

## POLICY

### Power-plant rules

The US Environmental Protection Agency (EPA) published a controversial rule on 8 January governing greenhouse-gas emissions from new power plants. Advanced natural-gas power plants are poised to meet the standards, but the rule would effectively require new coal-fired plants to capture and sequester about 40% of their emissions — a feat that many industry officials have criticized as technologically infeasible. The EPA will now accept public comments on the rule while working on a second standard governing existing power plants.

### Polio progress

On 13 January, India marked its third consecutive year without a case of polio, clearing the way for the World Health Organization to certify the southeast Asia region as polio-free. The achievement is a major milestone for India, where high population density and poor sanitation had enabled the poliomyelitis virus to spread. Pakistan, Afghanistan and Nigeria remain the only countries never to interrupt transmission of polio, and the virus re-emerged last year in war-torn Syria and the Horn of Africa.

## BUSINESS

### Novartis woes

The Japanese health ministry filed a criminal complaint on 9 January against Swiss pharmaceutical firm Novartis, claiming that the Basel-based company had exaggerated the benefits of Diovan (valsartan), used to lower blood pressure. Advertisements for the best-selling drug relied on studies showing that it also reduced



NASA/ESA/J. LOTZ, M. MOUNTAIN, A. KOEKEMOER & THE HFF TEAM (STSCI)

## Super-distant galaxies glimpsed

Astronomers unveiled pictures of the deepest galaxy cluster ever imaged at the annual meeting of the American Astronomical Society in National Harbor, Maryland, which ended on 9 January. The images from NASA's Hubble Space Telescope are part of the Frontier Fields programme, which harnesses the phenomenon of 'gravitational lensing' (see *Nature* 497, 554–556; 2013). The tremendous gravity of large

foreground clusters — in this case, Abell 2744 (pictured) — distorts space, enhancing the visibility of more-distant galaxies. Abell 2744, which shows hundreds of galaxies as they looked 3.5 billion years ago, produced gravitational lensing that allowed scientists to see background galaxies from more than 12 billion years ago. Some of the objects captured are 10–20 times fainter than any galaxies previously observed.

the risk of stroke and heart attack. But by early 2013, some related papers had been retracted over flawed data and analysis (see [go.nature.com/hdfzbi](http://go.nature.com/hdfzbi) for more). Novartis's Japan unit has acknowledged the complaint on its website.

### Cloud computing

IBM has invested US\$1 billion in the IBM Watson Group, a business unit to commercialize artificial-intelligence applications that can be accessed by customers remotely. Located in New York City, the group is based around Watson, the computer that famously won against human competitors in a quiz show in 2011 (see [go.nature.com/u783dz](http://go.nature.com/u783dz)).

Watson has since been farmed out to analyse large data sets, and is being tested at the Memorial Sloan-Kettering Cancer Center in New York City to help physicians decide how to diagnose and treat patients.

## RESEARCH

### Space station stays

As space-agency leaders from around the world gathered in Washington DC to discuss the future of space exploration, the US White House approved operations aboard the International Space Station until at least 2024, extending the previous 2020 end date. In a joint

announcement on 8 January, Charles Bolden, the head of NASA, and President Barack Obama's chief science adviser John Holdren said that the decision will enable the continuation of short- and long-term research, including planned human missions to an asteroid and Mars.

## EVENTS

### Welcome break-up

Two ships that had been stranded in thick ice off Antarctica reported finally heading for open waters on 8 January. The Russian vessel *Akademik Shokalskiy* got stuck near Commonwealth Bay on 24 December during

a research voyage, and the Chinese icebreaker *Xue Long* became trapped during a rescue attempt (see *Nature* **505**, 133; 2014). Shifting weather conditions allowed the ships to break free. See pages 270 and 291 for more.

