

### **Inventions / Discover**

#### **First inorganic blue in 200 years**

- YInMn Blue' or 'Mas blue', an inorganic blue pigment that was accidentally discovered by Professor M A 'Mas' Subramanian in the year 2009, has today become a billion-dollar product.
- YInMn Blue stands for yttrium, indium oxide and manganese. YInMn Blue is chemically stable, does not fade, and is non-toxic.

#### **Two frog species discovered in Eastern and Western Ghats**

- Two species of frogs have been recorded in the Indian peninsular Fejervarya kalinaga from the Eastern Ghats and Fejervarya krishnan from the Western Ghats.

#### **New route to clean wastewater**

- Self-propelling nano motors, just 200 nano metre in size, could be used for wastewater management in chemical industries.
- Developed by researchers from Indian Institute of Science Education and Research, Kolkata, and The Institute of Mathematical Sciences, Chennai, the nano motor can be used for transporting catalysts needed in harsh chemical environments and removing unwanted chemicals in water.

#### **Novel gold nano complex for cancer drug delivery**

- Using gold nano particles coated with a simple organic molecule (porphyrin), researchers from CSIR-Indian Institute of Chemical Biology, Kolkata, have designed an efficient drug nano carrier.
- The nano carrier was found to effectively deliver doxorubicin (anti-tumour drug) to the nucleus of the diseased cell and bring about programmed cell death.

#### **Treating latent TB of the uterus improves pregnancy outcomes in infertile women**

- For the first time, researchers have been able to find a direct association between latent TB of the endometrium (inner lining of the uterus) and fewer eggs in the ovary, technically called low ovarian reserve, in infertile women.

**Toothpaste contribute to antibiotic resistance**

- A common ingredient Triclosan, found in toothpastes and hand washes could be contributing to the rise of antibiotic resistant bacteria, a study has found.

**World's first known natural manta ray nursery**

- Scientists have discovered the world's first known natural manta ray nursery, located in the Gulf of Mexico which could allow them to observe the juvenile marine creatures in their habitat and learn more about them.

**First ever inter-State re-introduction of tigers**

- First time in the country's conservation history T-2, a three-year-old tiger from the Kanha Tiger Reserve in Madhya Pradesh introduced it to Odisha's Satkosia Tiger Reserve, marking the first ever inter-State re-introduction of tigers.

**World's smallest computer device created**

- Scientists have developed the world's smallest computer "**Michigan Micro Mote**"– a device that measures just 0.3 millimeters and could help find new ways to monitor and treat cancer.

**New type of photosynthesis discovered**

- The new study shows that many cyanobacteria or blue-green algae can carry out photosynthesis in the far red light or near infrared light of 750 nm. All photosynthetic organisms use chlorophyll-a for the process, but the researchers found that when cyanobacteria was grown in near- infrared light, chlorophyll a shuts down and a special chlorophyll, chlorophyll-f, performs the same task.

**IISc researchers find asthma drug effective in treating TB**

- A drug (Pranlukast) currently used for treating asthma has been found to be effective against tuberculosis, researchers from the Indian Institute of Science (IISc), Bengaluru, have found.

**India's first robotic telescope**

- India's newest telescope located at the Indian Astronomical Observatory (IAO) at Hanle in Ladakh has started observing the skies. The country's first robotic telescope observed its first light of the targeted Messier catalog – a catalog of nearby, bright astronomical sources accessible from the northern hemisphere.

**World's lightest satellite to space**

- Four Chennai city students build a satellite "Jai Hind 1-S" weighing 33.39 grams, probably the world's lightest and cheapest.
- It will travel to the United States next month and find a place, among other scientific material, at the Colorado Space Grant Consortium, NASA.

**James Webb Space Telescope to study Jupiter's Great Red Spot: NASA**

- NASA's James Webb Space Telescope, the most ambitious and complex space observatory ever built will be used to study Jupiter's Great Red Spot, shedding new light on the enigmatic storm that has been raging on the planet for over 350 years.

**Novel packaging extends shelf-life of chicken**

- Researcher from Bhabha Atomic Research Centre (BARC), Mumbai have developed a new eco-friendly food-packaging material using mango peel extracts and three other biodegradable polymers to extend the shelf-life of chicken.

**Harpin biopesticide**

- Researchers at the University of Hyderabad have found that harpin biopesticide brought about 80-90% reduction in severity of fungal infection in tomato plants when it is encapsulated in chitosan nanoparticles.

## Space Science

### **China launches new earth observation satellite**

- China today successfully launched a new earth observation (Gaofen-6) satellite launched on a Long March-2D rocket which will be mainly used in agricultural resources research and disaster monitoring, official media reported.
- A scientific experiment satellite named Luojia-1 was sent into space at the same time. It was the 276th mission of the Long March rocket series.

### **Cabinet approves Polar Satellite Launch Vehicle Mark-III Continuation Programme – Phase 6**

- The Union Cabinet chaired by Prime Minister Modi has approved the Polar Satellite Launch Vehicle (PSLV) Continuation Programme (Phase 6) and funding of thirty PSLV operational flights under the Programme.

### **Cabinet approves Continuation Programme for Geosynchronous Satellite Launch Vehicle Mark-III**

- The Union Cabinet chaired by Prime Minister Modi has approved funding for the for Geosynchronous Satellite Launch Vehicle Mark-III (GSLV Mk-III) continuation programme (Phase-I) consisting of ten (10) GSLV (Mk-III) flights.

### **NASA's IMAP to study cosmic rays in heliosphere**

- NASA is targeting 2024 for the launch of a new mission to learn more about the generation of cosmic rays in the heliosphere, a sort of magnetic bubble surrounding and protecting our solar system.
- The Interstellar Mapping and Acceleration Probe (IMAP) mission will help researchers better understand the boundary of the heliosphere.

