

# SEVEN DAYS

The news in brief

## POLICY

### Controversy in class

School teachers in Tennessee now have licence to critique mainstream scientific theories often attacked by religious and political conservatives, such as evolution and climate change. A bill that had passed both state legislative houses with an overwhelming majority automatically became law on 10 April, after state governor Bill Haslam (Republican) neither signed nor vetoed it. The law's ramifications remain unclear, but opponents worry that it could result in the teaching of religious or non-scientific theories in science classrooms. Tennessee is the second US state to enact a law of this kind; the first was Louisiana in 2008. See [go.nature.com/iy5xcd](http://go.nature.com/iy5xcd) for more.

### Antibiotic curb

Spurred by long-running concerns about the rise of resistant strains of bacteria, the US Food and Drug Administration (FDA) announced on 11 April a multi-pronged initiative to cut back on the use of antibiotics in farm animals. Guidance documents recommend that drug firms remove 'growth' and 'production' uses from their product labels; that farmers use certain antibiotics only for therapeutic purposes; and that veterinary surgeons step in as watchdogs. Because these measures are voluntary for the moment, sceptics say that the initiative lacks the punch of robust regulation. See [go.nature.com/nwn2nf](http://go.nature.com/nwn2nf) for more.

### Fracking go-ahead

Scientists appointed by the UK government have recommended that hydraulic fracturing, or fracking — in which fluid is pumped



## North Korean rocket fails

After much hype, North Korea's latest space shot ended in failure shortly after lift-off on 13 April. Seconds after launch, the first stage of the Unha-3 rocket plunged into the Yellow Sea, 165 kilometres west of Seoul. The United States military, which tracked the launch, says that the rest of the rocket seems to have quickly followed, along with the small weather satellite that it was carrying. The failure is the nation's third since 1998. Unlike with previous attempts, the North Korean government acknowledged the mishap in a brief statement to the press.

into rock to release natural gas — should continue, despite the risk of triggering earthquakes. On 17 April, the panel published a report recommending a preliminary injection stage with near-real-time monitoring of seismic activity. It advises halting fracking after an earthquake of magnitude 0.5 or greater. Last year, a report by Cuadrilla, an energy company based in Lichfield, UK, proposed a threshold of 1.7. Both reports were commissioned following earthquakes in April and May 2011, of magnitude 2.3 and 1.5 respectively, near a UK Cuadrilla fracking well. See [go.nature.com/jgciyf](http://go.nature.com/jgciyf) for more.

### Stem-cell safety

Regulations for the safe clinical use of stem cells and other "investigational agents" approved by the Texas Medical Board on 13 April have been criticized for being too permissive and opening the door to the sale of dubious treatments. They require those who wish to provide stem cells to patients to gain approval either from the US Food and Drug Administration, which requires most stem-cell treatments to be clinically verified, or from an institutional review board. The latter hurdle is likely to be lower. The rules were introduced by Governor Rick

Perry, who had stem-cell treatment for back pain last summer, and approved by a board of Perry appointees. See [go.nature.com/owy9or](http://go.nature.com/owy9or) for more.

### Emissions up

Greenhouse-gas emissions in the United States rose by 3.2% in 2010, marking the end of a two-year slide that coincided with the global economic crisis, according to an inventory released by the Environmental Protection Agency on 16 April. Cumulative emissions rose to the equivalent of 6.8 billion tonnes of carbon dioxide, driven by fossil fuel consumption in the electricity, industrial and transport sectors. Despite the sharp increase from 2009, emissions remain more than 6% below their 2007 peak. Australia's emissions, meanwhile, rose by 0.6% in 2011, to the equivalent of 546 million tonnes of carbon dioxide, according to government figures released on 17 April.

## BUSINESS

### Drug fines

Improper marketing of antipsychotic drugs is attracting further fines. Last week, US health-care giant Johnson & Johnson, with its subsidiary Janssen Pharmaceuticals, was ordered to pay the state of Arkansas more than US\$1.2 billion for playing down risks associated with the blockbuster antipsychotic Risperdal (risperidone), including increased probability of death in some trial groups. A string of states are suing the firm, which is headquartered in New Brunswick, New Jersey; fines have so far been ordered in South Carolina (\$327 million) and Louisiana (\$258 million). Johnson & Johnson has appealed both

KYODO/PHOTOSHOT

decisions, but agreed to pay \$158 million to Texas in a settlement. In 2009, Eli Lilly of Indianapolis, Indiana, agreed to pay \$1.4 billion in fines related to its marketing of another antipsychotic drug, Zyprexa (olanzapine).

