

POLICY

Oil-pipeline permit

The Nebraska Public Service Commission approved its part of the controversial Keystone XL oil pipeline on 20 November, potentially clearing the way for Calgary-based company TransCanada to begin construction. Nebraska was the last state in the United States needed to approve permits for the project. The 91-centimetre-diameter pipeline is meant to carry high volumes of oil from tar sands in Alberta, Canada, to storage and refinery facilities in the central and southern United States. The Nebraska decision requires the pipeline to be built along a different route from the one originally proposed, to avoid an ecologically sensitive region and to co-locate it with a related, smaller pipeline. On 16 November, that smaller pipeline sprang a leak in South Dakota and spilled about 5,000 barrels of oil into grasslands.

UK research money

The UK government announced on 20 November that it would boost public spending on research and development (R&D) to £12.5 billion (US\$16.5 billion) in 2021–22, an increase of £500 million on what is planned for the year before. The rise builds on a government promise made last year to increase research funding every year until 2020. The latest hike puts the United Kingdom on track to hit a government target to raise combined public and private spending on R&D to 2.4% of gross domestic product (GDP) by 2027. The most recent figures show that the country spent just 1.7% of its GDP on R&D in 2015, compared with 2.9%



XAVIER GARCIA/BLOOMBERG/GETTY

Legendary telescope wins reprieve

Puerto Rico's Arecibo Observatory, home to one of the world's leading radio telescopes, will keep operating as the US National Science Foundation (NSF) shares costs with new partners, the agency announced on 16 November. The NSF pays about two-thirds of the observatory's US\$12-million budget,

with the rest coming from NASA. Over the next five years it will shrink its funding to \$2 million a year, while collaborating with other, yet-to-be-announced partners, to free up money for future astronomical facilities. The observatory sustained \$4 million to \$8 million worth of damage during Hurricane Maria in September.

in Germany and 2.8% in the United States. See go.nature.com/2hfsjtd for more.

SPACE

Satellite launch

The first of a new generation of US weather satellites launched from Vandenberg Air Force Base in California on 18 November. Developed by NASA and the US National Oceanic and Atmospheric Administration, the US\$1.6-billion Joint Polar Satellite System-1 (JPSS-1) will circle the planet in a polar orbit 14 times a day. It will join the Suomi National Polar-orbiting Partnership satellite, already in orbit, in taking atmospheric measurements crucial for

weather forecasters. JPSS-1 will also collect climate and environmental data, including high-resolution visible and infrared imagery that can be used to monitor everything from oceans and sea ice to wildfires and aerosols.

EVENTS

EU drug agency

Europe's drug regulator will move from London to Amsterdam when the United Kingdom leaves the European Union in early 2019. EU member states chose the new home for the European Medicines Agency (EMA) from 19 bids, after a secret ballot on 20 November. Amsterdam was the most

popular destination among the agency's 900 or so staff; more than 80% said in a survey that they would be prepared to move there. The EMA is responsible for determining the safety and efficacy of drugs and therapies, and licensing them for marketing. See go.nature.com/2z9yyl for more.

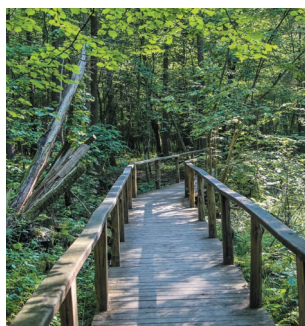
China AI road map

China's science ministry announced plans for a national road map for artificial intelligence at a conference in Beijing on 15 November. The initiative will be led by 15 organizations, including China's most powerful ministries and government agencies, its main scientific funding and

research bodies (including the national academies of science and engineering) and three divisions of the communist party's Central Military Commission. Pan Yunhe, a computer scientist and fellow of the Chinese Academy of Engineering, will head a 27-person panel of expert advisers. China's top IT companies have also each been assigned different areas of focus: search-engine giant Baidu on autopilot technology; Alibaba Cloud on smart cities; social-media business Tencent on medical imaging; and iFLYTEK on voice recognition.

Polish logging ban

The European Union's highest court has ordered Poland to provide details of all the measures that it has taken to end logging in its ancient Białowieża Forest (**pictured**). Last year, Poland relaxed rules on logging in the forest, which is protected under EU wildlife laws. In July, the Court of Justice of the European Union (ECJ) issued an interim order for the country to cease felling there immediately. However, logging has continued; the Polish government says that controlled tree felling and removal of dead wood are needed to fight a pest outbreak. On 20 November, the ECJ said that it would impose a penalty of at least €100,000 (US\$117,000) per day if Poland



failed to comply with the ban within 15 days. The court is expected to deliver its final judgment on the case in the coming months.

