

## POLICY

### Safer fracking

The natural-gas industry should disclose more information to the public about its shale-gas operations, according to an 11 August draft report from a seven-member advisory panel set up by the US Department of Energy. Disclosure would include greater transparency on the substances used in hydraulic fracturing, or 'fracking', in which high-pressure fluids are pumped into shale to fracture the rock and force out natural gas. The technique has been accused of releasing methane into water and of polluting groundwater with toxic chemicals. See [go.nature.com/rbekiq](http://go.nature.com/rbekiq) for more.

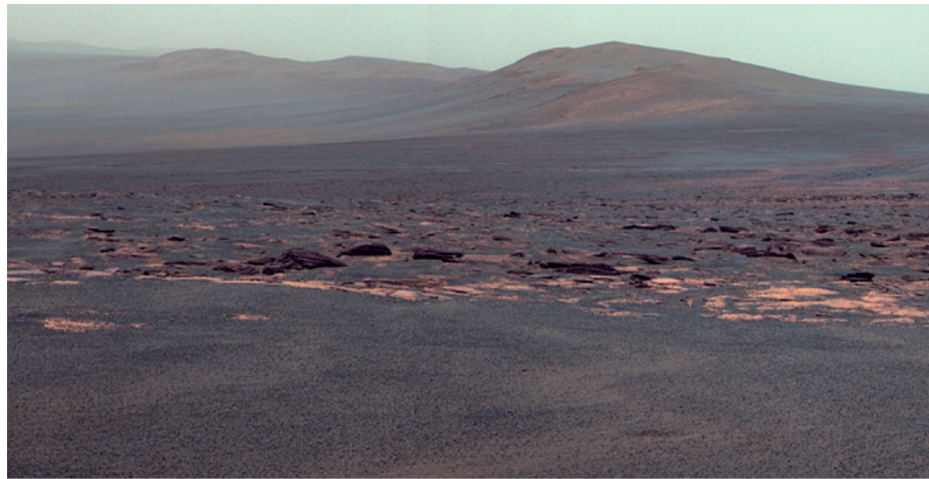
### Chemists campaign

Some 100 senior chemists around the world — including six Nobel laureates — have sprung to the defence of synthetic organic chemistry in the United Kingdom, which is to be squeezed of funding by the nation's Engineering and Physical Sciences Research Council. In letters delivered to British Prime Minister David Cameron on 15 August, chemists say that the cuts

## NUMBER CRUNCH

# 437

The record for the most days in space, held by Russian cosmonaut Valeri Polyakov. It was 'broken' on 14 August by the six crew members of the simulation mission Mars500 at the Institute of Biomedical Problems in Moscow. They are mimicking the isolation of an expedition to Mars (without the weightlessness).



NASA/JPL-CALTECH/CORNELL/ASU

## Mars rover surveys new home

Trekking slowly but steadily across Mars, NASA's Opportunity rover last week completed a three-year journey to reach the rim of a massive crater named Endeavour. At 22 kilometres in diameter, the new site dwarfs the rover's previous home, the 750-metre-wide Victoria crater, which is 21.5 kilometres away. Observations from orbit have shown

that Endeavour contains clay minerals, which form under wet conditions, so the site should provide further clues to Mars's wetter past. Opportunity's location at Cape York ridge on the west of Endeavour (pictured) has been named Spirit Point after its twin rover, Spirit, which, after its own 7.7-kilometre expedition, now lies dead on the other side of Mars.

would injure the economy and biomedical research. They also cast doubt on the evidence that the council used to justify its decision. See [go.nature.com/lxwhb](http://go.nature.com/lxwhb) for more.

### Tsunami forecast

The Japan Meteorological Agency (JMA) will no longer forecast the height of tsunami waves generated by earthquakes of magnitude 8.0 or above. Instead, it will warn of "the possibility of a huge tsunami" — to avoid any false reassurance. The proposed change comes in response to the early forecast for the Tohoku earthquake on 11 March, which underestimated the size of tsunami waves because the quake continued for two minutes after the JMA took

seismic readings. The agency will start discussions of a more thorough overhaul to its tsunami early-warning system in September. See [go.nature.com/gsmsck](http://go.nature.com/gsmsck) for more.

### Mouse lab reprieve

A laboratory has been spared litigation after it was sued for distributing mouse models of Alzheimer's disease to researchers. In February 2010, the Alzheimer's Institute of America (AIA) in Kansas City, Kansas, had sued the Jackson Laboratory of Bar Harbor, Maine, among other institutes and companies (see *Nature* 472, 20; 2011). The lab was distributing mouse strains that carried a specific DNA sequence for which the AIA owns the patent, it said. But on 9 August, the

AIA dropped its lawsuit after the US National Institutes of Health in Bethesda, Maryland, stepped in to grant the Jackson Lab authorization to distribute the models. Litigation against other defendants continues. See [go.nature.com/ceshcc](http://go.nature.com/ceshcc) for more.

