

# SEVEN DAYS

The news in brief

## EVENTS

### MERS outbreak

A large outbreak of Middle East respiratory syndrome (MERS) coronavirus in South Korea has caused alarm this week. As *Nature* went to press, the hospital-acquired virus had killed 7 people and infected 94 in the country — the largest outbreak outside the Middle East so far. The latest cases began when a South Korean man returned to Seoul from the Middle East, and visited four health-care facilities before being diagnosed. There is also one case in China, imported from South Korea. The virus could become a greater threat if it acquires mutations that allow it to spread between humans more easily; however, the South Korean health ministry announced on 6 June that sequencing suggests the virus is unchanged. See page 139 for more.

### Solar-plane setback

Solar Impulse, the plane that aims to be the first solar-powered craft to circle the world, landed unexpectedly in Nagoya, Japan, on 1 June as it attempted to begin its long trans-Pacific journey. Weather patterns forced the re-routing. On 2 June, wind gusts whipped through the airport at Nagoya and damaged part of Solar Impulse's wing, delaying the

## NUMBER CRUNCH

# \$400 m

The largest-ever gift donated to Harvard University in Cambridge, Massachusetts, given on 3 June to its School of Engineering and Applied Sciences by alumnus and hedge-fund manager John Paulson.



M. BRICE/CERN

## Hopes high as LHC switches on again

Scientists at CERN, Europe's particle-physics laboratory near Geneva, Switzerland, celebrated the official restart of the Large Hadron Collider (LHC) on 3 June. The machine was shut down for two years to undergo upgrades and can now smash protons together at a record energy of 13

teraelectronvolts. Whereas the LHC's first run hunted down the Higgs boson, the second will do a wide-ranging search for discrepancies with the standard model, physicists' best description of particle and force behaviour. See [go.nature.com/sglyfm](http://go.nature.com/sglyfm) for more.

project for at least another week. The planned round-the-world flight began in March from Abu Dhabi.

### Solar sail unfurls

The world's first privately funded solar sail unfurled in orbit on 7 June. The test flight of LightSail, run by the Planetary Society, a space-advocacy group in Pasadena, California, had run into a series of communications and battery problems, but unexpectedly responded to mission control after a three-day silence and deployed its 32-square-metre sail. Solar sails use the pressure from light radiated by the Sun to move through space.

### Space partnership

A near-Earth space-weather observatory has been nominated to become the first

official joint mission between the European Space Agency and the Chinese Academy of Sciences. The Solar wind Magnetosphere Ionosphere Link Explorer (SMILE) would study the interaction between Earth's magnetic field and the solar wind, charged particles that stream from the Sun. It is scheduled for launch in 2021. Selected on 4 June from a pool of 13 proposals, SMILE is expected to cost about €100 million (US\$112 million), and will undergo further assessment ahead of a formal selection process later this year.

## PEOPLE

### Biochemist dies

Irwin Rose, an American biochemist who co-discovered a cellular recycling system, died on 2 June aged 88. Rose shared the 2004 Nobel Prize in

Chemistry for work showing that proteins marked with a molecular tag called ubiquitin are destined for destruction. This process malfunctions in diseases such as cystic fibrosis and cancer, and Rose's work led to the development of a drug to treat certain blood cancers.

## FACILITIES

### Mammoth telescope

The Giant Magellan Telescope has been given the go-ahead to start construction at Las Campanas Observatory in Chile, project leaders announced on 3 June. Its ultimate design calls for seven mirrors that together will span 25 metres. When it comes online in 2021, it will have only four of those seven in place, but it will still be the world's largest optical telescope at that point.

Eleven international partners have committed more than US\$500 million to the project, just over half of its total expected cost.

## RESEARCH

## Fracking impacts

Hydraulic-fracturing activities in oil and gas development have not had major effects on drinking-water resources in the United States, the US Environmental Protection Agency reported in a draft assessment on 4 June. The much-anticipated study did document multiple threats to surface and groundwater resources, including poorly constructed wells and the improper disposal of waste water produced during the drilling process. But agency officials said that the number of cases of documented contamination is “relatively low”. Accompanied by more than 20 peer-reviewed reports, the study will be finalized after review by the agency’s Science Advisory Board.

## Water-lily discovery

The discovery of a new species of water lily was announced by the Royal Botanic Gardens, Kew, UK, on 5 June. The bloom (pictured), which has yet to be named, was found in Western Australia by Kew tropical-plant specialist



Carlos Magdalena and teams from Kings Park and Botanic Garden and the University of Western Australia, both in Perth. An identical plant had previously been collected in Australia’s Northern Territory, but was thought to be a hybrid. The discovery of this plant in the remote creeks of Kimberley, many hundreds of kilometres away from the previous find, led Magdalena to conclude that it is a new species. DNA analysis will be used to confirm the find.

## POLICY

## G7 climate pledge

On 8 June, the G7 group of leading industrialized nations adopted a target of reducing global greenhouse-gas emissions to 70% of their 2010 levels by mid-century to achieve climate goals. Issued at the conclusion of the G7 summit at Schloss

Elmau in Krün, Germany, the communiqué goes beyond previous statements. Those had affirmed the goal of limiting the average temperature increase to 2°C above pre-industrial levels, but had not quantified the actual emissions reductions required. The G7 also called for decarbonization of the world economy — ending fossil-fuel use — by the end of the twenty-first century.

## Animal experiments

The European Commission has decided not to propose changes to legislation on the use of animals for scientific purposes, after considering a petition to overhaul its laws. A European Citizens’ Initiative called Stop Vivisection, signed by more than one million Europeans and submitted to the commission in March, had called for a complete ban on animal use. The commission said on 3 June that animals are

## COMING UP

### 14–17 JUNE

The latest research on human fertility and reproductive technologies is presented at the European Society of Reproduction and Embryology’s annual conference in Lisbon. [www.eshre2015.eu](http://www.eshre2015.eu)

### 15–19 JUNE

Interdisciplinary scientists from around the world meet in Chicago, Illinois, for the Astrobiology Science Conference 2015. This year’s theme is Habitability, Habitable Worlds, and Life. [go.nature.com/hwhc8z](http://go.nature.com/hwhc8z)

still required in biomedical research, but it pledged to promote the development of animal-free ways of testing the safety and efficacy of drugs and other chemicals.

## AWARDS

## Robot contest

A South Korean team won the US\$2-million first prize in the US Defense Advanced Research Projects Agency’s DARPA Robotics Challenge, which took place on 5–6 June in Pomona, California. Twenty-three teams from around the world entered machines into the contest, in which they had to compete at performing tasks that could be useful in a disaster scenario, such as climbing a ladder and shutting down a valve. The winner was DRC-Hubo, a humanoid robot that can switch between walking and moving faster on wheels. It was developed at KAIST, a science and technology research university in Daejeon, South Korea.

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## TREND WATCH

Although big gains have been made in cutting mortality due to illness, disabilities from illness pose a major problem, warns a study of 188 countries in *The Lancet* (T. Vos *et al.* *Lancet* <http://doi.org/45v>; 2015). It found that the proportion of years of healthy life lost rose from about one-fifth in 1990 to nearly one-third in 2013. The leading causes — including low-back pain and depression — have changed little, but only 1 in 20 people had no problems in 2013, and 1 in 3 had more than 5.

## GROWING SICKNESS

Although people are living longer, they are also living with more chronic conditions, as seen here in data for the developed world.

