

SEVEN DAYS

The news in brief

POLICY

US-budget hope

US President Barack Obama's budget plan for 2016 has given scientists a ray of hope — although the proposals now face a rough road in Congress. The US\$4-trillion budget proposal released on 2 February offers \$146 billion for scientific research and development. This is a 6% rise in the pot of money split between civilian and defence programmes, and comes after years of austerity. The plan is expected to meet with strong opposition in the Republican-controlled Congress. See page 13 for more.

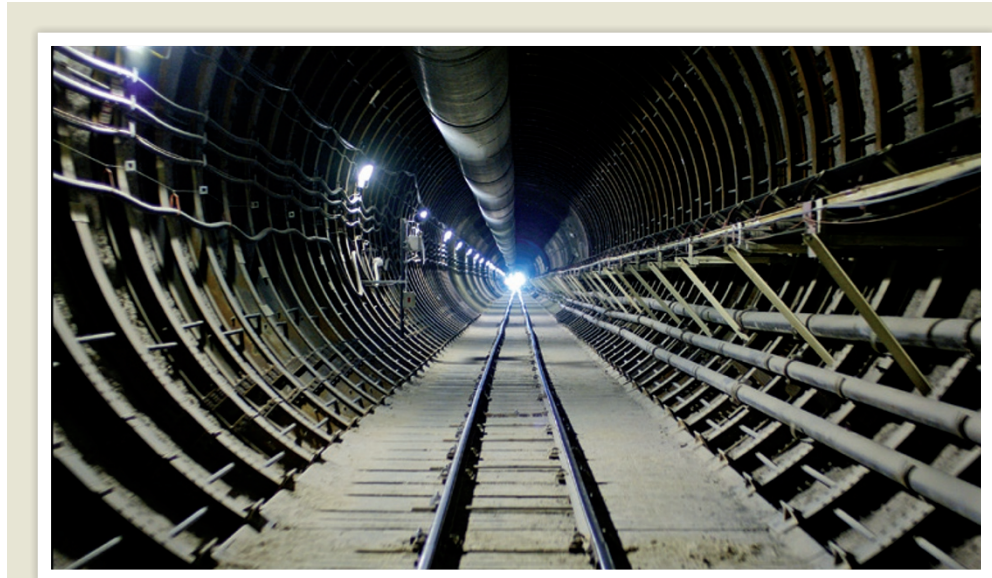
EVENTS

Vaccination boost

GAVI, an organization in Geneva, Switzerland, that supports vaccination in low-income countries, raised US\$7.5 billion during a 27 January pledging conference in Berlin. The money, largely from Western governments, will pay for GAVI's immunization efforts between 2016 and 2020 and will augment \$2 billion in previously committed funding. The extra cash should enable a further 300 million children to be vaccinated, preventing some 6 million deaths, the organization says.

China biosafety lab

China opened its first biosafety level-4 research laboratory on 31 January, enabling work on dangerous pathogens such as Ebola. The Wuhan National Biosafety Laboratory is funded and operated by the Chinese Academy of Sciences. The lab was approved in 2003 after the SARS virus outbreak revealed shortcomings in the country's ability to deal with emerging diseases. China enlisted



DAVID HOWELLS/CORBIS

Nuclear-waste plan is technically sound

The proposal to build a nuclear-waste repository at Yucca Mountain, Nevada, is technically sound, the US Nuclear Regulatory Commission in Rockville, Maryland, said on 29 January. The 2008 application by the Department of Energy was abandoned by the administration of US President Barack Obama in 2010, but a federal court ordered

the commission to continue with the licensing process as long as it had the funds to do so. The commission notes, however, that construction would not have been possible — although a railway to bring in waste is already in place (pictured) — because the federal government had not secured land and water rights from Nevada, which opposes the project.

French assistance to design the facility, which it plans to use to develop diagnostics and vaccines against highly infectious diseases.

RESEARCH

Dusty death

A signal thought to be the first evidence of gravitational waves was caused by dust in the Milky Way rather than being a relic of the Universe's first moments. The team that described the signal in March 2014 withdrew its claim on 30 January. Combined data from the BICEP2 telescope at the South Pole and the European spacecraft Planck revealed that the distinctive polarized light pattern spotted by the

team was almost entirely due to Galactic noise. See page 16 for more.

Warmest year

The World Meteorological Organization (WMO) has officially ranked 2014 as the warmest year since modern temperature records began. According to an analysis of the three most widely used global climate data sets, which have been collected since around 1880, the mean global air temperature last year was 0.57°C above the 14.00°C average for the reference period 1961–90. Fourteen of the 15 warmest years on record have now occurred in the twenty-first century, the WMO notes. The three hottest years — 2014, 2010 and 2005 — are

only a few hundredths of a degree apart, less than the margin of uncertainty of the measurements.

