

## RESEARCH

### Science's pay gap

In the United States, the pay gap between men and women is slightly smaller in science, technology, engineering and mathematics (STEM) than in other fields, according to a report released on 3 August by the US Department of Commerce. Women's average hourly earnings are 14% lower than men's in STEM jobs, but 21% lower in non-STEM jobs. When the data are adjusted to control for other factors, such as education, the STEM pay gap shrinks to 12%, with physical and life sciences coming in at 8%. Women comprise 24% of STEM workers, a proportion that has remained constant over a decade. See [go.nature.com/mshimp](http://go.nature.com/mshimp) for more.

### To Jupiter!

NASA's Juno spacecraft launched successfully on 5 August, bound for Jupiter. The US\$1.1-billion mission will take five years to reach the Solar System's largest planet, which it will swing round 33 times in a highly elliptical orbit. Juno will probe the Jovian atmosphere for water vapour, and look for signs of a solid core (see *Nature* 476, 13–14; 2011).

### China's sea claims

Tensions increased between Vietnam and China over exploration in the South China Sea, after China's state media reported on 2 August that the research vessel *Tan Bao Hao* had surveyed the sea's southwest basin in late July, with the aim of studying tectonic activity. Vietnam's foreign ministry demanded that China "cease and refrain" from further such acts.

The two countries — and other neighbouring nations such as the Philippines — are

in dispute over their claims to potentially oil-rich islands in the region. China's recent funding boost for deep-sea exploration is largely motivated by the nation's desire to find oil and minerals (see *Nature* 466, 166; 2010).

### NSF gets social

The fourth of the cross-disciplinary 'synthesis' centres set up by the US National Science Foundation (NSF) will be the first to involve social scientists. So far, synthesis centres founded in 1995, 2004 and 2008 have focused, respectively, on ecology, evolutionary biology and the interface

between mathematics and biology. The National Socio-Environmental Synthesis Center, in Annapolis, Maryland, will research issues such as food production, water availability and the interaction between human activities and ecosystem health, the NSF says. It announced funding of US\$27.5 million over 5 years for the centre on 2 August.

### Ecology network

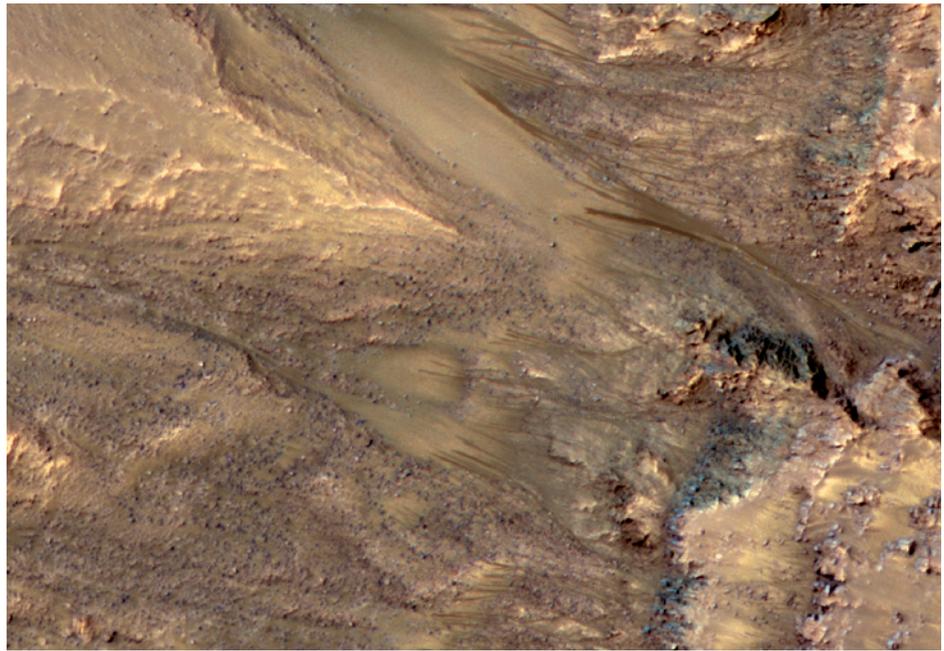
Researchers behind a long-planned US\$434-million environmental monitoring network released the project's draft scientific plan on 4 August. The National Ecological Observatory

Network, which aims to collect data for 20 'core' observatories representing ecosystems across the United States, had cleared its final funding hurdle a week earlier, when the National Science Foundation awarded money to begin construction. See page 135 for more.

