

FACILITIES

Reactor shutdown

The US Geological Survey (USGS) has shut down its research reactor in Denver, Colorado, following two investigations by the US Nuclear Regulatory Commission (NRC). One found that a supervisor at the reactor had provided false documentation of staff training that had never occurred; the other found that the same supervisor had violated NRC regulations by performing some tests without a second qualified person present. In a 5 February statement, the NRC proposed fining the agency US\$7,250. The USGS says that it “takes these violations very seriously and is committed to complying with all NRC requirements”. It has revoked the supervisor’s access to the reactor, and has requested both a government investigation and an independent external review. The reactor has operated since the late 1960s and is used for research such as dating geological samples.

RESEARCH

Gene-editing trial

Stock in the gene-editing company Sangamo Therapeutics plunged by 33% on 7 February, after the company announced disappointing results from a clinical trial of a therapy to treat a rare genetic disease. The trial was the first to test a gene-editing technology called zinc-finger nucleases to alter the genome directly inside the body, rather than in isolated cells that had been removed, treated and then reinserted into a patient. Sangamo, of Brisbane, California, tested the technique against a disease called Hunter’s syndrome or MPS II, which is caused by insufficient levels of an enzyme

required to break down certain toxic sugars. Although the treatment seemed to be safe in the eight participants for whom data were available, urine samples from six of them revealed that levels of the sugars were unchanged. The company plans to launch trials of a second-generation version of the treatment later this year.

POLICY

HIV epidemic

In his State of the Union address on 5 February, President Donald Trump committed to eliminating the HIV epidemic in the United States by 2030. On

6 January, officials at the US Department of Health and Human Services (HHS) announced a strategy to cut new HIV infections by 75% in five years and by at least 90% in ten. The plan involves curbing the rate of new infections by regularly testing people who are at high risk, offering them drugs called PrEP to prevent infection, and starting people on virus-suppressing drugs immediately after diagnosis. At-risk groups include men who have sex with men, transgender people and African Americans. Many researchers applaud the president’s goal, but

are sceptical that his administration can effectively reach out to communities that it has helped to marginalize.

FDA crackdown

The US Food and Drug Administration (FDA) is cracking down on the US\$40-billion dietary supplements industry for touting unproven products. In an 11 February statement, FDA commissioner Scott Gottlieb said that the agency had sent 17 warning letters to companies marketing unapproved supplements as treatments for illnesses including Alzheimer’s disease and cancer. Gottlieb said that the agency would soon



UESLEI MARCELINO/REUTERS

Past five years are warmest on record

The average global temperature for 2018 was the fourth highest on record, according to separate analyses released on 6 February by NASA and the US National Oceanic and Atmospheric Administration (NOAA). Both analyses confirm similar findings from the United Kingdom’s Met Office and the World Meteorological Organization. NASA reported

that the average temperature was 0.83 °C above the mean for 1951–80. The years from 2014 to 2018 rank as the warmest 5 years on record, and 9 of the 10 warmest years in the nearly 140-year record have occurred since 2005. NOAA also reported that the average ice extent in both the Arctic and Antarctic for 2018 was the second lowest since record-keeping began in 1979.

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implement “one of the most significant modernizations of dietary supplement regulation and oversight in more than 25 years”. The FDA plans to develop a system that would allow it to quickly communicate its concerns about new products to the public, and it will pursue additional enforcement strategies against companies selling unproven or dangerous supplements.

EVENTS

Indonesian protest

Hundreds of scientists in Indonesia protested on Friday against a major reorganization of the country's largest research institution that is set to relocate more than 1,400 science-support jobs. The head of the Indonesian Institute of Sciences (LIPI), Laksana Tri Handoko, says that the changes will make the organization more efficient and will allow scientists to concentrate on research. The restructure will move 1,420 of the 1,771 administration staff, such as librarians, from individual centres to the organization's main research hubs or its headquarters in Jakarta. But researchers at LIPI, a constellation of research centres across the country, say that Handoko

failed to consult with senior scientists about how the restructure would affect their centres and staff. Handoko says that he did consult with his deputies, and that administration staff were asked where they would prefer to work. But he concedes that details about how support staff would be relocated were not shared with employees. He has indicated that he will now put a temporary stop to the reorganization, create a team to evaluate it, and include LIPI scientists in further deliberations.

