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**DEVELOPMENTAL BIOLOGY**

Induced Pluripotent Stem Cells Generated Without Viral Integration

*M. Stadtfeld, M. Nagaya, J. Utikal, G. Weir, K. Hochedlinger*

Transient exposure of mouse fibroblast and liver cells to an adenovirus vector carrying factors that induce pluripotency generates stem cells without viral elements in the genome.

10.1126/science.1162494

**GENETICS**

Conservation and Rewiring of Functional Modules Revealed by an Epistasis Map in Fission Yeast

*A. Roguev et al.*

Comparison of genetic wiring in two types of yeast reveals that protein complexes are conserved, but the interactions between them can change radically between species.

10.1126/science.1162609

**MATERIALS SCIENCE**

Evolution of Block Copolymer Lithography to Highly Ordered Square Arrays

*C. Tang, E. M. Lennon, G. H. Fredrickson, E. J. Kramer, C. J. Hawker*

The addition of hydrogen bonding units to two block copolymers leads to a template with square patterns that can be used for manufacturing integrated circuits.

10.1126/science.1162950

**PHYSICS**

Complete Characterization of Quantum-Optical Processes

*M. Lobino, D. Korystov, C. Kupchak, E. Figueroa, B. C. Sanders, A. I. Lvovsky*

A method requiring only the light from a laser as an input yields a full characterization of quantum optical processes by probing its effect on classical states.

10.1126/science.1162086

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Assembling Materials with DNA as the Guide

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GEOPHYSICS

Magnetic Source Separation in Earth’s Outer Core

*K. A. Hoffman and B. S. Singer*

Analysis of Earth’s magnetic field as it has changed and reversed suggests that its dipole arises from a distinct part of the outer core than that of the rest of the field.

>> News story p. 1756

**RESEARCH ARTICLES**

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Core Signaling Pathways in Human Pancreatic Cancers Revealed by Global Genomic Analyses

*S. Jones et al.*

Sequencing of DNA mutations shows that the same 12 signaling pathways are disrupted in most pancreatic tumors, suggesting these as key to tumor development.

MEDICINE

An Integrated Genomic Analysis of Human Glioblastoma Multiforme

*D. W. Parsons et al.*

Comprehensive analysis of mutations in a brain cancer identifies previously unidentified cancer genes and a frequently mutated protein that may serve as a therapeutic marker.

**REPORTS**

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Quantum Communication with Zero-Capacity Channels

*G. Smith and J. Yard*

Two quantum communication channels, each of which is so noisy that it has zero capacity to independently transmit information, can do so when used together.

>> Perspective p. 1783

CHEMISTRY

Synthesis and Solid-State NMR Structural Characterization of 13C-Labeled Graphite Oxide

*W. Cai et al.*

Solid-state nuclear magnetic resonance study of graphite oxide made with 100 percent carbon-13 reveals a complex bonding network involving several carbon species.
Nedd4 acts through Grb10 to enhance insulin-like growth factor signaling and control animal growth.

Caspase-2—Vestigial Remnant or Master Regulator?
Both mitochondrial-dependent and -independent cell death pathways are mediated by caspase-2.

Fat Molecule Fights Weight Gain
Compound prevents mice from storing unhealthy fat.

Intracellular colocalization of Grb10 and IGF-1 receptors.

Conservation Efforts May Have Backfired for Spanish Toad
A potentially deadly fungus was accidentally introduced as part of a breeding program for an endangered amphibian.

Wasps Make Peace With Past Enemies
The insects steer clear of foes they have fought in the past.

Fat Molecule Fights Weight Gain
Compound prevents mice from storing unhealthy fat.

Tooning Up: My Career Dissected
Dave Jensen highlights some of his own career mistakes.

From Watching 'The Expert' to Being an Expert
Melanie Lee attributes her success partly to a childhood TV show.

Union Aftershocks in California
Postdocs and others in the University of California system adjust to life with a union.

The Science Careers Web Log
Here's where to find information from around the Web on careers in the sciences.

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