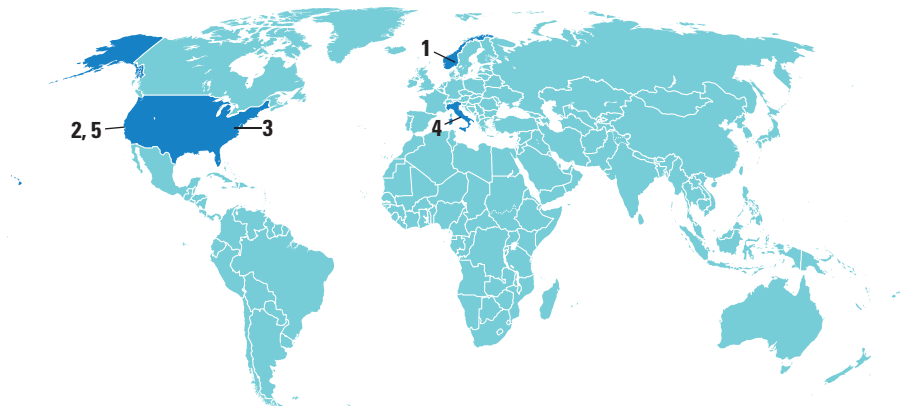


AROUND THE WORLD



Oslo 1

Chemical Weapons Watchdog Group Wins Peace Prize

For its “extensive efforts to eliminate chemical weapons,” the Nobel Committee has chosen to honor the Organisation for the Prohibition of Chemical Weapons (OPCW) with the 2013 Nobel Peace Prize.

“We are a small organisation which for over 16 years, and away from the glare of international publicity, has shouldered an



Honored. Ahmet Üzümcü, OPCW's director-general, comments on receiving the Nobel Peace Prize.

onerous but noble task—to act as the guardian of the global ban on chemical weapons that took effect in 1997,” said OPCW Director-General Ahmet Üzümcü in a prepared statement.

Such international bodies are not famed for their speed and effectiveness, but OPCW's track record is impressive. Some 189 countries, representing 98% of the global population, have joined OPCW since the Chemical Weapons Convention came into force in 1997 and 82% of the world's

declared stockpile of chemical agent (some 58,172 tonnes) has been destroyed. OPCW has carried out 5286 inspections at 228 chemical weapon-related and 1905 industrial sites in 86 countries. OPCW's recent mission in Syria, following the August chemical weapon attacks in Damascus, has brought it much greater public attention. <http://scim.ag/chemweapnobel>

Mountain View, California 2

NASA Backs Away From Meeting Ban

The Chinese scientists banned from an upcoming meeting at NASA's Ames Research Center will get another chance to register (*Science*, 11 October, p. 177). But that doesn't guarantee them a seat at next month's conference.

The turnaround, announced last week by NASA Administrator Charles Bolden, comes after an angry letter from Representative Frank Wolf (R-VA), who chairs the panel that funds the space agency. NASA Ames officials said they were simply following language Wolf inserted into a 2011 spending bill with the goal of protecting NASA against industrial and military spying by China. But the real reason was a blanket ban that Bolden had imposed in March on visits by scientists from eight countries, including China.

Wolf asked Bolden to “correct the record,” and 2 days later Bolden extended his olive branch without acknowledging any mistake. Instead, Bolden blamed “[m]id-level managers at Ames ... performing the due diligence ... following a period of significant concern and scrutiny from Congress.” The scientists will still need to pass a security clearance, however, a process that generally takes several weeks.

Richmond 3

Climate Heats Up Virginia Politics

A new poll suggests that the issue of climate change may help businessman Terry McAuliffe in his campaign for governor of Virginia next month against Ken Cuccinelli, the outspoken state attorney general. McAuliffe, a Democrat, leads Cuccinelli, a Republican, by nine points, according to the media outlet POLITICO, which polled 1150 likely voters. Cuccinelli, who questions the scientific consensus that global warming poses a significant threat, has criticized McAuliffe's support for new federal



Hot topic. Climatologist Michael Mann has campaigned for Terry McAuliffe, Ken Cuccinelli's rival for Virginia governor.

rules on carbon emissions from coal plants. But the poll showed 45% in support of the regulations, versus 33% opposed.

Meanwhile, climate scientist Michael Mann released a video last week saying that the attorney general was “doing the bidding of the fossil fuel interests” when he issued a 2010 subpoena of Mann's e-mails and other scientific documents. The subpoena, centered on grant applications Mann had filed during a previous stint at the University of Virginia, was eventually tossed out by a state judge. Now at Pennsylvania State University, University Park, Mann campaigned in support of McAuliffe earlier this year.

NOTED

>The Boston-based Institute for Justice & Democracy in Haiti filed a lawsuit last week against the United Nations for **inadvertently unleashing the 2010 cholera outbreak** that has killed more than 8000 Haitians. Genomic studies and an independent U.N. report left little doubt that Nepalese peacekeeping forces brought the disease to the island nation.

CREDITS: (TOP LEFT TO RIGHT) GREG RICO; (BOTTOM) GREG DEJONG/AP PHOTO

Downloaded from www.sciencemag.org on October 26, 2013

THEY SAID IT

"Oh, what news?"