Coal mine shunned

An Australian court has rejected an application to build an open-cut coal mine because of the potential contribution to greenhouse-gas emissions and global warming. The New South Wales Land and Environment Court turned down an appeal by mining company Gloucester Resources, which had sought to overturn a previous government decision against establishing a mine near the town of Gloucester in eastern Australia. It is the first time a new mine has been rejected in the country, which is the world's leading coal exporter, because of the potential contribution to global warming. Chief judge Brian

Preston ruled that the project should be refused because the greenhouse-gas emissions from the mine and its product will raise emissions when rapid decreases are needed.

PEOPLE

UK medical chief

England's chief medical officer, Sally Davies, is stepping down after nine years in the role. Davies, a physician and haematologist, was the first woman to hold the job, which involves advising the UK government on medical practice. During her tenure, Davies advised on the government's response to health emergencies such as the 2014–16 West Africa Ebola outbreak and the 2018 nerve-agent attacks in Salisbury, UK. She also raised the profile of antimicrobial resistance on the world stage, and helped to establish a £265-million (US\$341-million) fund to develop laboratories around the world to track the problem. She reviewed the evidence on the medical use of cannabis, which resulted in its introduction as a medical treatment in the United Kingdom in certain circumstances. Davies will become master of Trinity College, University of Cambridge, UK, in October.

**Rosalind rover**

A European Mars rover that will head to the red planet in 2020 has been named after British DNA pioneer Rosalind Franklin (pictured). Franklin's name was selected by a panel after a public competition that drew more than 35,000 suggestions. The rover will go to Mars as part of ExoMars 2020, a European–Russian mission that will search for signs of life. It will land in the Oxia Planum region, which is thought to have once been filled with water, and will be the first rover on Mars to drill down 2 metres below the surface looking for signatures of life. Franklin was an instrumental part of the team that revealed the double-helix structure of DNA in the 1950s, using X-ray crystallography, but her contribution was long overlooked. She died in 1958, aged 37.

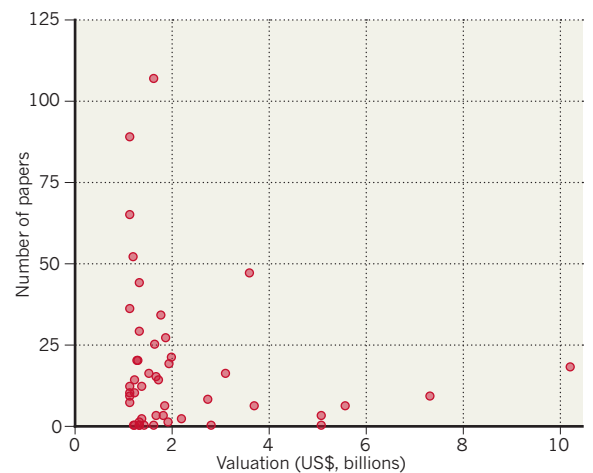
TREND WATCH

The publication record of health-care start-ups does not seem to matter to investors, according to an analysis of nearly 50 biomedical ‘unicorns’ — venture-capital-backed companies valued at more than US\$1 billion. The analysis, led by health-policy researcher John Ioannidis at Stanford University in California, finds no correlation between a company's market valuation and its publication record — defined as the number of peer-reviewed papers authored directly by the company (I. A. Cristea *et al.* *Eur. J. Clin. Invest.* <https://doi.org/10.1111/eci.13072>; 2019).

Among the 47 unicorns the team analysed, nearly half had not published any highly cited papers — defined as at least 50 citations. Eight companies had produced no publications at all. That's a cause for concern, the authors say. The companies investigated develop products ranging from RNA treatments to prosthetic knees. The findings mean that investors and the public might be building their expectations about a company's products on the basis of evidence, such as that supplied in patents, that is less closely scrutinized than that provided by the peer-reviewed literature, suggests the analysis.

UNICORNS AND PEER REVIEW

Researchers found no correlation between the number of peer-reviewed papers that 47 high-value health-care start-ups (known as unicorns) published and their market valuation.

SOURCE: CRISTEA, I. A. *ET AL.* *EUR. J. CLIN. INVEST.* [HTTPS://DOI.ORG/10.1111/ECI.13072](https://doi.org/10.1111/eci.13072); 2019