

EVENTS

Japan disaster

Japan's nuclear regulator now rates the accident at the Fukushima power plant at 'level 7' — the highest possible on a safety scale set by the International Atomic Energy Agency, and only previously used to describe the Chernobyl disaster in 1986. The Japanese Nuclear and Industrial Safety Agency upped its assessment by two levels on 12 April, after re-evaluating the amount of radiation released, which it said was one-tenth of that from Chernobyl. Japan's government is also expanding the evacuation zone around the plant to some regions beyond the current 20-kilometre radius. Meanwhile, the country continues to be rocked by strong aftershocks. Besides a constant stream of magnitude 4 and 5 earthquakes, a 7.1-magnitude quake struck on 7 April; and one of magnitude 6.6 hit on 11 April — a month after March's 9.0-magnitude quake. For more on Fukushima, see pages 143–146 and www.nature.com/japanquake.

POLICY

US budget cuts

Scientists at US federal agencies avoided the prospect of a government shutdown when congressional leaders agreed — barely an hour before the deadline on 8 April — on an outline budget to fund the government until the end of the current fiscal year on 30 September. That deal slashes around US\$38.5 billion off 2010 spending levels, but as *Nature* went to press details of how the cuts would affect researchers had not been negotiated. Despite earlier Republican calls for 5–18% cuts to the National Science Foundation and the Department of Energy's Office

of Science, a White House statement said that those agencies would still see strong investments.

Genetic screening

Genetic tests for a range of inheritable conditions should be widely available to potential parents, according to a UK government advisory group, the Human Genetics Commission. Screening is already available for people with a high chance of passing on some genetic disorders, such as cystic fibrosis or Tay-Sachs disease. But the commission's report, released on 6 April, found "no specific ethical, legal or social principles" that would make wider genetic screening before conception

unacceptable. The country's National Screening Committee is now considering the report.

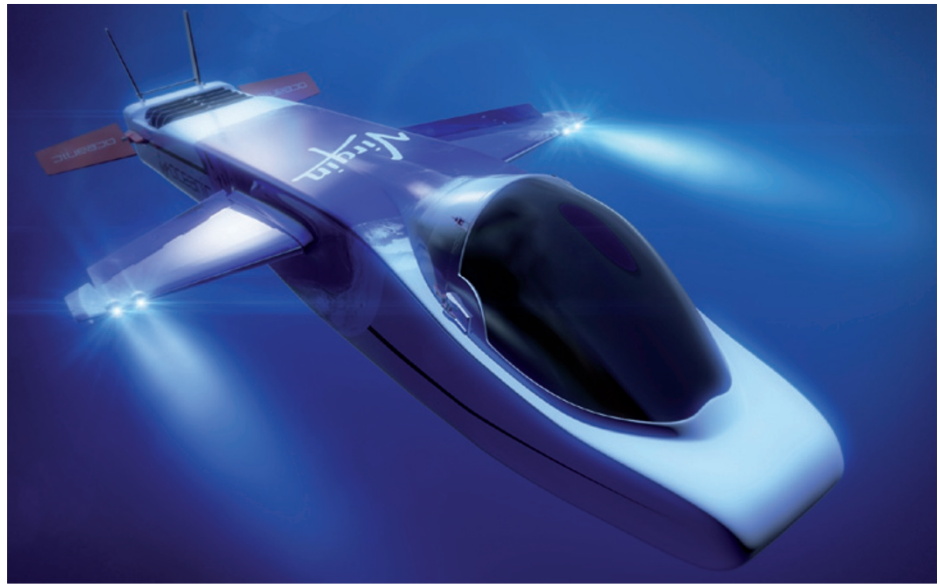
Resistant bacteria

India's government has reacted strongly against the discovery of antibiotic-resistant bacteria in drinking water and sewage from New Delhi, calling it "unsupported by any clinical or epidemiological evidence". Researchers reported identifying bacteria carrying a gene (*bla_{NDM-1}*) that confers resistance to a wide range of antibiotics. Although NDM-1-positive strains have been seen in patients in many countries, the study was the first to find them in environmental samples unconnected with hospital settings (T. R. Walsh *et al.*

Lancet Infect. Dis. doi:10.1016/S1473-3099(11)70059-7; 2011). Its publication coincided with World Health Day (7 April), on which the World Health Organization called for more efforts to prevent the spread of antibiotic resistance. See go.nature.com/2qmhec for more.

Ethical biofuels

Certification standards are needed to ensure that biofuels are produced ethically and sustainably, says a report released on 13 April by the Nuffield Council on Bioethics, an independent charity based in London that studies ethical issues in research. Referring to European policies, the council says that targets encouraging



VIRGIN OCEANIC

Eleven thousand metres under the sea

British billionaire entrepreneur Richard Branson last week launched plans to send a manned submarine on five dives to the deepest parts of the oceans. The Virgin Oceanic mission is set to start in late 2011 at the 11-kilometre-deep Mariana Trench in the Pacific Ocean. It would be the first manned

exploration of the area since the *Trieste* submersible visited the Challenger Deep area of the trench in 1960. A series of remotely controlled probes with research equipment will also be sent into the depths. See go.nature.com/rgy9za for an interview with scientists on the team.

