

funding agencies. The new organization, with the working title Science Europe, was planned as something of a counterweight to the European Union, which funds around 5% of the continent's research but is the dominant body in European science policymaking.

But some objected to the exclusion from Science Europe of societies that are now part of ESF; others complained that current ESF funding programs would be scrapped. Last week, the planned merger failed to gain enough votes at ESF's general assembly. ESF is now discussing how to proceed. "Everyone will have to take a deep breath," says ESF President Ian Halliday. <http://scim.ag/merger-fail>

Tokyo 5

Japan Scraps Nuclear Plan

In the wake of the Fukushima nuclear disaster, Japan's prime minister, Naoto Kan, announced this week that his government is abandoning its plan to build 14 new reactors and generate half the country's electricity from nuclear power. Instead, Kan said, Japan

THEY SAID IT

"The Q'ero Nation knows its history, its past, present and future is our Inca culture and we don't need any so-called genetic study to know who we are. We are Incas, we always have been and always will be!"

—Benito Machacca Apaza, president of the Community of Hatun Q'eros, in a letter objecting to plans to collect DNA from the remote tribe in Peru as part of the National Geographic Society's Genographic Project. <http://scim.ag/qeros-dna>

will emphasize renewable energy production and conservation. Nuclear plants now produce 30% of Japan's electricity.

The move came 4 days after Kan urged the operators of the Hamaoka nuclear power plant to cease operations for "the safety and security of the Japanese people." The plant, which sits near a fault line in a high-risk seismic area 200 kilometers southwest of Tokyo, is protected from tsunamis only by sand dunes. The Chubu Electric Power Co. complied on 9 May. The shutdown will add to Japan's electricity-generating woes; the country is already facing potential shortages this summer.

NEWSMAKERS

Three Q's

As the head of Howard Hughes Medical Institute's (HHMI's) new documentary film unit, **Michael Rosenfeld** hopes to team up with researchers around the world to bring the excitement of scientific discovery to a broader audience.



HHMI has committed \$60 million over 5 years to finance film projects. Rosenfeld, a television journalist who produced the popular *Explorer* series during more than 2 decades at National Geographic, begins his job in July.

Q: Why has HHMI launched this initiative?

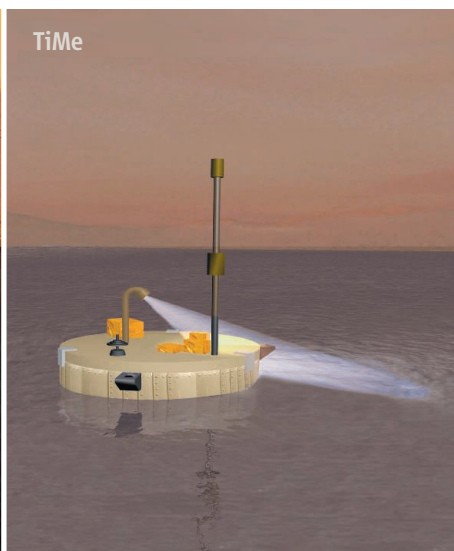
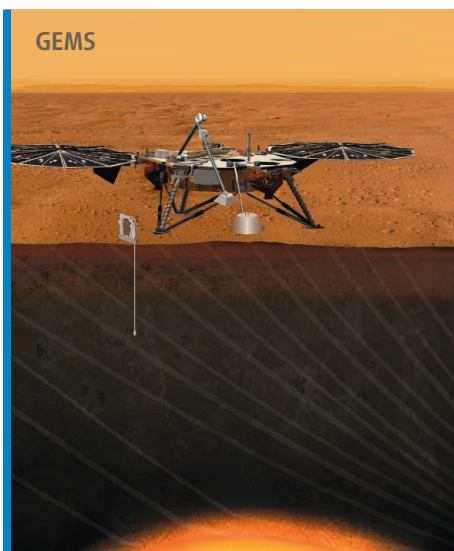
Both public and cable TV have had a lot of pressure on their financial budgets. The initiative will make it possible to produce high-end, ambitious projects. A good film can provide clarity about scientific discoveries and what they mean. That's especially crucial in the areas that are often debated ... like vaccines or nuclear power.

Q: How do you balance substance and entertainment?

Make the scientific process really engaging. It's the job of the film to make people understand why the process is so important and what makes it so interesting and what the stakes are. A great producer can take an intellectual puzzle and turn it into a mystery story and get the person hooked.

Q: What's an adventure that you've had?

[Volcanologists and I] took a chopper up to the edge of the lava lake in Hawaii. We went out and collected lava samples, and ... my [rubber-bottomed] shoes melted out under me. Suddenly I'm essentially standing in my bare socks. But the only injury was to my pride!