—Theoretical physicist Peter Higgs, to a former neighbor who hailed him from a car to congratulate him on "the news"—that he would share the Nobel Prize in physics for his work on the theory of the Higgs boson.

fuel, aiming to fuse the hydrogen atoms into helium atoms, releasing energy. The goal is ignition, a self-sustaining fusion burn that produces more energy than the laser put in.

The BBC story reported that during one recent experiment, "the amount of energy released through the fusion reaction exceeded the amount of energy being absorbed by the fuel - the first time this had been achieved at any fusion facility in the world." But although a 29 September NIF memo to collaborating labs describes a promising fusion shot that produced 75% more neutrons—a product of fusion—than any previous shot, it is not the breakthrough everyone is hoping for. Ignition, scientists say, is still a long way off. <http://scim.ag/noNIFbreak>

NEWSMAKERS

Three Q's



Choi

To rejuvenate a sagging economy, South Korean President Park Geun-hye is looking to her nation's scientific corps to tickle its creativity bone and produce more innovations. Samsung Electronics heeded the call, announcing in August that it will establish a 500 billion won (\$466 million) foundation to hand out grants for basic research. The government, meanwhile, hopes to get creative juices flowing through its Institute for Basic Science (IBS), which provides generous support to handpicked top talents (see p. 302). Leading the charge is science minister **Choi Mun-kee**, an expert on information and communications technology. Choi, 62, spoke with *Science* on 4 October in his office in Seoul.

Q: How influential will Samsung's foundation be in coaxing scientists to innovate rather than imitate?
C.M.-K.: We expect that Samsung could show us a new model that connects basic, >>



Remnant of a Comet

A black, diamond-spackled pebble just a few centimeters across is the remainder of a comet that struck Earth almost 29 million years ago—making it the first direct evidence of a comet exploding in our atmosphere, scientists say. The stone, named "Hypatia" after an Alexandrine mathematician and philosopher, was found in 1996 among bits of yellow sand glass (also known as the Libyan Desert Glass) scattered across tens of kilometers in southwestern Egypt, near the border with Libya. The glass itself has been dated to 28.5 million years and has long been thought to be the result of a meteorite impact or an airburst caused by a comet breaking up in Earth's atmosphere. Scientists performed a range of tests on the tiny pebble, examining its mineralogy, bulk chemistry, carbon isotope, and noble gas content—which support not only an extra-terrestrial but also a cometary origin, they report in an upcoming issue of *Earth and Planetary Science Letters*.

Rome 4

Italy Blocks Use of Stem Cell Therapy

Italy's Health Minister Beatrice Lorenzin announced on 10 October that Stamina, a foundation in Turin that developed a controversial and unproven stem cell therapy, will not be allowed to test it on humans—at least not in Italy. "We have put an end to it," Lorenzin says. "I would have liked to give patients better news, but the method has shown to be not eligible for a clinical trial."

The treatment is based on bone marrow stem cells that Stamina's President Davide Vannoni claims can grow neurons and cure neurodegenerative diseases. In May, the government provided €3 million for a clinical trial. However, last month, an expert panel unanimously rejected the method, claiming that it lacks scientific basis (*Science*, 20 September 2013, p. 1324). A Health Ministry decree explains that the rejection was based on an "inadequate description of the method" and "the lack of quality controls on cells."

The Justice Ministry has yet to rule on whether Stamina can continue to treat patients in Italy. In the meantime, Vannoni says, an African country that he declined to

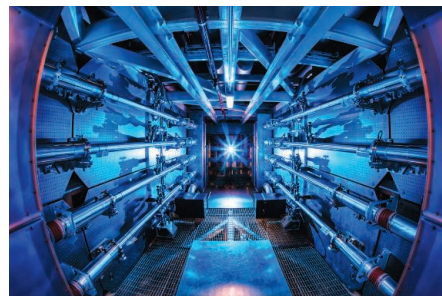
identify "has already given the green light to human experiments."

<http://scim.ag/Staminablocked>

Livermore, California 5

The NIF Breakthrough That Wasn't

One side effect of the U.S. federal shutdown is that press officers at government labs aren't around to offer reality checks to news stories. Last week, media outlets jumped on a report by BBC News that the National Ignition Facility (NIF) at Lawrence Livermore National Laboratory in California had passed a "nuclear fusion milestone." NIF uses the world's highest energy laser system to crush tiny pellets containing hydrogen



No ignition. NIF "breakthrough" was overhyped.

>>NEWSMAKERS

applied, and development research. This is a starting point. We hope others will follow.

Q: Why did the government establish IBS rather than strengthen existing centers of excellence in the universities, for example?

C.M.-K.: Korea has suffered greatly from brain drain. We have established IBS to create a good environment for brain collection.

Q: In recent months, scientific cooperation between North and South Korea has virtually ceased. With tensions on the Korean Peninsula easing, do you see an opportunity for science diplomacy?

