

BY THE NUMBERS

\$753 million Cost to ferry U.S. astronauts to the International Space Station aboard Soyuz spacecraft under a new contract with Russia for 2014 to June 2016. That's \$63 million per astronaut.

17% Percentage of the Massachusetts Institute of Technology's science and engineering faculty who are women. That's up from 7% in 1995.

5000 Number of homes that could run on an underwater turbine array just authorized by the Scottish government. Planned for a narrow strait between the islands of Islay and Jura, the turbines will also power several distilleries.

FINDINGS

Cause of Lethal Disease In China Unmasked

BEIJING—Each spring since 2006, a new disease in China has been killing up to 30% of its victims. Scientists aren't entirely sure how it spreads or kills, but researchers now at least know the face of this enemy. In an article published online last week in *The New England Journal of Medicine* (NEJM), two teams described a new virus that appears to cause severe fever with thrombocytopenia syndrome (SFTS).

SFTS came to light when people in Anhui Province in central China began dying of an illness characterized by high fever, gastrointestinal distress, and a depressed platelet count. The disease has since spread to six provinces.

In December 2009, Xue-jie Yu, an expert on tick-borne diseases at the University of Texas Medical Branch at Galveston, isolated from a patient's blood a new bunyavirus, part of a family that includes hantavirus and Rift Valley fever virus. Then last spring and summer, researchers at the Chinese Center for Disease Control and Prevention (CDC) here detected SFTS bunyavirus RNA, specific antiviral antibodies, or both in 171 out of 241 people hospitalized for SFTS. Chinese CDC virologist Li Dexin and colleagues isolated

Random Sample

Proof Positive

Space scientists at the University of Leicester are working to protect the people of Britain from a terrifying scourge: counterfeit whisky.

Detecting fake whisky actually isn't that hard. "The trick with high-value whiskies is to measure there's something wrong without opening the bottle" and ruining its value, says George Fraser, whose day job is working on instruments that go on space probes.

So he and colleagues are working on a device, based on another one that they developed to detect counterfeit pharmaceuticals, that measures whisky the same way an astronomer measures the spectrum of a star. "It's basically holding the object up to the light in a technological fashion," Fraser says. A spectrometer records which wavelengths of light pass through the bottle of whisky, and researchers can then compare them with the spectrum transmitted by, say, a 15-year-old Glenlivet. (The technique can also flag watered-down spirits.) And, because it's tough for counterfeiters to print a label exactly the same color as the real thing, the scientists are also measuring the wavelengths reflected off the label.

The group hopes to have the instrument on the market in 18 months. In the meantime, Fraser doesn't mind leaving the bottles closed. He's a native of Scotland's Spey Valley, the home of some of the world's finest whisky, but says, "I don't much like it, actually."



11 strains of the bunyavirus from these samples. With their *NEJM* article, the Texas and Beijing teams, former rivals, share credit for the discovery. Scientists will probe whether ticks are the vector and other questions when SFTS presumably strikes this spring. <http://scim.ag/SFTS-virus>

Allergic to Peanuts? For Some Kids, Eating Them Helps

A new study is adding to a small but growing pile of evidence that kids with food allergies can benefit when exposed, under a doctor's supervision, to the very food they react poorly to. Last week, a team of British researchers reported that 22 children with peanut allergies generally did well when given higher and higher doses of peanut flour, mixed into chocolate bars, over several months. After 30 weeks, the children got about 32 roasted peanuts to eat. Fourteen tolerated that dose; on average, the peanut serving size the children could handle grew 1000-fold. The work was led by pediatric allergist Andrew Clark at Addenbrooke's Hospital in Cambridge, U.K., and published online 18 March in *Clinical & Experimental Allergy*.

It's not the last word, and doctors warn that parents shouldn't try this on their own; the study was small and had no control group. But it builds on similar evidence for

egg and milk allergies. There's also hope that eating peanuts can help prevent allergies to them in the first place. A different U.K. study, expected to end in 2014, is trying to thwart peanut allergies in hundreds of kids who are at high risk.

Sperm From a Test Tube

Generating sperm is a complicated biological feat that researchers have been trying to recreate in the lab for a century. In a paper published online in *Nature* this week, Takehiko Ogawa and colleagues at Yokohama City University in Japan describe a simple method that accomplishes just that. They hope the method will allow infertility researchers to study sperm development more effectively.

The researchers took testes from 2- or 3-day-old mice and grew the organs for about a month in a petri dish with media that contained a compound often used for stem cell cultures. The testes looked relatively normal as they developed and eventually started producing mature sperm. When the researchers extracted the sperm and artificially inseminated female mice, healthy pups were born. Using the same culture method, the researchers were even able to produce sperm from young testes that had been frozen for a month. They are now trying to recreate the process with tissue samples from larger animal, including humans. <http://scim.ag/test-tube>

