



Presents

Science & Technology Affairs - August 2019

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Monthly Current Affairs August 2019

Science and Technology

Japan approves growing human organs in animals for first time

- Scientists in Japan will begin trying to grow human organs in animals after receiving government permission for the first study of its kind in the country. It is the first step in what researchers caution is a very long path towards a future where human organs for transplant could be grown inside animals.

Tigers in India face lurking threat from virus

- A potential virus Canine Distemper Virus (CDV) that can be transmitted from CDV-infected dogs living in and around wildlife sanctuaries has started to raise concern among wildlife biologists. Canine distemper is a contagious and serious disease caused by a virus that attacks the respiratory, gastrointestinal and nervous systems of puppies and dogs.

India's Deep Ocean Mission

- India's ambitious 'Deep Ocean Mission' is all set to be launched this year. One of the main aims of the mission is to explore and extract polymetallic nodules. These are small potato-like rounded accretions composed of minerals such as manganese, nickel, cobalt, copper and iron hydroxide.

Ocean warming, overfishing increase methylmercury toxin in fish

- The amount of toxin that gets accumulated in certain fish which are higher in the food chain have been found to increase. The researchers warn that human exposure to the toxin through fish consumption is bound to increase as a result of climate change.

Pink bollworm pest appears in cotton in Telangana districts

- The dreaded cotton crop pest, pink bollworm, has made its appearance in some fields near Ponnari village in Tamsi mandal of Adilabad district, galvanising agriculture scientists to initiate measures to control its spread. The pest can be controlled by setting up of pheromone traps, manually destroying the infested rosette flowers and judicious use of neem seed kernel extract as pesticide at this stage.

Hottest month on Earth

- July 2019 was the joint-hottest month on Earth (July 2016 was equally hot), according to the United Nations. Due to the rise in global temperature, in 2019, the extent of sea ice in the polar regions has dropped well below the average levels seen in past three decades. This is expected to add to the increasing sea levels, which have been steadily rising in the recent years.

India gets its first national essential diagnostics list

- India has got its first National Essential Diagnostics List (NEDL) finalised by the Indian Council of Medical Research (ICMR) which aims to bridge the current regulatory system's gap that do not cover all the medical devices and in-vitro diagnostic device (IVD).

Sai Baba college girls' idea on reusing plastic waste wins award

- Girl students from the Sri Sai Baba National Degree College won a year of mentorship at the Atal Incubation Centre, Sri Krishnadevaraya University, for their innovative idea at the first-ever two-day Ideathon conducted by the Atal Innovation Mission on 'Solution for Plastic Pollution'.

Star tortoise, otters get higher protection at CITES

- India's proposal to upgrade the protection of star tortoises (*Geochelone elegans*), the smooth-coated otter (*Lutrogale perspicillata*) and small-clawed otters (*Aonyx cinereus*) in CITES (Convention on International Trade in Endangered Species on Wild Fauna and Flora) have been approved.

- These species have been listed under Appendix I of CITES and will now enjoy the highest degree of protection as there will be a complete international ban enforced on their trade. The upgradation was approved at the Conference of the Parties (COP18) held at Geneva.

Hurricane Dorian becomes a Category 4 storm

- Hurricane Dorian powered toward Florida with increasing fury, becoming an “extremely dangerous” Category 4 storm but leaving forecasters uncertain whether it would make a direct hit on the state’s east coast or inflict a glancing blow.

Inventions / Discover

Indian egg-eating snake spotted in Bukkapatna

- A two ft-long Indian egg-eating snake has for the first time been spotted in Bukkapatna forest in Sira taluk of Tumakuru district in Karnataka. The rare species which is found in the Indian subcontinent and only eats birds eggs was spotted by members of WARCO (Wildlife Awareness and Reptile Conservation Organisation).

Artificial Intelligence used to detect fast radio bursts

- Scientists have developed an automated system that uses artificial intelligence (AI) to detect and capture fast radio bursts (FRBs) in real-time. FRBs are mysterious and powerful flashes of radio waves from space, thought to originate billions of light years from the Earth, said researchers from Swinburne University of Technology in Australia.

Low-cost handheld device to help detect bacteria developed

- Researchers at the Indian Institute of Technology - Guwahati (IIT-G) have developed a low-cost handheld biocompatible sensor that can detect bacteria almost instantaneously without cell culture and microbiological assays.

New cure for deadly strain of tuberculosis

- The three-drug regimen consists of bedaquiline, pretomanid and linezolid collectively known as the BPaL regimen. Pretomanid is the novel compound developed by the New York-based non-profit organisation TB Alliance and which received the FDA greenlight. The new treatment which cures highly drug-resistant strains of tuberculosis will drastically shorten the treatment period.

Five new fish species discovered in Arunachal Pradesh

- In Arunachal Pradesh, researchers of the Rajiv Gandhi University have discovered five new fish species in various districts of the state. The scientific names of the newly-discovered fish species are *Mystus prabini*, *Exostoma kottelati*, *Creteuchiloglanis tawangensis*, *Garra ranganensis* and *Physoschistura harkishorei*.

New species of freshwater fish found

- Scientists of the Zoological Survey of India have discovered two new species of freshwater fish from the north-eastern and northern parts of the country. While *Glyptothorax gopii*, a new species of catfish was found in Mizoram's Kaladan river, *Garra simbalbaraensis* was found in Himachal Pradesh's Simbalbara river. Both fish, measuring less than seven centimetres, are hill stream fauna and are equipped with special morphological features to suit rapid water flow.

Rare tarantula sighted in Villupuram district

- The spider belonging to the genus *Poecilotheria*, commonly known as the Peacock Parachute Spider or Gooty Tarantula was spotted by a team of researchers of the Puducherry-based Indigenous Biodiversity Foundation (IBF) in the Pakkamalai Reserve Forests near Gingee in Villupuram district.