GEMS

TiMe

Hoping for a Ticket to Ride

Care for a cruise on a hydrocarbon lake? Or a journey beneath the surface of Mars? How about hopping on and off a comet? NASA selected those three possibilities last week as candidates for its next Discovery mission, to be launched in 2016.

The Titan Mare Explorer (TiMe, right) would splash down on a large methane-ethane lake on Saturn's moon Titan, float there for 3 months, and send back data on the lake's composition and its role in Titan's methane cycle. The Geophysical Monitoring Station (GEMS, left) would monitor seismic activity on Mars, probe heat flow from the interior, and track variations in the planet's wobble. The third mission, Comet Hopper, would land on a comet several times and monitor changes as the comet interacts with the sun.

The three competing groups have each been awarded \$3 million to flesh out their proposals; NASA will pick the winner next year. The cost: no more than \$425 million.

BY THE NUMBERS

10.1 Billion The world population by 2100, according to new projections by the United Nations. It had previously forecasted the population peaking in the low 9 billions, then declining. http://scim.ag/_worldpop

8.2% The percentage of Americans with asthma as of 2009, according to the U.S. Centers for Disease Control and Prevention. That's up from 7.3% in 2001.

2.6% The prevalence of autism among children aged 7 to 14 in Goyang, South Korea. That's more than twice the estimated rate in the United States, according to an online paper in *The American Journal of Psychiatry*.

help those who are more closely related to us because they can pass on more of our genes.

To test Hamilton's idea, scientists need to watch organisms evolve over many generations. So Laurent Keller of the University of Lausanne in Switzerland and his colleagues created an evolutionary computer simulation starring tiny robots (pictured). To simulate mutations, the computer randomly tweaked the connections in the robots' "nervous systems," making them better or worse at retrieving small discs—a stand-in for food.

The simulations ran for hundreds of rounds, each time selecting and cloning the best food gatherers and culling the others. Sharing evolved most quickly in more closely related robots, as Hamilton predicted, the researchers reported online 3 May in *PLoS Biology*.

Some researchers are leery of drawing conclusions about organisms from virtual robots, but others say the work shows how robust Hamilton's rule is.

<http://scim.ag/robot-heroes>

High-Tech Gas Drilling Fouling Drinking Water

A study, published this week in the *Proceedings of the National Academy of Sciences*, is the first systematic, peer-reviewed analysis to build a credible link between extraction of

Random Sample

Missing in Action

Who won the 1916 Nobel Prize in physics? Trick question: The Nobel Committee, harried by World War I, left it vacant. But a petition circulating to dozens of U.S. universities aims to fill that gap with Henry Moseley, an x-ray specialist.

In 1913, Moseley, just 25 and then at the University of Manchester in the United Kingdom, determined that each element's spot on the periodic table equaled the proton count in its nucleus, uniting chemistry and atomic physics and giving the table a sound theoretical basis. Moseley likely would have won a Nobel but died serving with the British Army at Gallipoli in 1915.

Nobels cannot be awarded posthumously. But as the centennial of Moseley's death approaches, David Harder, a science enthusiast and former UPS warehouse worker living in California, wants the Nobel Committee to take this unprecedented step. Others, notably Isaac Asimov, suggested the idea before, Harder says, "but since nothing was getting done, I decided I'd take care of it."

So on 1 April ("terrible date to postmark them," he admits), Harder mailed petitions to 104 top chemistry and physics departments in 28 states, asking scientists for support. So far he's gotten no response: "It's really bummed me out."

Harder knew he might struggle to enlist people, partly because one could argue that Nikola Tesla, Lise Meitner, or others deserve vacant prizes, too. But Moseley's "fantastic leap forward" stands above all, Harder argues. "We are not talking about rewriting history," his letter pleads, "merely correcting an error."



Injecting high-pressure fluids into deep shale frees methane.

natural gas locked deep in shale and the contamination of nearby water wells. The analysis gives few clues, however, to how pervasive such contamination might be.

The Oscar-nominated documentary film *Gasland* dramatized the debate over shale gas extraction by showing a homeowner setting fire to well water gushing from a faucet.

The supposed culprit was nearby "fracking," pumping fluids into a wellbore until the shale shatters, releasing the tightly bound gas.

Duke University environmental scientists sampled well water across 175 kilometers of far northeast Pennsylvania. Methane was at background levels more than a kilometer from an active gas well. But methane levels shot up closer to fracking operations, in some cases to flam-

mable levels. Chemical and isotopic analyses clinched the case, tying the gas from close-in water wells to the deep shale. The new study will no doubt be on the reading list of a blue-ribbon panel announced last week by Energy Secretary Steven Chu that will recommend ways to improve shale gas fracking.

<http://scim.ag/methane-water>