million in 2017) in order to tackle economic stagnation. The drastic cut has hit, in particular, the Ministry of Science, Technology, Innovation and Communication (MCTIC) resulting in strong criticism by scientists and researchers from across the country, and an exodus of talent from the country.

First ever images of Black Hole unveiled

The Event Horizon Telescope (EHT) has captured the first ever images of a black hole, deep in the heart of a galaxy Messier 87 which is around 55 million light years away from Earth. The discovery further bolsters Einstein's theory of general relativity. The Event Horizon Telescope, combines data from radio telescopes as far apart as the South Pole, France, Chile and Hawaii, creating a telescope as big as Earth itself, with the power to resolve details as small as an orange on the lunar surface. The telescope array also monitored Sagittarius A* (pronounced Sagittarius A-star), at the heart of our Milky Way galaxy, 26,000 light-years from Earth, believed to contain a black hole, with a mass of 4.1 million suns. In April 2017, the network of eight telescopes, including the South Pole Telescope, synchronized by atomic clocks, examined the two targets off and on for 10 days. For two years, the Event Horizon team reduced and collated the results.

New Gene drive developed allowing genetic editing with better selective precision

Scientists at the University of California, San Diego have developed a new version of a gene drive, mediated by a guide RNA (g-RNA) directing CRISPR to cut undesired variants of a gene and replace it with a preferred version. The favourable genetic variants are called "alleled" which can be spread throughout a population using this method. The allelic drive has potential applications in agriculture where specific pest genes which have become insecticide-resistant could be replaced by natural genetic variants thereby returning the sensitivity of the crop to that particular insecticide.

INDIA

National facility for Atom Probe Tomography established at IIT Madras

A national facility for Atom Probe Technology has been established at the Indian Institute of Technology (IIT) Madras in collaboration with other IITs. Other partner institutes include the International Advanced Research Centre for Powder Metallurgy and New Materials, Hyderabad; Board of Research in Nuclear Sciences and the DST Nano Mission. The facility will play a significant role in carrying out future research in advanced materials in the country.

Mobile based application for monitoring cardiac health

A mobile app in the form of a Clinical Decision Support System (CDSS) has been developed as part of collaborative research between Indian and Australian scientists. The system works on android phones and also has an additional feature of sending alerts to health workers about the high-risk individuals who need follow up visits. The technology is an important innovation for effective preventive care in managing heart related ailments at the rural level, which lack advanced medical diagnostic facilities.

IIT Bombay study use a special bacterium to remove aromatic pollutants

A research team from the Department of Biosciences and Bioengineering at IIT Bombay

have successfully used a unique bacterial strain to degrade aromatic compounds and organic acids. The strain known as Pseudomonas putida CSV86 can be potentially used for bioremediation and waste water treatment.

Tool to spot dementia through eye movements developed by IIT Gandhinagar

A team of researchers at IIT Gandhinagar have developed a technology which maps the eye movements in response to the stimulus and can identify subtle patterns to predict whether the person suffers from mild cognitive impairment. This can aid in delaying the progression of dementia which is a neurodegenerative disorder. The tool has been handed over to the industry and undergoing clinical trials to check its functional efficacy.

India conducts ASAT test, successfully

India test fired its first Anti-Satellite weapon (ASAT) terminating a live satellite flying in Low-Earth orbit of 300 kms on March 27th 2019. With this, India has become the fourth country possessing such advanced ASAT technology after US, Russia and China. The project used complete indigenous technology and has strengthened the country's defence capability in outer space. According to experts, the test was conducted at low altitude to ensure that the resulting debris would decay and fall back into the Earth's atmosphere and burn up within weeks and would not pose a hazard to satellites in space.

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



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

Disclaimer:

Opinions and recommendations in the report are exclusively of the author(s) and not of any other individual or institution including FISD. This report has been prepared in good faith on the basis of information available at the date of publication. All interactions and transactions with industry sponsors and their representatives have been transparent and conducted in an open, honest and independent manner as enshrined in FISD Memorandum of Association. FISD does not accept any corporate funding that comes with a mandated research area which is not in line with FISD research agenda. The corporate funding of an FISD activity does not, in any way, imply FISD endorsement of the views of the sponsoring organization or its products or policies. FISD does not conduct research that is focused on any specific product or service provided by the corporate sponsor.

To unsubscribe please [click here](#)