University protest

More than 400 professors in psychology, cognitive sciences and related fields have signed a letter to the board of trustees for the University of Rochester in New York, arguing that students should not pursue education or jobs there. The letter comes in response to the university's handling of allegations that linguist Florian Jaeger, a faculty member, sexually harassed students and postdocs and created a hostile work environment. When other faculty members made complaints, the university twice investigated and twice exonerated him. It has since commissioned an independent inquiry into Jaeger's behaviour and its handling of the case. Jaeger did not respond to a request for comment, but

a university spokesperson says, "We are committed to making this campus one that is welcoming and safe for all."

PUBLISHING

African portal

The African Academy of Sciences (AAS) in Nairobi announced on 15 November that it will launch an open-access publishing platform early next year, the first of its kind aimed exclusively at scientists on the continent. The platform, called *AAS Open Research*, is being created with the London-based open-access publisher F1000. It will publish articles, research protocols, data sets and code, usually within days of submission. F1000 staff will arrange post-publication peer review. The AAS hopes that the platform will be useful for young African academics, who sometimes struggle to publish in overseas journals.

RESEARCH

Exoplanet find

European astronomers have discovered one of the nearest-known Earth-sized exoplanets that could potentially sustain life. Ross 128b orbits a cool dwarf star 3.4 parsecs (11 light years) from the Sun. At more than 5 billion years old, it is less prone than younger dwarf stars to flare-ups that can blast

surrounding planets with harsh high-energy radiation — potentially harming any life forms that might exist there. The newfound planet, announced by the European Southern Observatory on 15 November, might be at the right temperature to sustain liquid water on its surface.

Black-hole merger

The US-based Laser Interferometer Gravitational-Wave Observatory (LIGO) said on 15 November that it had made another detection of gravitational waves produced by the merging of two black holes. The event occurred on 8 June, and the black holes involved were the 'lightest' seen in mergers so far. The observatory has now detected five such collisions since 2015, and one involving neutron stars. LIGO and its Europe-based counterpart Virgo are undergoing upgrades that aim to double their sensitivities. When they reopen in late 2018, they might be able to spot signals from as many as two black-hole mergers per week.

Gene-editing first

A person with a life-threatening liver disease has become the first to have their genome edited directly inside the body. On 15 November, Sangamo Therapeutics in Richmond, California, announced that it had used genome-editing enzymes called zinc-finger nucleases to try to treat a man with Hunter syndrome, which causes toxic levels of carbohydrates to accumulate in cells. The nucleases were introduced into the liver, with the aim of inserting into the cells' DNA a normal copy of the gene for the enzyme iduronate-2-sulfatase, which is defective in Hunter syndrome. Previous human trials of genome editing have removed cells from the body, genetically altered them, and injected them back into the patients.

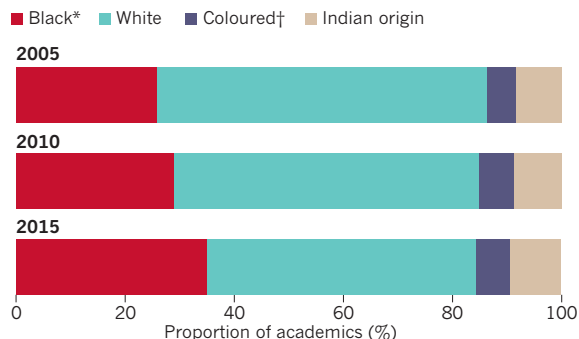
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TREND WATCH

Black academics could outnumber white ones in South Africa by 2025, suggest the authors of a demographic study. Some 80% of the country's population is black, but the academic sector is disproportionately white, a legacy of the country's apartheid era. The proportion of black South African researchers rose from 26% in 2005 to 35% in 2015, according to the study. The authors say that in the next decade, more than 4,000 researchers — about 27% of the country's academics, and most of them white — will retire.

SOUTH AFRICAN SHIFT

Academia in South Africa has historically been disproportionately white, but the proportion of black academics has risen over the past decade.



*Does not include foreign black academics.
†A recognized racial classification in South Africa.