

SPECIAL SECTION

Breakthrough of the Year

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Bruce Alberts

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COVER

Scanning electron micrograph of HIV viruses, each ~120 nanometers in diameter, on an infected cell surface. This year, clinical trial results showing that antiretroviral treatments for HIV also keep the virus from spreading raised hopes of ending HIV/AIDS epidemics in whole populations. See the Breakthrough of the Year special section beginning on page 1628 and at www.sciencemag.org/2011btov.

Image: Thomas Deerinck, Kathleen Fitzpatrick, John Guatelli, and Mark Ellisman, NCMIR, UCSD/Visuals Unlimited, Inc.

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R. Lallement et al.
 This emission, observed in other galaxies mainly from regions around newborn stars, has now been detected in our Galaxy.
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Y. Liao et al.
 A graphitic layer is found to be the cause of low friction in metal-on-metal hip implants.

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D. Heyner et al.
 Feedback between the external magnetospheric field and the internal magnetic field explains Mercury's weak magnetic field.

1694 Isotopic Evidence for Massive Oxidation of Organic Matter Following the Great Oxidation Event

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1703 Global Seabird Response to Forage Fish Depletion—One-Third for the Birds

P. M. Cury et al.
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1706 Mouse B-Type Lamins Are Required for Proper Organogenesis But Not by Embryonic Stem Cells

Y. Kim et al.
 Mice lacking critical structural components of the nucleus, lamin-B intermediate filament proteins, remain viable until birth.

1710 Direct Redox Regulation of F-Actin Assembly and Disassembly by Mical

R.-J. Hung et al.
 A protein involved in redox signaling disassembles actin filaments and alters their reassembly.

1713 Mismatch Repair, But Not Heteroduplex Rejection, Is Temporally Coupled to DNA Replication

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C. M. Kaiser et al.
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1727 The Hedgehog Pathway Promotes Blood-Brain Barrier Integrity and CNS Immune Quiescence

J. I. Alvarez et al.
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1730 Fear Erasure in Mice Requires Synergy Between Antidepressant Drugs and Extinction Training

N. N. Karpova et al.
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