### **NASA rover data shows Mars had organic compounds, methane**

- Curiosity rover has detected organic compounds on the surface of Mars and seasonal fluctuations of atmospheric methane.

- About 95 % of the methane in Earth's atmosphere is produced from biological activity, though the scientists said it is too soon to know if the Martian methane also is related to life.

#### **Isro offers e-vehicle cell technology to firms for Rs 1 crore**

- Indian Space Research Organization (Isro) has offered the industry its indigenously developed lithium ion cell technology at a cost of Rs 1 crore for its use in automobiles.
- The e-vehicle green project initiative is expected to promote the government's zero emission policy.

#### **Russia launches Glonass-M navigation satellite**

- Russia successfully launched a Glonass-M positioning satellite using a Soyuz-2.1b carrier rocket.
- The Glonass network provides real-time positioning data for surface, sea and airborne objects around the globe, at accuracy reportedly on par with the U.S. Global Positioning System.

#### **Japan Aerospace Exploration Agency (JAXA) mission reaches unexplored asteroid Ryugu**

- Hayabusa2 probe has reached Ryugu asteroid 300 million km away to collect information about the birth of the solar system and the origin of life after a more than three-year voyage through deep space.

#### **An 'EPIC' planet discovered by ISRO's PRL scientists**

- A team from the Physical Research Laboratory, Ahmedabad, has spotted for the first time a distant planet six times bigger than Earth and revolving around a Sun-like star about 600 light years away.
- Both the planet and the star have been named EPIC.
- The discovery was made using a PRL-designed spectrograph, PARAS, to measure and confirm the mass of the new planet.

#### **Discovery of a Sub-Saturn like Planet**

- Physical Research Laboratory (PRL), Ahmedabad, discovered a sub-Saturn or super-neptune size planet around a Sun-like star. The planet will be known as EPIC 211945201b or K2-236b.

### **App/ Web Portal/ Toll Free**

#### **Online Analytical Tool to monitor foreign contributions under FCRA**

- Union Home Minister Shri Rajnath Singh launched an Online Analytical Tool to facilitate closer monitoring of the flow and utilization of foreign contributions received by various organizations registered or permitted under the Foreign Contribution (Regulation) Act, 2010.

#### **Cube Wealth**

- Cube Wealth, India's first "one app, one minute" service that offers members wealth creation, automated savings, and expense management through an award-winning user-interface was launched in India.

#### **Earth Science ministry introduces new forecast model**

- The Ministry of Earth Science (MoES) launched the Ensemble Prediction System (EPS) for generating more accurate and area specific forecast of extreme weather events like rains, heat wave and cold wave.

#### **Online RTI Portal by ECI**

- **Election Commission Of India Launches its online RTI Portal**

#### **Rail MADAD (Mobile Application for Desired Assistance During travel)**

- Shri Piyush Goyal, Minister of Railways & Coal launched a new App "Rail Madad", An App to expedite & streamline passenger grievance redressal.

#### **Menu on Rails**

- A Mobile Application developed by IRCTC for creating awareness to the Railway Passengers for the items served to them on their Rail Journey.

#### **NXP Secure Service 2GO Platform.**

- **Punjab-Business first portal**-facilitate the industrialists for Regulatory Clearances and Fiscal Approvals, real time tracking of applications at common platform.
- **NXP Semiconductors** has partnered with **Mastercard and Visa** to launch the **new mWallet 2GO**, a white label wallet service developed on the **2GO Platform**.

#### **New software designed to assess road safety measures**

- The Andhra State government developed new software in association with iNative Solutions Private Limited to assess the reasons accurately and come out with solutions to prevent road accidents.
- APPRSP application will be useful for common people also to know the traffic jams, alerts from the departments and others. SHOs have to fill data relating to accidents in APPRSP by using smart phones

#### **Utsonmobile app**

- The Centre for Railway Information System (CRIS) has developed a mobile based application ‘utsonmobile’ for Cashless Ticketing.

#### **New Incredible India website**

- The Minister of State (I/C) for Tourism Shri K.J. Alphons launched the new Incredible India website in New Delhi. The website showcases India as a holistic destination, revolving around major experiences, such as, spirituality, heritage, adventure, culture, yoga, wellness and more.

#### **‘i-Hariyali’**

- Punjab State Government has launched a mobile application ‘i-Hariyali’ to order free plant saplings.

#### **OTS Cabs app**

- The app OTS Cabs which is short for Ottunar Thozhargal Sangam, indicating an association of drivers, is set to be launched on the Android and iOS platform in Chennai.

#### **Uzhavan app**

- The Uzhavan mobile app, launched by the Tamil Nadu Agriculture Department provides information on the government's schemes on subsidy and crop insurance, the status of seed and fertilizer stock, market price, position of reservoirs and the weather forecast.

#### **‘Cop Connect’, the mobile-based application**

- The Telangana police have launched a mobile-based messenger application ‘Cop Connect’, to provide real time information to over 60,000 police officers across the State.

#### **ICDS-CAS (Common Application Software)**

- ICDS-CAS (Common Application Software) has been specially designed to strengthen the Service Delivery System as well as the mechanism for Real Time Monitoring (RTM) for nutritional outcomes and Timely interventions in POSHAN Abhiyaan.

#### **“Goamiles”**

- The Goa government will launch its own “Goamiles” app-based taxi service to some key tourist destinations in the state from next month.

#### **‘ReUnite’**

- Union Minister of Commerce & Industry and Civil Aviation, Suresh Prabhu launched a mobile application called ReUnite which helps to track and trace missing and abandoned children in India.

#### **DISHA dashboard**

- Ministry of Rural Development this week launched the DISHA dashboard, a nifty tool that will make it easier to monitor governance by geography in real time.