

## THE SCIENCE FAMILY OF JOURNALS

*Science* and its sister journals, *Science Translational Medicine* and *Science Signaling* are known for hosting ground-breaking scientific research each year—and 2011 was no exception. Discoveries unearthed from below and others retrieved from space provided fresh insight into human health and the history of the universe. Other, biological breakthroughs helped to guide critical conservation efforts and upped the ante against HIV and malaria. *Science* also published some landmark papers in the social sciences, including an innovative study of the social networking site, Twitter.

**Out of Africa, Earlier Than Expected:** Artifacts found in the United Arab Emirates date back 100,000 years and imply that modern humans first left Africa earlier than researchers had believed. (Armitage *et al.*, 28 January)

### Clues to Disease-Free Life:

Researchers identified a mutation shared by members of a small Ecuadorian population, which seems to protect against diabetes and cancer. (Guevara-Aguirre *et al.*, 16 February *Science Translational Medicine*)



**Picking Up Ecological Distress Signals:** A series of reports showed that fire, rainfall and predators can push ecosystems to their “tipping points,” where the transition to another natural state becomes inevitable. Fortunately,

warning signs of such regime shifts can be detected ahead of time. (Carpenter *et al.*, 28 April *ScienceExpress*; Staver *et al.*, 14 October; Hirota *et al.*, 14 October)

**Assembling the Pieces of Japan’s Devastating Quake:** Three reports provided fundamental insight into the behavior of the Great Tohoku-Oki Earthquake, which created a lethal tsunami and triggered the nuclear disaster at the Fukushima power plant complex. (Simons *et al.*, 19 May *ScienceExpress*; Ide *et al.*, 19 May *ScienceExpress*; Sato *et al.*, 19 May *ScienceExpress*)

**Common Origin for HIV-Fighting Antibodies:** A study expanded the group of known, human antibodies that can disarm a broad spectrum of HIV viruses, suggesting that such “broadly neutralizing” antibodies are more common than once thought. (Scheid *et al.*, 15 July)

**Stretchable Electronic “Skin”:** Scientists described an ultra-thin electronic device that attaches to skin like a temporary tattoo and measures vital signs. The technology may lead to electronic bandages that speed up wound-healing or even a touch sense for prosthetic devices. (Kim *et al.*, 11 August)

### Earth-Bound Meteorites Born From Stony Asteroids:

Researchers got their first up-close look at dust from the surface of a small, stony asteroid after the Japanese spacecraft Hayabusa scooped some up and brought it back to Earth. (Nakamura *et al.*, 26 August; Yurimoto *et al.*, 26 August; Ebihara *et al.*, 26 August; Noguchi *et al.*, 26 August; Tsuchiyama *et al.*, 26 August; Nagao *et al.*, 26 August)



### New Details About Australopithecus sediba:

Analysis of *Au. sediba*, a primitive hominin that existed around the same time early *Homo* species first appeared on the planet, made it clear that this ancient relative displayed both primitive characteristics as well as more modern, human-like traits. (Pickering *et al.*, 9 September; Carlson *et al.*, 9 September; Kibii *et al.*, 9 September; Zipfel *et al.*, 9 September)

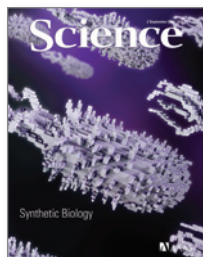


**Twitter as a Mood Ring for the World:** Researchers used Twitter to study the moods of individuals from various cultures around the world and identified consistent variations in their moods, depending on the time of day and season. (Golder *et al.*, 30 September)

**Pristine Gas in Space:** Researchers detected two stars without discernible metals, based on observations made with the Keck telescope in Hawaii. (Fumagalli *et al.*, 10 November *ScienceExpress*)

## OTHER SCIENCE HIGHLIGHTS

**Powerful Special Issues:** *Science* published 10 comprehensive special issues that focused on broad topics like “Dealing With Data” and “Synthetic Biology,” each informing national discussions. Many included rich online visualizations, and one about “Population” was launched via *Science*’s new iPad app, designed for such specialized topics.



**Military Releases Afghan Civilian Casualty Data to *Science*:** For an exclusive News Focus story, the International Security Assistance Force (ISAF) released its database of civilian casualties in Afghanistan to *Science* correspondent John Bohannon. This database and an analysis by researchers revealed a picture of a conflict that was growing deadlier for the Afghan population.

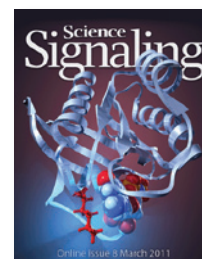
**Egyptian Science in the Spotlight:** In a special News Focus section of the journal, award-winning news writer Andrew Lawler took a close look at the state of science in Egypt following the republic’s popular uprising and detailed what it would take to raise Egyptian science to international levels.

**Delving Into Mysteries:** Starting with “Mysteries of the Cell” in 2011, the *Science* news team kicked off a new, ongoing series of articles that will periodically take aim at long-standing scientific questions.

***ScienceNOW* Expands Its Reach:** More media outlets, including the *Boston Globe*, *Buffalo News* and *Wired.com*, registered for a free service that disseminates articles from *ScienceNOW*, *Science*’s online, daily news service, for publication.

**Honors We Brought In:** *Science* was awarded the 2011 Communications Award from the American Society for Tropical Health and Hygiene in recognition of the journal’s coverage of global health issues. This was the first time the award recognized a “body of work,” rather than a single article, for educating lay

Access the *Science* journals online at [www.sciencemag.org](http://www.sciencemag.org).  
Log onto *ScienceCareers* at [www.sciencereaders.org](http://www.sciencereaders.org).



readers and informing public policy regarding disease and health conditions of poor and underserved populations. (The *Financial Times* was a co-winner of the award.)

Two articles by the *Science*’s News team in 2011 were selected for the 2012 edition of *Best American Science Writing*. In “Aging Genes,” Jennifer Couzin-Frankel examined the fierce debate over the putative role of sirtuins in cellular aging, and in “Mending the Youngest Hearts,” Gretchen Vogel described progress with tissue-engineered blood vessels used to repair malformed hearts in very young children.

**Honors We Gave Out:** Continuing its tradition of support for promising young scientists, *Science* awarded the 2011 Eppendorf & *Science* Prize for Neurobiology to Tiago Branco in recognition of his work on cracking the “language of dendrites.” And, the first genome-wide spatial map of the human genome—showing how the two-meter-long human genome can fold up inside the nucleus of a cell—earned Erez Lieberman Aiden the GE & *Science* Prize for Young Life Scientists. A \$25,000 cash prize accompanied both awards.

A method to observe individual atoms in an ultra-cold gas as they transition from one quantum state to another won the 2011 Newcomb Cleveland Prize, supported by Affymetrix. And the *Science* Prize for Online Resources in Education (SPORE) competition came to a close in 2011 after honoring 24 outstanding Web sites for their use of online material in science education.

***ScienceCareers*:** For the 11th year in a row, *ScienceCareers* published its annual Top Employers Survey, this time with a new podcast component. The career-oriented component of *Science* also posted 14 special career ad features—showcases of job opportunities in various fields along with the skills needed to acquire such positions—that highlighted post-docs, neuroscientists, careers in China and careers in Europe. *ScienceCareers* also published a special booklet, entitled *Finding Your Personal Job Chemistry*.