## RESEARCH

### Neutrino spotting

A neutrino-detection experiment in China has started to gather data. Located hundreds of metres underground on the Dapeng peninsula near Hong Kong, the Daya Bay Reactor Neutrino Experiment watches electron antineutrinos produced by two nearby nuclear power plants as they change ('oscillate') into other types of antineutrinos. The

S. SHOSTAK/SPL  
experiment, an international collaboration led jointly by China and the United States, should help scientists to understand more about how neutrinos change type. By comparing oscillations of neutrinos with those of antineutrinos, it might also provide clues about the imbalance of matter and antimatter in the Universe.

## Mach-ed up plane

For the second time, researchers at the US Defense Advanced Research Projects Agency (DARPA) in Arlington, Virginia, have run into problems testing a hypersonic aircraft designed to travel at 20 times the speed of sound (Mach 20, or more than 6,800 metres per second) so that it could swiftly strike anywhere on the planet. About 9 minutes after the arrow-shaped Falcon Hypersonic Technology Vehicle 2 separated from its launch rocket on 11 August, researchers lost contact with the plane, which probably crashed into the Pacific Ocean. A similar fate had befallen the first test, on 22 April 2010.

## Alien hunt restarts

The Allen Telescope Array in northern California (pictured) will resume scanning the skies for signs of extraterrestrial life, after a fund-raising appeal



to wake the array's 42 radio dishes from hibernation reached its first goal. The array, run by the University of California, Berkeley, and the SETI Institute in Mountain View, California, was shut down in April owing to a lack of funding (see *Nature* 475, 442–444; 2011). More than US\$200,000 has now been raised through SETIstars.org, the SETI Institute announced last week. Keeping the array going will require more money; the institute is hoping to raise it by partnering with the US Air Force to track space debris.

## Epidemics study

This year's outbreak of *Escherichia coli* in northern Europe, which infected 3,910 people and resulted in 46 deaths, has prompted the European Union to allocate an additional €12 million (US\$17.3 million) for research

into epidemics of infectious diseases. The ANTIGONE network will fund 14 research groups across seven countries to examine how pathogens — such as Shiga-toxin-producing *E. coli*, and Ebola virus — spread from animals or the environment to humans. The project had originally lost out for funding to a similar project, PREDEMICS, focusing on viruses; now both will be funded. See [go.nature.com/gfrniz](http://go.nature.com/gfrniz) for more.

## BUSINESS

## Emissions network

A private US company that is installing stations around the world to track greenhouse-gas emissions will partner with scientists who are setting up a similar effort in Europe. Earth Networks, based in Germantown, Maryland, is already working with the Scripps

Institution of Oceanography in La Jolla, California, as it invests US\$25 million over five years in an initial network of 100 monitoring stations. Data will be freely available to researchers. On 16 August, the firm said that it would partner with the European Union's Integrated Observation System (ICOS) to ensure that its stations in Europe are complementary to ICOS's efforts (see *Nature* 465, 18–19; 2010).

## Stem-cell patent

The US Patent and Trademark Office has approved its first patent for technology used to make induced pluripotent stem (iPS) cells, developed by Shinya Yamanaka of Kyoto University, Japan. The patent was issued on 5 August. A university representative, Akemi Nakamura, said that the university would not exploit the patent to restrict research using iPS cells for non-profit purposes, but that a university spin-off company, iPS Academia Japan in Kyoto, might ask for a licensing fee from commercial companies that use iPS cells. Kyoto University already has patent rights for iPS cell technology in Europe and elsewhere. See [go.nature.com/rnumfz](http://go.nature.com/rnumfz) for more.

## Nuclear costs

Japan's Tokyo Electric Power Company (TEPCO) has recorded heavy losses in the quarter following the meltdown of three reactors at its Fukushima Daiichi power plant. On 9 August, TEPCO announced a ¥571.8-billion (US\$7.4-billion) net loss in the first quarter of the 2011–12 financial year. The loss comes on top of a ¥1.247-trillion hit from the previous financial year, which ended on 31 March. At the power plant, meanwhile, workers are preparing to erect a fabric cover over the Unit 1 reactor to limit the spread of radiation.

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## TREND WATCH

Venture capitalists gave US biotechnology firms less money in the second quarter of this year than in the same quarter last year (see chart), according to a report from PricewaterhouseCoopers and the US National Venture Capital Association. The amount invested declined by 9% to US\$1.2 billion, and the number of deals dropped by 24% to 116. But investment in medical device companies rose by 9% to \$841 million, and investment across all industries rose by 5% to \$7.5 billion.

## BIOTECH LAGS IN US VENTURE FUNDING RISE

Although US venture-capital investment is on the rise, the biotechnology sector has yet to return to its 2010 peak.

