Research Highlights

1. *Science’s Breakthrough of the Year: Cellular Reprogramming:* In its annual list of the year’s top 10 scientific breakthroughs, *Science* gave top honors to research that produced “made-to-order” cell lines by reprogramming cells from ill patients. (19 December)

2. *Exoplanets – Seeing is Believing:* Scientists reported the first-ever images of multiple planets orbiting a star outside our solar system, which they detected with the Keck and Gemini telescopes. Using the Hubble Space Telescope, a second team directly observed a planet orbiting the star Fomalhaut. (Marois, Kalas, 13 November, *Science Express*)

3. *Catch Shares for Fishermen May Save the Fish:* Guaranteeing individual fishermen the right to harvest a given amount of fish during the fishing season could halve the chances of a fishery collapsing, new evidence suggested. (Costello, 19 September)

4. *Genomic Insights Into Deadly Cancers:* Two studies described the genomic alterations that help turn normal cells into two of the deadliest cancers: pancreatic cancer and glioblastoma multiforme, which is the most common type of brain cancer. (Parsons, Jones, 4 September, *Science Express*)

5. *A Step Toward Hydrogen Fuel:* A new, water-splitting catalyst works under environmentally friendly conditions and is made from cobalt and phosphorus, two relatively inexpensive and abundant elements. (Nocera, 31 July, *Science Express*)

6. *MESSENGER’S First Mercury Flyby:* A special series of reports on the MESSENGER spacecraft’s recent swing past Mercury produced important new insights into Mercury’s history and modern-day environment. (Solomon, 4 July)

*Science* has wrapped up another year of publishing research that illuminates our world and improves human welfare. Ground-breaking studies on cancer and stem cell therapies, for example, contributed to the swelling effort to link science from “bench to bedside,” while discoveries about planets both inside and outside our solar system captured the public’s imagination about worlds beyond Earth. See www.sciencemag.org.

In 2008, *Science* highlights included these and other breakthroughs:
7. Linking Serotonin to Sudden Death: Too much activity from a brain receptor that regulates the hormone serotonin can cause sporadic death in developing mice with features reminiscent of Sudden Infant Death Syndrome (SIDS), new results suggested. (Audero, 4 July)

8. Escaping the Heat: Forest plant species along six mountain ranges in west Europe sought to escape the heat by climbing an average of 29 meters in altitude each decade, scientists reported. (Lenoir, 27 June)

9. Flu Viruses Take One-Way Ticket out of Asia: Seasonal influenza strains constantly evolve in overlapping epidemics in Asia and sweep the rest of the world each year, dying out in South America, an international research team found. (Russell, 18 April)

10. Harnessing People Power: A new, knee-mounted device harvested energy from the end of a walker’s step, in the same way that hybrid-electric cars recycle power from braking. (Donelan, 8 February)

**Science News Highlights**

Two 2008 News articles were selected for the Best of Science Writing anthologies in 2009:

— Contributing correspondent Martin Enserink looked at the travails of developing and testing “golden,” vitamin A-enriched rice. (25 April)

— Fallout from atomic bomb testing is helping to solve crimes and address some of the most controversial questions in biology, news writer David Grimm reported. (12 September)

**Other Science Developments**

**Science Signaling Debuts**

Science expanded its online journal, Science Signaling, which focuses on new insights for combating disease as well as understanding normal human biology, to include original research and more. Science Signaling’s inaugural print edition debuted in September, under the direction of Chief Scientific Editor Michael B. Yaffe of the Massachusetts Institute of Technology. See www.sciencesignaling.org.

**Science Translational Medicine Announced**

Science also announced the upcoming launch of a new journal, Science Translational Medicine. Beginning in fall 2009, Science Translational Medicine will publish research that makes significant advances toward improving patient care. Elias Zerhouni, Senior Fellow at the Bill & Melinda Gates Foundation’s Global Health Program and former Director of the National Institutes of Health, will be Chief Scientific Advisor. See www.sciencetranslationalmedicine.org.

**Top Honors for Science Staff**

The Society of National Association Publications bestowed two of its prestigious EXCEL awards on two Science covers, one for the 21 December 2007 Breakthrough of the Year issue and the other for the 3 August 2007 special issue on immunology.

**Publishing Honor**

Folio Magazine named preflight operations Director David Tompkins to its list of the top 40 most influential people.

**Communications Award**

Deputy News Editor Leslie Roberts and Contributing Correspondent Martin Enserink won the American Society of Tropical Medicine and Hygiene 2008 Communications Award for malaria reporting. (26 October and 7 December 2007)

**Science Careers**

Science Careers, the Web’s most comprehensive site for science career information, released Career Basics, a free, new booklet that compiles the best advice and resources for early-career scientists, from the thousands of articles on the Web site. See www.sciencecareers.org/careerbasicspdf.