## PEOPLE

**Biologist sacked**

Protein crystallographer Robert Schwarzenbacher has been fired by the University of Salzburg in Austria following allegations that he fabricated the molecular structure of a version of a birch-pollen allergen, published in the *Journal of Immunology* in 2010 (N. Zaborsky *et al. J. Immunol.* **184**, 725–735; 2010). The article has not been retracted but the structure (code 3K78) has been removed from the Protein Data Bank. Schwarzenbacher admitted fabrication at first (N. Zaborsky *et al. Acta Cryst.* **F68**, 377; 2012), but then retracted his statement. In a further statement to Austrian news agencies, he then said that the structure contains errors but they were not fraudulent. He is fighting his dismissal.

**Scientists arrested**

The arrest of two scientists in one week by police in Kolkata has triggered outrage in India. Ambikesh Mahapatra, a



chemist at Kolkata's Jadavpur University, was arrested on 13 April after he circulated a political cartoon that made fun of Mamata Banerjee (pictured), the first woman to be chief minister of West Bengal. His arrest follows that of Partho Sarothi Ray, a molecular biologist at the Indian Institute of Science Education and Research Kolkata, who was arrested for protesting against the forcible eviction of slum dwellers in East Kolkata. See [go.nature.com/blo21v](http://go.nature.com/blo21v) for more.

**Astrophysicist death**

No criminal charges will be brought over the death of astrophysicist Steven Rawlings of the University of Oxford, UK. Rawlings was found dead at the home of his friend and fellow Oxford academic Devinder Sivia in January (see [go.nature.com/kuiphg](http://go.nature.com/kuiphg)). Sivia was arrested and released

on bail, but the UK Crown Prosecution Service now says that he will not face any charges. A coroner's inquest will seek to determine the cause of death. Rawlings was a key figure in the Square Kilometre Array radio telescope project.

## EVENTS

**Sumatra quake**

Seismologists were surprised at the power of an undersea earthquake of magnitude 8.6 off the west coast of Aceh on the Indonesian island of Sumatra on 11 April. The quake caused few fatalities, and there was no major tsunami because it was at a 'strike-slip' fault, in which sections of crust rub together horizontally, rather than thrusting over or under each other. It may be the largest known such quake, apart from one of magnitude 8.6 in northeast India and Tibet in 1950. See [go.nature.com/nwgc7a](http://go.nature.com/nwgc7a) for more.

**Satellite silence**

Officials with the European Space Agency (ESA) say that they have lost contact with Envisat, the agency's premier Earth-observing satellite. Launched in 2002, the satellite is billed as the most sophisticated environmental monitor in orbit, with ten instruments providing streams

## COMING UP

**22–27 APRIL**

At the European Geosciences Union General Assembly in Vienna, researchers discuss the role of geoscientists in warning of and mitigating natural disasters. [www.egu2012.eu](http://www.egu2012.eu)

**26–27 APRIL**

US science-policy experts meet in Washington DC to discuss the nation's science and technology prospects at the 37th Annual American Association for the Advancement of Science Forum on Science and Technology Policy. [go.nature.com/eub4u7](http://go.nature.com/eub4u7)

of valuable data on everything from ozone, clouds and greenhouse gases to land-use trends and sea surface temperatures. Its signal cut out on 8 April, and although the satellite remains in stable orbit around Earth, ESA could not establish contact as *Nature* went to press. See [go.nature.com/9h5mom](http://go.nature.com/9h5mom) for more.

## RESEARCH

**China ethics**

More than 1,000 Chinese science journals administered by the China Association for Science and Technology in Beijing have jointly declared a code of ethics to prevent academic misconduct. State media reported on 10 April that publishers would punish editors who knowingly published plagiarized articles or abused their positions. The statement comes a month after China's education ministry launched an effort to curb scientific misconduct at universities.

**NATURE.COM**

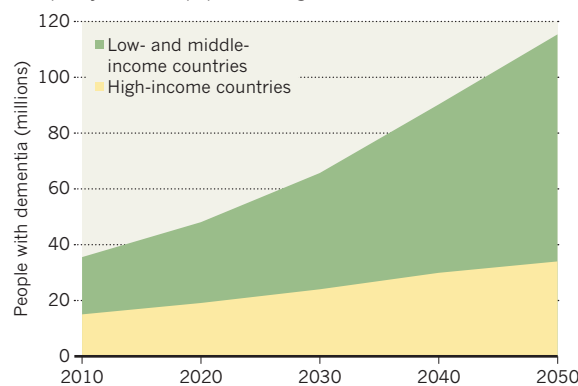
For daily news updates see: [www.nature.com/news](http://www.nature.com/news)

## TREND WATCH

An estimated 35.6 million people were living with dementia in 2010, according to a World Health Organization report released on 11 April, which urged governments to make plans for coping with the economic and social burden of brain illnesses. As people live longer, cases of dementia are projected to reach 115 million in 2050 (see chart). That estimate assumes current prevalence, which in people over 60 ranges from 8.5% in Latin America to 2.1% in sub-Saharan Africa.

**RISING TIDE OF DEMENTIA**

The number of people with dementia is expected to triple by 2050\* as populations age.



\*Extrapolations based on world dementia prevalence of 4.7% in those aged 60 and over in 2010.