## Industrial blast

An explosion at a chemical plant in Japan on 9 January killed 5 and injured 12. The blast at Mitsubishi Materials in Yokkaichi, about 300 kilometres west of Tokyo, occurred while workers cleaned a tank used to cool gas during the manufacture of silicon. The company is still investigating the cause of the explosion, but some reports suggest that residual chlorine or hydrogen in the tank may have reacted with air.

## Animal activism

Anti-terrorism police in Italy are investigating the targeting of four scientists at the University of Milan who use animals in their research. In the early hours of 7 January, activists posted flyers and graffiti around the neighbourhoods where the scientists live, giving their names, photographs, addresses and telephone numbers. The flyers described the researchers as torturers and murderers, and exhorted readers to harass the scientists by phone.

## PEOPLE



## Engineering leader

The Royal Academy of Engineering in London announced the nomination of Ann Dowling (pictured) as its first female president on 9 January. Dowling, who heads the department of engineering at the University of Cambridge, UK, became the department's first female professor in 1993. Her research focuses on achieving efficient, low-emission combustion and developing low-noise vehicles; she has received royal honours for her services to mechanical engineering and science. The academy is scheduled to elect Dowling formally in September.

## AIDS chief

On 9 January, US President Barack Obama nominated physician Deborah Birx to coordinate the country's global AIDS efforts and administer the US President's Emergency Plan for AIDS Relief (PEPFAR).

Birx currently heads the AIDS programme at the US Centers for Disease Control and Prevention in Atlanta, Georgia. The PEPFAR programme, which receives about US\$6 billion per year to distribute antiretroviral drugs and medical care in countries affected by AIDS (see *Nature* **457**, 254–256; 2009), received a five-year reauthorization in December 2013.

## USGS chief

US President Barack Obama announced on 9 January that he had nominated Suzette Kimball to lead the US Geological Survey. Kimball, a former deputy-director for the agency, has served as acting director since February 2013, when previous head Marcia McNutt resigned (see [go.nature.com/eyn4uu](http://go.nature.com/eyn4uu)). Kimball has also worked as an assistant professor of environmental sciences at the University of Virginia in Charlottesville, and as a regional chief scientist for the US National Park Service.

## Smithsonian head

Plant pathologist Eva Pell announced on 8 January that she will step down as undersecretary for science at the Smithsonian Institution in Washington DC, less than four months after Wayne Clough announced plans to retire as the institution's leader

## COMING UP

### 20 JANUARY

The European Space Agency's Rosetta spacecraft comes out of hibernation in preparation for reaching its destination later this year: the comet 67P/Churyumov-Gerasimenko. The mission will be the first to land a probe on a comet's surface. See page 269 for more. [go.nature.com/ivxmmo](http://go.nature.com/ivxmmo)

### 22 JANUARY

The European Union is set to unveil a package of long-term climate and energy goals and proposals.

(see *Nature* **501**, 467; 2013). Since 2010, Pell has headed the Smithsonian's science museums, its nine research centres and the National Zoo. Previously, she was senior vice-president for research and graduate-school dean at Pennsylvania State University in University Park.

## FUNDING

## Pesticide risks

On 8 January, the US Environmental Protection Agency announced the award of nearly US\$500,000 in grants for research to reduce the risks of pesticides, especially to bees. Scientists at Pennsylvania State University in University Park received funding to study alternatives to treating seeds with neonicotinoids, a class of pesticide linked to declines in bee populations (see *Nature* **496**, 408; 2013). At Louisiana State University in Baton Rouge, researchers will assess the long-term risks to bees from chemicals used in large-scale mosquito-abatement programmes.

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## TREND WATCH

Career barriers for young scientists vary widely across different regions of the globe, according to a survey of researchers in 12 countries that will be published this month by the Global Young Academy in Berlin. A large fraction of respondents in Germany reported problems with job insecurity, compared with other regions (see chart). More researchers in Egypt, Pakistan and Tunisia cited political instability as a career barrier than their peers around the world.

## SHAKY FUTURES

Job insecurity causes problems for early-career scientists around the world, especially in Germany, according to a recent survey.