## PEOPLE

### Stem-cell chief

The US National Institutes of Health has finally found a director for its Intramural Center for Regenerative Medicine, a US\$52-million, 7-year initiative begun in 2010. Mahendra Rao, a



NASA/JPL-CALTECH/UNIV. ARIZONA

## Streaks suggest liquid water on Mars

NASA scientists have reported evidence of salty water near the surface of Mars, in a region that may become a landing target for future missions to determine whether the planet can support life. Images from the High Resolution Imaging Science Experiment (HiRISE), a camera aboard the Mars Reconnaissance Orbiter, revealed

thousands of narrow, dark streaks that appear on some of Mars's steep slopes during warmer seasons (pictured, in Newton Crater). By winter, the streaks have faded or vanished. The findings were published on 5 August (A. S. McEwen *et al. Science* 333, 740–743; 2011). See [go.nature.com/casgrb](http://go.nature.com/casgrb) for more.

AP stem-cell biologist who spent six years as vice-president of regenerative medicine at Life Technologies (formerly Invitrogen) in Carlsbad, California, will take up the position later this month. His appointment was announced on 3 August. See [go.nature.com/urkckh](http://go.nature.com/urkckh) for more.

## Ex-NIH head dies

Bernadine Healy, who was the first woman to lead the US National Institutes of Health (NIH), died on 6 August aged 67. Healy, who trained as a cardiologist, headed up the NIH between 1991 and 1993, taking over after the agency had been without a director for two years. Her greatest impact was in championing research into women's health — she launched the Women's Health Initiative, a US\$625-million clinical trial which, in 2002, showed that hormone-replacement therapy increases the risk of breast cancer, stroke and heart disease.

## Nobel laureate dies

Immunologist Baruj Benacerraf (pictured), who shared the 1980 Nobel Prize in Physiology or Medicine for his work on the genetic basis of the immune system, died on 2 August, aged 90. Benacerraf was born in Venezuela and brought up in France, but it was at New York University in the 1950s and 1960s that



he traced how guinea pigs' varying immune responses to the same antigen depended on specific genes. From 1980 to 1992, he was president of the Dana-Farber Cancer Institute in Boston, Massachusetts.

### POLICY

## Fukushima's wake

Japan will next year create a more independent nuclear-safety agency, scrapping its existing watchdogs — the Nuclear and Industrial Safety Agency (NISA) and the Nuclear Safety Commission. Both currently sit within the pro-nuclear trade and industry ministry, but the new watchdog would sever ties with that ministry and might impose tougher regulations on nuclear plants, said Goshi Hosono, the minister in charge of the country's response to the Fukushima meltdowns. He announced the plan on 5 August; one

day after the government had fired NISA's director and two other industry ministry officials.

## Nuclear closure

Only two commercial facilities in the world recycle plutonium and uranium from used nuclear fuel to make 'mixed oxide' (MOX) fuel: now one of them is shutting down. Britain's Nuclear Decommissioning Authority on 3 August announced the closure of the MOX facility at Sellafield. The plant was supposed to supply Japanese reactors with MOX, but has been left without a market in the aftermath of the nuclear meltdown at the Fukushima Daiichi plant. See page 140 for more.

## Integrity plans

The US Environmental Protection Agency's draft policy on scientific integrity, released on 5 August, drew immediate criticism. The watchdog group Public Employees for Environmental Responsibility, headquartered in Washington DC, called it "by far the weakest scientific integrity rules of any agency". Among its concerns are that managers and public-affairs staff can screen and approve the release of scientific information. The US National Science Foundation released a draft policy on 4 August. All

## COMING UP

### 11–12 AUGUST

A US Institute of Medicine committee examining the need for chimpanzee research holds a public workshop in Washington DC. The group is expected to release a report by the end of the year. [go.nature.com/obxi2t](http://go.nature.com/obxi2t)

### 11–18 AUGUST

Results from detectors looking at cosmic rays — including the International Space Station's Alpha Magnetic Spectrometer — should be revealed at the 32nd International Cosmic Ray Conference in Beijing. <http://icrc2011.ihep.ac.cn>

### 12–14 AUGUST

Expect updates on the attempt to build an elevator into space, from the 2011 Space Elevator Conference in Redmond, Washington. [go.nature.com/krqd8l](http://go.nature.com/krqd8l)

agencies had to submit policies to the White House Office of Science and Technology Policy by 5 August. See [go.nature.com/m2q2zg](http://go.nature.com/m2q2zg) for more.

## Data mining OK

An update to Britain's copyright laws means that scientists will be allowed — for research purposes — to mine text and data from journal articles, databases and other literature without having to ask permission from the copyright owner. Such text digitization and data mining gets a specific exemption under government plans to modernize the country's intellectual-property laws, announced on 3 August. See [go.nature.com/hekfgw](http://go.nature.com/hekfgw) for more.

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## TREND WATCH

Japanese astronauts clocked their collective 494th day in space on 24 July, passing Germans, with 493, to make Japan the third most space-faring country. As of 10 August it had reached 511 days. Japan has no hope of catching up with Russia's 20,817 days or the United States' 14,820, but International Space Station schedules show that Japanese astronauts will keep a firm grip on third place. China will become the next contender for high honours later this decade, as it establishes its own space station.

## A NEW ORDER IN SPACE

Japanese astronauts have passed 500 days in space — putting the nation third in the space-faring rankings.

