

EVENTS

Kepler scare

NASA mission managers were shocked to discover on 7 April that the exoplanet-hunting Kepler space telescope had entered emergency mode. Mission control was able to return it to normal operations three days later, but the cause of the malfunction remained a mystery as *Nature* went to press. This was the first software glitch in Kepler's seven years in space, although it previously suffered hardware breakdowns. The spacecraft has lost at least the first several days of a planet-hunting campaign that it was scheduled to begin on 7 April and conduct until 1 July. See go.nature.com/mu7woc for more.

China satellite lab

China has launched its largest-ever suite of microgravity and life-science experiments into orbit. The country's Shijian-10 probe left the Jiuquan Satellite Launch Center in Gansu province, northern China, on 7 April. It is carrying 19 experiments that include tests to assess the effects of radiation on genes as well as the influence of microgravity on materials, fluid physics and combustion. The early development of mouse embryos in microgravity will also be examined. After its 15-day mission, the bullet-shaped craft will re-enter Earth's atmosphere to be recovered from a landing site in Inner Mongolia.

Self-driving lorries

Six squads of automated lorries successfully arrived in Rotterdam in the Netherlands on 6 April after having driven themselves from Sweden, Belgium and Germany, with one fleet travelling more



SPACE X

SpaceX rocket touches down at sea

SpaceX took a major step towards re-usable rockets when it flawlessly landed the first stage of its Falcon 9 rocket on an unmanned ship in the Atlantic Ocean, after an 8 April launch from Cape Canaveral, Florida. It was the first successful landing of the rocket at sea, following four attempts that resulted in crashes. The company, based in Hawthorne, California,

returned an intact Falcon rocket to land in December last year. The latest flight delivered cargo to the International Space Station (ISS), including an expandable astronaut habitat designed by Bigelow Aerospace of North Las Vegas, Nevada. The previous SpaceX mission to the ISS failed when a Falcon 9 rocket broke apart after launch in June 2015.

than 2,000 kilometres from Stockholm. The trial was part of the Dutch-government-led European Truck Platooning Challenge and included lorries from six different manufacturers. 'Truck platooning' involves two or more lorries connected by WiFi and driving in a convoy, with the first vehicle determining the speed and route. The technology aims to save fuel by enabling lorries to travel closer together, which reduces air drag.

Bank climate plan

The World Bank announced a Climate Change Action Plan on 7 April to help countries to meet their commitments

under the United Nations climate agreement signed in Paris in December 2015, and to prepare for unavoidable impacts of climate change. Under the plan, the bank will mobilize US\$25 billion in private financing for clean energy by 2020. Among other actions, it will quadruple funding for clean transportation programmes and help to bring early-warning systems for natural disasters to 100 million people.

RESEARCH

Embryos edited

Researchers at Guangzhou Medical University in China have reported editing the

genes of non-viable human embryos to try to make them resistant to HIV infection. The team collected a total of 213 fertilized human eggs, donated by 87 patients, that were unsuitable for implantation as part of *in vitro* fertility therapy because they contained an extra set of chromosomes. The researchers then used the CRISPR-Cas9 genome-editing technique to introduce into some of the embryos a mutation that cripples an immune-cell gene called *CCR5*. Some people naturally carry this mutation, which alters the *CCR5* protein in a way that prevents the HIV virus from entering

the cells it tries to infect. Genetic analysis showed that 4 of 26 human embryos targeted were modified with the *CCR5* mutation. But in some embryos, not all sets of chromosomes harboured the mutation; some contained the unmodified gene, whereas others had acquired different mutations. In April 2015, a different China-based team announced that it had modified a gene linked to a blood disease in non-viable human embryos, igniting a worldwide storm of ethics concerns. See go.nature.com/igymgu for more.

ENVIRONMENT

Reef catastrophe

Huge swathes of coral in Australia's Great Barrier Reef are undergoing severe bleaching (pictured), according to aerial surveys. Many corals in the northern part of the reef are likely to die, because raised sea temperatures have caused them to expel the symbiotic algae that give them their colour. Researchers at the ARC Centre of Excellence for Coral Reef Studies in Townsville, Queensland, who are assessing the damage, say that more than 1,200 kilometres of the roughly 2,300-kilometre-long reef have bleached, and that the situation is



substantially worse than in the two previous bleaching episodes in 1998 and 2002. See go.nature.com/ys7bau for more.

Cambodia tiger loss

Tigers are no longer breeding in Cambodia and the population there should be considered "functionally extinct", the conservation group WWF announced on 6 April in Phnom Penh. The last wild tiger there was seen on a camera trap in 2007 in the Mondulkiri Protected Forest. But the WWF noted that national estimates and data compiled by the International Union for Conservation of Nature suggest that global tiger populations have rebounded to 3,890, from about 3,200 in 2010. Cambodia plans to

bring eight young tigers from India into its dry forests in the Eastern Plains by 2019, as part of the global Tx2 initiative aiming to double wild tiger populations by the year 2022.

BUSINESS

Pharma merger off

A marriage between two large pharmaceutical companies has been called off. Pfizer of New York City and Allergan of Dublin announced on 6 April that they had terminated a proposed merger process, which would have enabled the resulting company to take advantage of lower taxes in Ireland. The news came two days after the US Department of the Treasury unveiled stricter rules on companies that seek

COMING UP

16–20 APRIL

The American Association for Cancer Research holds its annual meeting in New Orleans, Louisiana. go.nature.com/q1t4fp

17–22 APRIL

The American Meteorological Society's 32nd meeting on hurricanes and tropical meteorology convenes in San Juan, Puerto Rico. go.nature.com/pvszif

18–19 APRIL

London hosts the military space situational awareness conference. go.nature.com/n6zeqm

to move abroad to avoid US taxes. Pfizer pledged to announce by the end of the year whether it will spin off some parts of the company.

PEOPLE

NASA science chief

Former astronaut John Grunsfeld, who has overseen NASA's science portfolio since 2012, announced his retirement from the space agency on 5 April. The physicist and space-telescope expert flew five times on the space shuttle — including three visits to the Hubble Space Telescope — and was the lead spacewalker on the final flight to maintain and upgrade the telescope in 2009. As associate administrator for NASA's Science Mission Directorate, he was responsible for more than 100 missions, such as the New Horizons spacecraft that visited Pluto last year. Grunsfeld's deputy, Geoff Yoder, will take charge until a successor is chosen.

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TREND WATCH

Contracts with the International Seabed Authority (ISA), which regulates sea-bed mining in international waters, have picked up in recent years. Although commercial mining operations have not yet started, governments and corporations have signed contracts with the ISA to allow them to explore areas of the world's oceans for materials including manganese nodules, copper, zinc, cobalt and platinum. Researchers have warned about the environmental impacts, saying that stricter regulation is needed.

SEA-BED MINING HEATS UP

The number of contracts with the ISA shows growing interest in the exploration of mineral resources under the seas.

