

PEOPLE

China science prize

A team led by quantum physicist Jian-Wei Pan was awarded the first-class prize of China's 2015 National Natural Science Award, one of the country's top science accolades, on 8 January. Pan and his team at the University of Science and Technology of China in Hefei won for their pioneering work in quantum entanglement and teleportation. For the first time in 11 years, no one was awarded China's top science prize, the State Supreme Science and Technology Award. Pharmacologist Youyou Tu, who last year won China its first science Nobel, had been tipped for the award.

BUSINESS

Pharma buyout

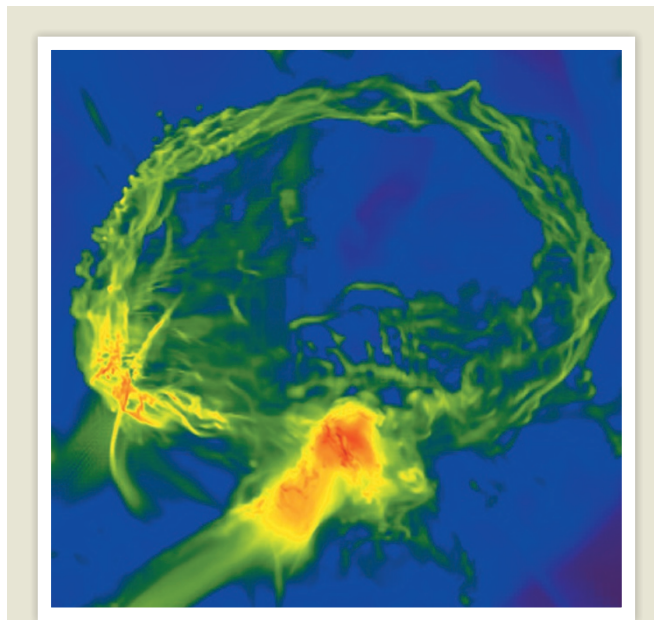
Pharmaceutical company Shire of Dublin is buying rival firm Baxalta of Bannockburn, Illinois, in a US\$32-billion deal, after a months-long pursuit. Both companies focus on rare-disease areas, including haematology, immunology and neuroscience. The firms say that as one company they will be able to make \$500 million in cost savings. Shire will

NUMBER CRUNCH

3.9 × 10¹³

The number of bacteria in a typical human, alongside 3 × 10¹³ human cells. This new estimate challenges the idea that bacteria outnumber human cells by 10 to 1.

Source: Sender, R., Fuchs, S. & Milo, R. Preprint at bioRxiv <http://doi.org/bbpz> (2016).



Early star remnants

A faraway gas cloud has been discovered that contains tiny amounts of elements heavier than hydrogen and helium — such as carbon, oxygen and iron — that are possible remnants of the Universe's first stars. The elements were detected in spectra collected by the European Southern Observatory's Very Large Telescope in Chile, and computer simulations show how the Universe's first stars would have exploded and spewed the elements out (pictured). The results were reported at a meeting of the American Astronomical Society in Kissimmee, Florida, on 8 January. The cloud is so distant that it appears as it did 1.8 billion years after the Big Bang.

pay Baxalta shareholders in cash and shares, giving them around 34% ownership of the merged company. The deal is awaiting approval by regulators.

Cancer screening

The California sequencing-technology firm Illumina announced the formation of a new company, GRAIL, on 10 January. GRAIL will use Illumina's genetic-sequencing technology to screen for cancer from a blood sample. A 'liquid biopsy' would find minuscule amounts of tumour-specific DNA or RNA in the blood before the person

felt symptoms of the disease, when it may be easier to treat. GRAIL has more than US\$100 million in funding, in part from Bill Gates and from Amazon founder Jeff Bezos.

FUNDING

Singapore surge

Science spending in Singapore is set to surge by 18%, the government announced on 8 January. At its annual meeting, the country's Research, Innovation and Enterprise Council endorsed plans to invest 19 billion Singapore dollars (US\$13.2 billion)

between 2016 and 2020, up from 16.1 billion Singapore dollars between 2011 and 2015. The country will prioritize research funding in four areas: advanced manufacturing, health and biomedical sciences, services and the digital economy, and urban sustainability.

EVENTS

H-bomb claims

North Korea's fourth nuclear test on 6 January was almost certainly not a hydrogen bomb, contrary to the country's claims. The seismic event caused by the test was estimated at magnitude 4.85 by the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization in Vienna. The explosion that caused that event was probably hundreds or thousands of times smaller than would have resulted from a hydrogen bomb, analysts say. North Korea might have tested a boosted fission device: a conventional fission bomb with a small quantity of the hydrogen isotopes tritium and deuterium added. See go.nature.com/gyqqya and page 127 for more.