Space Science

ISRO releases first set of earth pictures captured by Chandrayaan-2

- Space agency ISRO released the first set of pictures of the earth, captured by Chandrayaan 2, the country's second Moon mission launched a fortnight ago. The pictures were captured by L 14 camera on board Chandrayaan II. The LI-4 camera onboard the lander Vikram of the spacecraft show the crystal clear and panoramic view of the earth, around which it is still revolving.

Chandrayaan-2 successfully completes its final earth-bound orbit-raising manoeuvre

- India's lunar probe Chandrayaan-2 has successfully completed its fifth and final earth-bound orbit-raising manoeuvre. The manoeuvre led the spacecraft to reach an orbit of substantial apogee, that is the farthest point from the Earth. The country's second lunar expedition to the Moon, Chandrayaan-2 is expected to reach an orbit around the Moon on the 20th of August.

ISRO says Chandrayaan-2 to move towards moon

- Indian Space Research Organisation chairman Dr K Sivan has said, the organization on August 14 will perform a maneuver called trans-lunar injection by which Chandrayaan 2 will leave earth and move towards the moon's orbit. The ISRO Chairman said, the spacecraft will be reaching the moon's orbit on 20th of this month and it will be landing on the moon's surface on 7th of next month by performing a series of maneuvers.

Chandrayaan-2 moon mission ready to enter lunar orbit today

- Indian Space Research Organisation Chairman Dr. K Sivan has informed that Chandrayaan-2 moon mission will have lunar orbit ion at around 9.30 am. The liquid engine onboard the spacecraft will be fired to slow down the spacecraft until Moon's gravity captures it. Chandrayaan 2 was launched on July 22 by GSLV Mark III-M1 launch vehicle and after around 29 days, its ion into lunar orbit today will be considered as another milestone for ISRO

Chandrayaan-2 precisely inserted in defined lunar orbit

- The Indian Space Research Organisation, ISRO, has successfully manoeuvred Chandrayaan-2 satellite into lunar orbit using the on-board propulsion system. The lander Vikram will be separated from the orbiter on 2nd September and on 4th September the lander will reach nearest to the surface of the moon at 35 Kilometres.

Russia sends its first humanoid robot Fedor into space

- Russia launched an unmanned rocket carrying a life-size humanoid robot that will spend 10 days learning to assist astronauts on the International Space Station. Named Fedor, short for Final Experimental Demonstration Object Research, the robot is the first ever sent up by Russia.

Russian space suits for Gaganyaan

- India and Russia are negotiating the supply of space suits, crew seats and windows for astronauts who will be part of Gaganyaan, India's first human space mission set for 2022, according to a release issued by Russia's state-owned Roscosmos.
- Four Indians will be trained at the Yuri Gagarin Cosmonaut Centre as per a contract signed on June 27 between Indian Space Research Organisation (ISRO) and Russian space agency Glavkosmos, part of Roscosmos.

The day Pluto was demoted

- On August 24, 2006, the solar system witnessed an astronomical change when the number of planets in it was cut down from nine to eight. Pluto was demoted from the category of planets and reclassified as a dwarf planet.

Chandrayaan-2 scans Mitra crater

- Chandrayaan-2's orbiter or mother spacecraft has scanned a crater on the moon named after 20th century's acclaimed radio physicist Sisir Kumar Mitra. At 25 degrees Kelvin (minus 248 degrees Celsius), the northern polar region is believed to be one of the coldest spots in the solar system.

App/ Web Portal/ Toll Free**Mobile application-“Janaushadhi Sugam” launched**

- Union Minister for Chemicals and Fertilizers, Shri D.V. Sadananda Gowda launched a mobile application “Janaushadhi Sugam” and had announced that “Jan Aushadhi Suvidha Oxo-Biodegradable

Sanitary Napkin” will now be available at only One Rupee per pad. “Janaushadhi Sugam” will enable people to search Janaushadhi generic medicines and the stores at the tip of their fingers.

Water Plus Protocol, Swachh Nagar app

- Shri Hardeep Singh Puri, Minister of State (Independent Charge) for Housing & Urban Affairs launched the Swachh Survekshan 2020 (SS 2020), the fifth edition of the annual cleanliness survey conducted by the Ministry of Housing and Urban Affairs (MoHUA).
- Alongside, the Swachh Survekshan 2020 Toolkit, SBM Water PLUS Protocol and Toolkit, Swachh Nagar an integrated waste management app and AI enabled mSBM App were also launched.

NOC online Application Processing System for National Monuments Authority

- The Minister of State for Culture & Tourism (Independent Charge), Shri Prahlad Singh Patel launched an integrated NOC online Application Processing System for National Monuments Authority (NMA) for 517 local bodies of six states in New Delhi today. This will help in online processing of applications requesting NOC for construction related work in prohibited and regulated area of ASI protected monuments.

Union HRD Minister launches Integrated Online junction for School Education ‘Shagun’

- Union Human Resource Development Minister Shri Ramesh Pokhriyal ‘Nishank’ launched one of world’s largest Integrated Online Junction for School Education ‘Shagun’ in New Delhi. School Education Shagun (URL: <http://shagun.govt.in/>) is an over-arching initiative to improve school education system by creating a junction for all online portals and websites relating to various activities of the Department of School Education and Literacy in the Government of India and all States and Union Territories.

Mr. Puri launched an aviation job portal

- Civil Aviation Minister Mr Hardeep Singh Puri launched an aviation job portal. Aviation jobs is a unique web-based portal which brings together job seekers and prospective employers in the Indian civil aviation sector.

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