30 March 2018 – NASA’s Interior Exploration using Seismic Investigations, Geodesy and Heat Transport (InSight), which is a stationary lander, is scheduled to launch in May 2018 to explore the interior structure of Mars. The main instruments on InSight lander are the seismometer (SEIS) for measuring the vibrations caused by internal activity, the heat probe (HP3) for taking Mars’ inner temperature, and a radio science instrument (RISE) for detecting the orbital wobbles of Mars’ North Pole. These will answer the key questions about how rocky planets in our inner solar system are formed.

Source: NASA

16 April 2018 – The U.S. Army Research Laboratory has developed an artificial intelligence (AI) and Machine Learning technique to produce a visible face image from a thermal image of person’s face in low-light or nighttime condition. The technology is to match between thermal face images and existing biometric face databases or watch lists that only contain visible face imagery by the thermal-to-visible face synthesis. The ability to perform automatic face recognition at nighttime is beneficial for informing soldiers about the presence of individuals of interest.

Source: ScienceDaily
[https://www.sciencedaily.com/releases/2018/04/180416142443.htm]

23 April 2018 – Caltech proposed the usage of “glow-in-the-dark” contact lenses in diabetic patients to prevent diabetic retinopathy. Tritium is used as a growing material in the contact lens, which emits faint light that enough to decrease the oxygen demand in low-light conditions and 90% rod cell activity was reduced resulting in prevention of the damage of blood vessels in retina.

Source: Caltech
25 April 2018 – **3-D printed dentures** filled with antifungal medication has been developed to treat denture-related stomatitis in highly susceptible to oral fungal infection patients. The dentures filled with **microcapsules** that periodically release Amphotericin B, were fabricated with acrylamide using 3-D printer. It has the potential to reduce cost and time which allows clinicians to rapidly create personal customization of the product.

Source: ScienceDaily

16 April 2018 – Dr. John McGeehan of the University of Portsmouth (UK) and his colleagues have reported the engineered “PETase”, which is originally secreted by a strain of plastic-eating bacterium called **Ideonella Sakaiensis 201–F6**, with 20% faster digestion rate than the natural variety. They used the protein crystallography and computer modelling to study its structure and the region where the breakdown occurs. However, its plastic-digesting ability needs further improvement for industrial and commercial uses.

Source: The Economist