

SEVEN DAYS

The news in brief

RESEARCH

CRISPR human trial

The first human therapy to involve the CRISPR–Cas9 gene-editing technology passed a major hurdle on 21 June, when a federal advisory panel at the US National Institutes of Health approved a proposal to use the technique to edit T cells, a type of immune cell, taken from people with cancer. The trial, which would be run by the University of Pennsylvania in Philadelphia, would simultaneously enhance the T cells' ability to destroy cancerous cells and protect them from being attacked by the cells. US regulators have yet to approve the trial. See page 590 and go.nature.com/28qkj6m for more.

FACILITIES

Olympic doping lab

The World Anti-Doping Agency (WADA) has suspended the accreditation of the laboratory in Rio de Janeiro, Brazil, that was to have handled anti-doping tests of urine and blood samples from athletes at the city's upcoming Olympic Games. WADA announced on 24 June that the facility had failed to conform with its international laboratory standards — but did not specify why. Brazil has had previous such troubles: it lacked a WADA-accredited lab for the Rio-hosted 2014 football World Cup. Football's governing body FIFA decided to fly samples to a lab in Switzerland for testing.

EVENTS

Brexit shock

The United Kingdom's vote to leave the European Union in a referendum on 23 June has left researchers scrambling to protect their scientific relationships and funding



ROBERT SCHWARZ/NATIONAL SCIENCE FOUNDATION

Two workers rescued in Antarctic mission

Two ill crew members were evacuated from the US Amundsen-Scott South Pole Station on 22 June. A Twin Otter aeroplane operated by Kenn Borek Air of Calgary, Canada, travelled to the pole after stopping at Britain's Rothera station. It was only the third midwinter flight ever made

to the pole, following medical evacuations in 2001 and 2003. The National Science Foundation, which oversees US research at the pole, did not release the names or conditions of the patients; both were flown to southern Chile and onwards to receive medical treatment.

streams. In a surprise to many observers, 52% of voters chose to leave the EU. In the run-up to the referendum, a number of senior academics and research organizations (and *Nature*) had voiced fears that a vote to leave would be highly disruptive to science. See pages 589 and 597 for more.

Coral crisis

More than 2,500 coral-reef scientists, policymakers and stakeholders have written to the Australian prime minister demanding that the government stop approving new coal mines, because climate change is the major threat to reef ecosystems. The letter, sent on 25 June after last week's International Coral

Reef Symposium in Honolulu, Hawaii, notes that Australia's Great Barrier Reef has been devastated by bleaching this year. Reef bleaching around the world will worsen as global temperatures rise. The signatories say that the government should “stop endorsing the export of coal” and halt plans for controversial mines in Queensland.

India space record

India's space agency set a record on 22 June by launching 20 satellites into orbit in a single mission — the biggest number in the agency's history. Its previous record for a single launch was ten satellites. The payload, which launched from a site in the eastern state of Andhra Pradesh, included

13 satellites from the United States. The achievement brings the agency's delivery rate closer to those of NASA and Roscosmos, and cements India's place as a major player in the space industry.

Chinese rocket

China's new Long March 7 rocket made a successful maiden flight on 26 June. The rocket, which launched from Hainan Island, is eventually intended for use in transporting cargo and people to a new Chinese space station planned for 2022. It uses a kerosene and liquid-oxygen fuel, which is less toxic than propellants of older Chinese rockets. The launch delivered several satellites to low-Earth orbit.

Trachea surgeon

Controversial surgeon Paolo Macchiarini, who pioneered transplants of artificial windpipes seeded with patients' own stem cells, is facing preliminary charges of involuntary manslaughter in connection with two patients who died after surgery, public prosecutors in Stockholm announced on 22 June.

Macchiarini is also suspected of causing grievous bodily harm to another transplant patient and to a patient undergoing a different type of operation, they said. In March, Macchiarini was fired from the Karolinska Institute in Stockholm — where he had worked since 2010 — after allegations of clinical and scientific misconduct. No formal charges have been brought and Macchiarini denies any wrongdoing.

Helen Edwards dies

Physicist Helen Edwards, a driving force behind the Tevatron particle accelerator at Fermilab near Chicago, Illinois, died on 21 June, aged 80. Edwards (pictured) led the design and construction of the Tevatron, which began smashing together protons and antiprotons in 1985; a decade later, observations of these collisions resulted in the discovery of the top



quark. Edwards also worked on accelerator designs for future high-energy-physics machines. The Tevatron closed in 2011.

AWARDS

Blavatnik awards

The three winners of this year's US Blavatnik Awards for Young Scientists were announced on 21 June. David Charbonneau at Harvard University in Cambridge, Massachusetts, was honoured for his work on observational astronomical methods used to search for chemical signatures of life in space. Phil Baran at the Scripps Research Institute in La Jolla, California, won for his research on the use of chemical synthesis to design scalable, efficient routes to potential new drugs. Michael Rape at the University of California, Berkeley, was rewarded for his discoveries

in cellular signalling involving the protein ubiquitin. Each person receives US\$250,000 — the largest unrestricted cash prize for early-career scientists. The prizes are awarded annually by the Blavatnik Family Foundation and the New York Academy of Sciences.

POLICY

Looser drone rules

The United States has markedly relaxed its rules that govern the use of small drones, clearing the way for commercial — and many scientific — applications. The policy, announced by the White House on 21 June, had been under development at the Federal Aviation Administration (FAA) for years. Many scientists had been unable to use drones for research because the machines could not be flown for 'commercial' use, which included research and teaching activities at private universities. The latest rules, which apply to drones weighing less than 25 kilograms, require commercial operators to be certified with the FAA. Drones must be kept within the line of sight.

Chemical control

Long-awaited reforms to US chemical regulations were signed into law on 22 June by President Barack Obama.

COMING UP

7 JULY

A *Soyuz* rocket launches to take Anatoly Ivanishin, Kate Rubins and Takuya Onishi to the International Space Station.

27 JUNE–2 JULY

The Starmus festival in the Canary Islands, Spain, brings together astronomy, art and music with speakers including Brian May, Stephen Hawking and Brian Eno.

www.starmus.com

The update to the 1976 Toxic Substances Control Act gives the US Environmental Protection Agency greater authority to ensure the safety of chemicals — both old and new. Under the revised law, the agency can request more information from chemical manufacturers and even compel firms to conduct extra safety studies. Several previous attempts to overhaul the law had failed over the past decade.

NASA travel ban

NASA has effectively banned its employees and contractors from attending a major space-research conference that begins in Istanbul, Turkey, on 30 July, citing security concerns. An internal memo dated 21 June reports that NASA head Charles Bolden made the decision to not sponsor or process travel to the Committee on Space Research (COSPAR) assembly in line with travel warnings issued by the US state department. Lennard Fisk, a space scientist at the University of Michigan in Ann Arbor and president of COSPAR, decried the decision as giving in to terrorist threats.

TREND WATCH

A Chinese computer tops the list of the world's 500 fastest supercomputers, for the seventh consecutive time. The leading machine, Sunway TaihuLight at the National Supercomputing Centre in Wuxi, can make 93 quadrillion calculations per second. It is almost three times as powerful as the previous list's winner, Tianhe-2, also in China. For the first time, China overtakes the United States in number of supercomputers in the biannual TOP500 ranking. It had just one machine on the list until 2000.

SUPERCOMPUTER SUPERPOWER

China has ended the United States' dominance in supercomputing, overtaking it in number of machines, as well as speed.

