



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

[NASA's InSight Mission Touches Down on Mars](#)

The Insight mission- NASA's Martian mission has reached into the planet's atmosphere successfully completing its seven month long interplanetary journey. Using its ultra-sensitive seismometer, the lander will detect seismic waves rippling through Mars, and then by measuring their propagation through the subsurface, will assemble a detailed picture of Mar's interior for the first time.

[Minamata Convention parties work towards phase-out of Mercury-added products by 2020](#)

The second meeting of the Conference of the Parties (COP2) to the Minamata Convention on Mercury (adopted 2013, 128 signatories and 101 ratifications) took place from 19-23 November 2018 in Geneva, Switzerland. The Minamata Convention bans new and phases out existing mercury mines, and contains measures to control trade, releases, and air emissions, and regulates the informal sector of artisanal and small-scale gold mining. The meeting took place in the background of the fast-approaching deadline for phase-out of manufacture and trade in mercury-added products by 2020.

[SIRIS-REx spacecraft of NASA reaches Asteroid Bennu](#)

NASA's spacecraft SIRIS-REx has reached its destination Asteroid Bennu after having travelled a distance of 130 million kilometers from Earth on a two-year journey. The probe will use a touch- and-go manoeuvre to grab up sand and dust samples from the space rock over the next 18 months.

[Large Hardron Collider shutting down for two years for upgradation](#)

The world's most powerful accelerator, the Large Hardron Collider, located at the particle physics laboratory CERN in Geneva has been shut down for machine upgrade. Planned improvements of the accelerator and its detectors will bring up the energy up to 14 trillion electron volts and will also lay foundation for its next version-the High Luminosity LHC that is expected to be ready by 2026.

[Canada and France plan an international panel to discuss the dangers of AI](#)

Canada and France have announced plans for an International Panel on Artificial

Intelligence at the recently held G7 nations' meeting in Montreal. The panel would cover issues such as AI ethics and autonomous weapons. The coalition would invite all the nations to work on standards and norms for the technology. While Canada has recently invested \$125 million into a Pan-Canadian Artificial Intelligence Strategy (CIFAR), France also had announced a \$1.85 billion AI plan earlier this year.

[Germany to provide Rs 720 crore loan to flood-hit Kerala for building climate resilient transport infrastructure](#)

The German Development Bank, KfW would be providing a loan to India to help rebuild the flood hit state of Kerala. Besides providing climate resilient infrastructure support to Kerala, Germany would also be helping Kochi become a Smart city under the framework of Indo-German cooperation.

[Sun in a box system to store renewable energy](#)

MIT scientists have designed a system that could store renewable energy and deliver it back into an electric grid on demand. This concept called the Thermal Energy Grid Storage-Multi Junction Photovoltaics (TEGS-MPV) involves passing electric current through a heating element instead of using field of mirrors and a central tower to concentrate heat. The researchers estimate the newly designed system to be vastly more affordable and viable than the traditional lithium-ion batteries.

INDIA

[India's first artificial heart valve technology launched](#)

Meril Life Sciences, a global medical device maker launched its first indigenously designed and manufactured artificial aortic valve for patients at high risk of an open-heart valve replacement surgery. The technology called Transcatheter Aortic Heart Valve Replacement (TAVR) will be sold under the brand name "Myval" and falls in line with the Make in India initiative. It involves a minimally invasive procedure wherein an artificial valve is placed into the patient's diseased valve via a catheter inserted through the femoral artery.

[New book on the life of the women physicist Bibha Chowdhuri launched](#)

Two leading science historians, Rajinder Singh and Suprakash C Roy, have sought to answer the question of gender discrimination in science through their new book 'A jewel unearthed: Bibha Chowdhuri'. The woman physicist having conducted some outstanding research work at prestigious places like Tata Institute of Fundamental Research, Mumbai; Indian Institute of Science, Bangalore and Physical Research Laboratory in Ahmedabad, remains an unsung hero (sic) of Indian science.

[IISER Kolkata develops a method to predict solar activity in the next solar cycle \(2020-2031\)](#)

The researchers team from IISER Kolkata simulated the behaviour of the sun using magnetic field evolution models and observational data, spread over the last 100 years. This research work will be important for the understanding of the long-term variations of the sun and its impact on the climate..

[The 18th All India Annual Conference of Heads of Science Centre's and Museums took place in Itanagar, Arunachal Pradesh](#)

The three-day science conference (Dec 8th- Dec 10th) aimed at chalking out strategies to promote scientific temper and to play the role of a catalyst in bringing science nearer to the students. The event also witnessed inauguration of the "Innovation Hub and Space Education Centre" at Itanagar, Arunachal Pradesh.

[Puga field, Ladakh shows highest geothermal potential, according to a study](#)

A team of researchers from Birla Institute of Technology (BITS), Pilani have brought out a new study which concludes that the Puga field of Ladakh has the highest geothermal potential among others in the region. Its highest significance level is followed by Chhumathang, Manikaran, Tattapani, Unhavr Khed and Tapoban which are other notable geo-fields of the region. The study results have been published in the Renewable Energy Journal.

[India's heaviest satellite GSAT-11 shot to space from a European spacecraft Ariane 5 VA46](#)

GSAT-11 which weighs about 5,854 kg was lifted off from the Kourou Launch base in French Guiana along with a South Korean co-passenger satellite. It will provide broadband connectivity to rural and inaccessible village panchayats under BharatNet, part of the Digital India initiative.

[IISc Seismologist wins India's 1st 'National Award for Woman Scientist'](#)

Kusala Rajendran, an earth scientist and seismologist from the Indian Institute of Sciences, Bangalore has won India's first ever 'National Award for Woman Scientist' for Ocean Sciences and Technology and Atmospheric Sciences Technology. A PhD from the University of South Carolina, Kusala worked with the National Centre for Earth Sciences till 2007. She has been part of studying every significant earthquake in India including the 2001 Bhuj earthquake.

[India plans to expand its under-sea mining for seabed minerals](#)

The Government of India is planning an investment of more than \$1 billion to develop and test deep sea technologies, eyeing minerals like copper, nickel and cobalt as it ramps up clean power generation. The International Seabed Authority (ISA), which is a UN body that oversees mining on high seas, allows India to explore an area of 75,000 square kilometres in the Indian ocean. Dating back to more than two decades, India's deep-sea exploration programme now aims at scaling up in a more environment friendly way.

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