Ebola trials

Plans to test an experimental Ebola drug in Liberia have been scrapped, a US drug company said on 30 January. Chimerix, based in Durham, North Carolina, ended a trial of the antiviral brincidofovir because it failed to enrol enough people infected in the now-waning Ebola epidemic in West Africa. On 2 February, a different clinical trial of two experimental vaccines against Ebola virus began in Liberia. This trial aims to enrol around 27,000 people to determine whether the vaccines can prevent infection.

BUSINESS

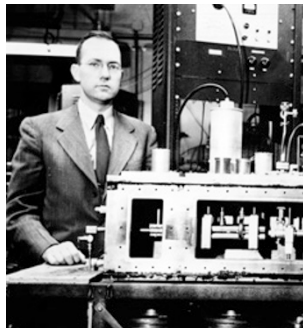
Myriad settles suits

A long-running patent dispute over genetic testing is nearing its end. Myriad Genetics of Salt Lake City, Utah, confirmed last week that it has settled lawsuits against three other medical diagnostics firms over their use of genetic tests that analyse mutations in the *BRCA1* and *BRCA2* genes to estimate the risk of breast and ovarian cancer. The dispute began in 2009, and in 2013 the US Supreme Court struck down some of Myriad's patent claims to the tests, but the company argued that it was protected by other patents. Myriad is negotiating a settlement with the remaining four companies that it has sued over the tests.

PEOPLE

Laser laureate dies

Charles Townes (pictured), a US physicist who received a Nobel prize in 1964, died on 27 January, aged 99. While at Columbia University in New York in 1954, Townes built a device called a maser, which stimulates atoms to emit coherent bursts of microwave radiation — the principle that led to the first laser. After moving to the University of California, Berkeley, he used lasers to detect the first complex molecules in



interstellar space and to find evidence for the black hole at the centre of the Milky Way.

Nobel chemist dies

French chemist Yves Chauvin, who shared the 2005 Nobel Prize in Chemistry, died on 27 January, aged 84. While working at the French Petroleum Institute in Rueil-Malmaison near Paris, Chauvin explained the mechanism behind a catalytic chemical reaction called metathesis, during which two molecules joined by doubly bonded carbon atoms swap their partners in a kind of dance. This understanding helped to develop catalysts to make metathesis more controllable, and it is now used widely in the synthesis of plastics, drugs and pesticides.

Pill creator dies

Chemist Carl Djerassi, widely known as the father of the birth-control pill, died on 30 January,

aged 91. He emigrated to the United States to escape Nazi Germany's threat to his birthplace, Vienna, in 1939. Ten years later, he joined the pharmaceutical firm Syntex in Mexico City, where he led the research team that synthesized the first orally active steroid contraceptive, norethindrone. He later worked on biosynthesis and analytical chemistry at Stanford University in California, and wrote dozens of short stories, novels and plays.

Environment chief

The appointment of a scientist who has been dubbed gutsy and radical by the media as Communist-Party head of China's environmental protection ministry is raising hopes on combating pollution. Chen Jining, currently president of Beijing's prestigious Tsinghua University, was named as chief on 28 January and is expected to become environment minister in March. There are high hopes that he will improve the enforcement of China's environmental regulations, in particular a law that calls for tighter monitoring and punishment of polluters. China has often favoured economic growth over enforcing environmental laws, especially at the level of local government. See go.nature.com/n4wjjn for more.

COMING UP

9–11 FEBRUARY
Microbiologists, epidemiologists and policy experts will meet in Washington DC to discuss biological threats such as Ebola, antibiotic resistance and bioterror attacks at the American Society for Microbiology's 2015 Biodefense and Emerging Diseases Research Meeting. go.nature.com/xnstjz

11 FEBRUARY
The European Space Agency is to test its reusable spaceplane, the Intermediate Experimental Vehicle, or IXV. The IXV will launch atop a Vega rocket from Europe's Spaceport in French Guiana, and is expected to return to Earth 100 minutes later.

PRIZES

Moon milestones

Five teams picked up Google Lunar X Prize 'milestone' prizes on 26 January. The awards, worth a total of US\$5.25 million, were established in 2014 to recognize steps towards the prize's ultimate goal of landing a private spacecraft on the Moon by the end of 2016. The teams from Germany, India, Japan and the United States showed headway in landing, roving and imaging technology — albeit on Earth. Astrobotic, a spin-out company of Carnegie Mellon University in Pittsburgh, Pennsylvania, won prizes in all three areas. The awards were introduced after slow progress on the main \$30-million challenge, the original deadline for which was in 2012.

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TREND WATCH

The US public generally supports science, but there seems to be a large gap between it and scientists on some controversial issues. Of about 2,000 adults surveyed, 79% say that science has made life easier for most people, found a poll by the American Association for the Advancement of Science (AAAS) and the Pew Research Center, a think tank in Washington DC. But researchers are left questioning the gulf between them and the public on certain topics. See go.nature.com/jnljfu for more.

OPINION GAP

On hotly debated scientific issues, scientists and the public differ greatly, reveals a poll by the AAAS and Pew Research Center.