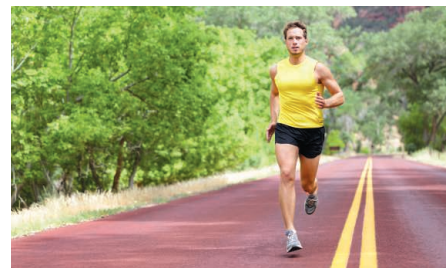
C.M.-K.: We are very much interested in cooperating. For example, I'd like to see a

national park in the DMZ [demilitarized zone]. Cooperation in science will be no problem, if we have enough trust.

FINDINGS

Protein Pathway Links Exercise To Brain Health

Exercise has well-known mental benefits, from counteracting depression and aging to fighting Alzheimer's and Parkinson's diseases. Scientists have struggled to account for this—but research published last week in *Cell Metabolism* reveals an important molecular link: a protein called FNDC5, produced in muscle cells during exercise and released into the bloodstream in a form called irisin. FNDC5 is also present in the



Pumped up. A group of molecules link exercise to mental benefits.

brain and is thought to help neurons develop.

The researchers found that in mice, exercise increases FNDC5 in the hippocampus, a brain region responsible for learning and memory. Ramping up FNDC5 production in mouse brain cells developing in a dish boosted levels of a crucial protein called brain-derived neurotrophic factor (BDNF), involved in maintaining healthy neurons and creating new ones. Most surprisingly, the researchers say, injecting mice with a virus that causes their livers to secrete more irisin also increased BDNF in the hippocampus, suggesting that irisin, or some unidentified protein that it regulates, could be crossing the blood-brain barrier to work its effects.

<http://scim.ag/WorkoutBrain>

Random Sample

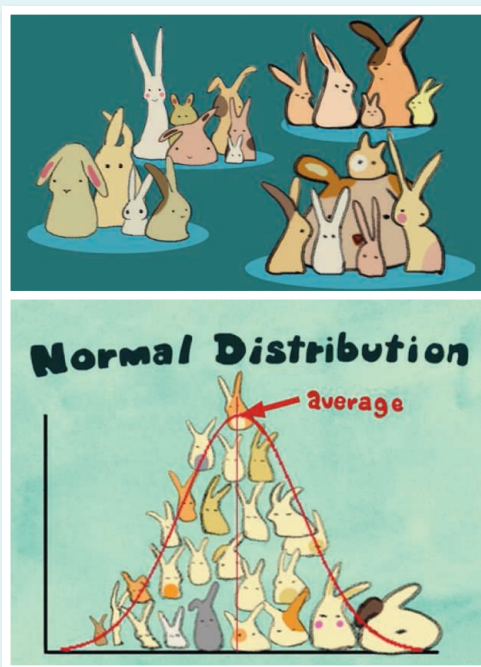
Animals Get the Spotlight In CreatureCast

Invertebrates, such as jellyfish, worms, or mollusks, don't have the same charismatic appeal as your average lion or tiger, so those who want to share their interest in the creatures often resort to the "ick factor," says Brown University evolutionary biologist Casey Dunn. "But that serves to create a distance between the organism and the audience, which is contrary to what you're trying to do."

Dunn is trying something different with CreatureCast, a series of 3-minute animated videos largely starring invertebrates. In 2009, Dunn and some friends received a National Science Foundation grant to study mollusk phylogeny and part of it was allocated to communicating their findings. CreatureCast (<http://creaturecast.org>) videos are produced with limited resources, often by a single writer/editor/producer who is also a student of Dunn's. (Students in his Invertebrate Biology class at Brown can produce a video as a final project.) Instead of expensive photos, the videomakers rely on hand-drawn animations, in which "imperfections are endearing instead of being a liability," Dunn notes.

Although invertebrates dominate the video subjects, one recent effort tackled a more abstract statistical topic (explained with cartoon bunnies and dragons): an explanation of the central limit theorem (pictured), which states that under certain conditions, and with a sufficiently large sample size, the averages of samples will have an approximately normal distribution.

The videos are now poised to hit the big time, thanks to a partnership that *The New York Times* initiated this summer. Each week, the paper considers available videos and may select one to appear on the online science page. "It's been really great," Dunn says. "I have no background in storytelling, and now I'm starting to bounce ideas off of editors."

**Potential Bioweapon Kept Secret**

Sometimes, transparency in science must take a back seat to security concerns. That's what the editors of *The Journal of Infectious Diseases* decided in the case of two papers reporting the discovery of a new type of botulinum toxin. Fearing that that information could be exploited by terrorists seeking bioweapons, the editors and the authors of the papers, published online last week, decided that it was prudent not to publish the sequence of the bacterial gene that produces the protein, named Botulinum Toxin H.

Antitoxins exist for the seven previously discovered botulinum toxins (with suffixes A to G), but the new toxin did not respond to any of these. In an editorial accompanying the papers, the journal said that the gene sequence would be made public in the future, after an antitoxin is developed.

Science LIVE

Join us on Thursday, 24 October, at 3 p.m. EDT for a live chat about new approaches for treating **spinal cord injuries**.
<http://scim.ag/science-live>

CREDITS (TOP TO BOTTOM): GETTY IMAGES/ISTOCKPHOTO; SHUYI CHIOU/CREATURECAST