NASA/T. TROWER

rapid uptake of biofuels neglect wider ethical concerns, such as deforestation and the displacement of indigenous people. The report suggests that biofuels development should avoid human-rights violations, adhere to fair trade principles, reduce greenhouse-gas emissions, and take into account the needs of both local and international communities.

Australian protests

On 12 April, thousands of researchers rallied in Melbourne, Sydney, Canberra and Adelaide to protest against rumoured cuts in government funding for medical research. The National Health and Medical Research Council may lose Aus\$400 million (US\$419 million) over the next three or four years, if leaked figures are accurate. That amounts to a cut of 14–19% from the council's Aus\$715 million 2010–11 budget. A fifth rally was planned for Perth on 14 April; the budget is due on 10 May. See go.nature.com/8lz2if for more.

EPA skirmish

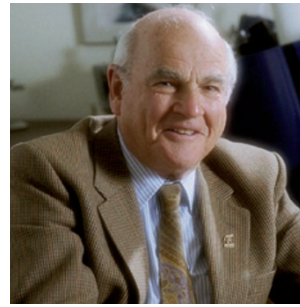
The US Environmental Protection Agency (EPA) has survived political attempts to block its regulation of greenhouse-gas emissions. On 6 April, the US Senate rejected an amendment to a

business bill that would have eliminated the EPA's authority to act on greenhouse gases — as well as three minor amendments that would each have restricted the agency. This neutralized the passing of similar legislation on 7 April, by the Republican-controlled House of Representatives. But the struggle is far from over: having failed to curtail the EPA's authority, Republicans are now looking to cut the agency's funding as part of broader budget wrangles.

PEOPLE

Suicides at KAIST

The suicides of four students since the start of the year at the prestigious Korea Advanced Institute of Science and Technology (KAIST) in Daejeon are putting pressure on its president, Nam Pyo Suh. An assistant director at the US National Science Foundation in 1984–88 and head of mechanical engineering at the Massachusetts Institute of Technology from 1991 to 2001, Suh came to the state-financed KAIST in South Korea in 2006 to improve competition. But after the most recent suicide, on 7 April, Korean media reported faculty and students criticizing his educational reforms. Suh has reportedly agreed to scrap a policy that links student fees to academic performance.



Hep B expert dies

Baruch Blumberg, who shared the 1976 Nobel Prize in Physiology or Medicine for his research on infectious disease, died on 5 April, aged 85. Blumberg (pictured) identified the hepatitis B virus, and showed how it causes liver disease. He spent much of his career in Philadelphia, at the Fox Chase Cancer Center, and later served as the first director of NASA's Astrobiology Institute in Moffett Field, California.

RESEARCH

Nitrogen warning

Overuse of nitrogen fertilizers costs the European Union between €70 billion (US\$100 billion) and €320 billion per year, according to a landmark analysis of nitrogen flows across Europe, released on 11 April. Some 200 researchers tallied up the costs and benefits of producing compounds that contain

COMING UP

18–19 APRIL

Some details about the future of NASA — including updates on missions with the European Space Agency — might be revealed at a public meeting of its science advisory council's planetary science subcommittee in Washington DC.

go.nature.com/oxfmvk

18–19 APRIL

The Royal Society in London holds a meeting on the best ways to model ecological systems to predict their futures.

go.nature.com/yjyz5u

nitrogen, such as ammonia and nitrogen oxides. They concluded that, financially, the detrimental effects on human health and biodiversity far outweighed the benefits for crop production. A worldwide assessment and agreements to reduce fertilizer production are now needed, they say. See page 159 for more.

BUSINESS

Biotech pain

All five biopharmaceutical firms to enter public markets this year in the United States have had to drastically cut the price at which they offer shares to attract investors — a sign of weak demand in the sector. On 5 April, stem-cell therapy company Aldagen, based in Durham, North Carolina, said it was withdrawing its plans for an initial public offering (IPO), citing market conditions. A day earlier, Tranzyme, also based in Durham, began trading after cutting prices three-fold to \$4 a share. IPOs in other fields have not had to cut share pricings.

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TREND WATCH

“Progress for some; challenges for many,” finds a report analysing spending in agricultural research and development (R&D) in sub-Saharan Africa. After a decade of stagnation in the 1990s, spending rose by more than 20% from 2001 to 2008. But most of the growth occurred in a handful of countries. In many others, particularly in francophone West Africa, spending declined. The report urges researchers not to rely on temporary loans or unstable inflows of donor funding. See go.nature.com/dxypxv for more.

AFRICA'S AGRICULTURAL RESEARCH

Countries have benefited unevenly from sub-Saharan Africa's rise in spending on agricultural research (2001–08).