Science passport

Seven science publishers, including PLOS and the American Geophysical Union, announced on 7 January that they will start requiring researchers to identify themselves using the ORCID (Open Researcher and Contributor ID) system when submitting papers. Globally, 1.8 million researchers have registered for ORCID's unique identifiers — machine-readable numbers akin to a scientific passport. The system is run by a non-profit organization that aims to create a transparent record

linking scientists to their research outputs (see *Nature* **526**, 281–283; 2015).

Chimps returned

A legal battle over the ‘personhood’ of two chimpanzees has ended with their return to a primate facility in Louisiana, *Science* reported on 8 January. The two chimps were loaned to the State University of New York at Stony Brook for use as research animals. Animal-rights group the Nonhuman Rights Project sued in New York to have the animals released to a sanctuary, arguing that the chimps should have certain legal rights afforded to humans. The return of the chimps to the New Iberia Research Center in early December effectively removes the animals from New York’s jurisdiction.

Oil-pipeline fight

Pipeline firm TransCanada Corporation said on 6 January that it will seek more than US\$15 billion in compensation for economic losses under the North American Free Trade Agreement after the Keystone XL pipeline that it was due to build was cancelled (unused pipes **pictured**). The pipeline would have carried relatively dirty oil from tar sands in Alberta, Canada, to US refineries. But in November 2015, the US Department of State said that the project



was not in the “national interest”. TransCanada, which is headquartered in Calgary, called the decision “arbitrary and unjustified”, arguing that the project was environmentally benign. The company is also challenging the decision in the US federal court.

POLICY

Insecticide threat

The US Environmental Protection Agency (EPA) said on 6 January that the controversial insecticide imidacloprid does present a threat to bees and other pollinators. The preliminary risk assessment is the first of four on the neonicotinoids, an insecticide class that has been linked to bee declines. The European Food Safety Authority announced on 11 January that it would

be updating its own risk assessments of three neonicotinoids — clothianidin, thiamethoxam and imidacloprid. The European Union heavily restricted use of neonicotinoids in 2013 on the basis of previous evaluations.

UK drinking guides

Any level of alcohol intake increases cancer risk, according to draft guidelines released by the UK Chief Medical Officers on 8 January. Men and women should drink no more than 14 units of alcohol per week — around 7 glasses of wine or 6 pints of average-strength beer — according to the recommendations, which substantially lower the amount for men. The models used to calculate the recommendations considered risks and benefits, for instance cancer and alleged beneficial cardiovascular effects. The guidelines have

COMING UP

17 JANUARY

NASA plans to launch its Jason3 satellite to measure Earth’s sea levels, adding to knowledge of ocean circulation and climate change.

go.nature.com/rqfqmh

19–21 JANUARY

The Festival of Genomics takes place in London, bringing together industrialists, academics and policymakers.

go.nature.com/cw5hfb

18–22 JANUARY

PepTalk, dubbed ‘The Protein Science Week’, convenes in San Diego, California.

www.chi-peptalk.com

had a mixed reception, with some complaints that they are ‘nannying’. See page 127 for more.

FACILITIES

Linear collider

Japan should ramp up its expertise as it prepares to host the world’s next-generation particle smasher in the 2020s, reports the country’s High Energy Accelerator Research Organization (KEK) in Tsukuba. An action plan published on 6 January lays out the KEK’s goals for the preparation phases of the International Linear Collider, including a goal to triple the number of home-grown accelerator scientists and engineers. In 2012, Japanese researchers proposed hosting the 31-kilometre-long accelerator, which will smash electrons together with their antimatter partners. However, no government has yet promised any funding.

➔ **NATURE.COM**

For daily news updates see:

www.nature.com/news

TREND WATCH

Nations burned off around 143 billion cubic metres of natural gas — roughly 3.5% of global production — into the atmosphere in 2012, according to researchers at the US National Oceanic and Atmospheric Administration (C. D. Elvidge *et al. Energies* **9**, 14; 2016). Data from a polar-orbiting satellite showed that Russia led the way in terms of volume. The practice is common in fields that lack pipelines and markets for natural gas and policymakers are looking for ways to avoid the wastage.

3.5% OF NATURAL GAS WASTED IN FLARES

New satellite measurements track natural-gas flaring by country as policymakers seek to avoid wasting energy — and reduce emissions.

