



COVER

Heavy pollution blankets Tiananmen Square, Beijing, on 27 December 2007. Chinese authorities are taking drastic measures to improve the city's air quality for the Olympics. Bad air is just one of many environmental challenges China is facing. See the special News Focus section beginning on page 628.

Image: Feng Li/Getty Images

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SCIENCE EXPRESS

www.sciencexpres.org

DEVELOPMENTAL BIOLOGY

Induced Pluripotent Stem Cells Generated from Patients with ALS Can Be Differentiated into Motor Neurons

J. T. Dimos et al.

Skin cells from elderly individuals with a mutation that causes amyotrophic lateral sclerosis (ALS) were used to derive stem cells that could then be differentiated.

10.1126/science.1158799

PALEOCLIMATE

Regional Synthesis of Mediterranean Atmospheric Circulation During the Last Glacial Maximum

J. Kuhlmann et al.

A three-dimensional reconstruction of atmospheric temperatures in the Mediterranean during glacial times is analogous to one of winter during the Little Ice Age.

10.1126/science.1157638

DEVELOPMENTAL BIOLOGY

Dual Origin of Tissue-Specific Progenitor Cells in *Drosophila* Tracheal Remodeling

M. Weaver and M. A. Krasnow

When fruit flies metamorphose from larvae, a new trachea forms both from undifferentiated cells of the imaginal disc and differentiated cells that re-enter the cell cycle.

10.1126/science.1158712

CHEMISTRY

In Situ Formation of an Oxygen-Evolving Catalyst in Neutral Water Containing Phosphate and Co^{2+}

M. W. Kanan and D. G. Nocera

A catalyst that precipitates in situ when cobalt ions are reduced in a phosphate buffer efficiently forms oxygen from water needed for electrochemical applications.

>> News story p. 620; Science Podcast

10.1126/science.1162018

TECHNICAL COMMENT ABSTRACTS

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Comment on "Magnetic Resonance Spectroscopy Identifies Neural Progenitor Cells in the Live Human Brain" 640

J. C. Hoch, M. W. Maciejewski, M. R. Gryk

full text at www.sciencemag.org/cgi/content/full/321/5889/640b

Comment on "Magnetic Resonance Spectroscopy Identifies Neural Progenitor Cells in the Live Human Brain"

S. D. Friedman

full text at www.sciencemag.org/cgi/content/full/321/5889/640c

Comment on "Magnetic Resonance Spectroscopy Identifies Neural Progenitor Cells in the Live Human Brain"

J. F. A. Jansen, J. D. Gearhart, J. W. M. Bulte

full text at www.sciencemag.org/cgi/content/full/321/5889/640d

Response to Comments on "Magnetic Resonance Spectroscopy Identifies Neural Progenitor Cells in the Live Human Brain"

P. M. Djurić et al.

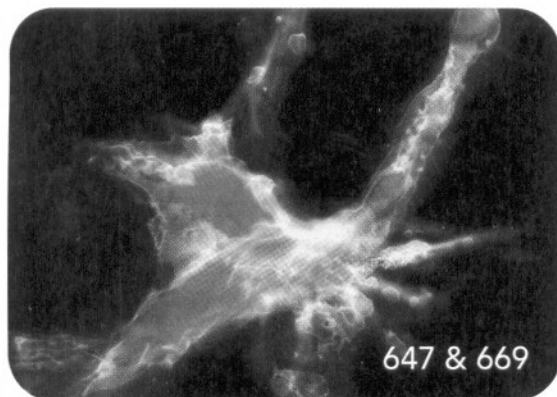
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W. Renema et al.



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Evidence of Global Chlorophyll d 658

Y. Kashiyama et al.

A survey of chlorophyll d, used by a cyanobacterium for harvesting infrared light, implies that this microbe inhabits a much wider range than previously thought.

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Crystal Structure of the Termination Module of a Nonribosomal Peptide Synthetase 659

A. Tanovic, S. A. Samel, L.-O. Essen, M. A. Marahiel

A large enzyme complex assembles peptide natural products without ribosomal participation by successive catalytic steps at the end of a flexible, substrate-loaded arm.

CELL BIOLOGY

Essential Cytoplasmic Translocation of a Cytokine Receptor-Assembled Signaling Complex 663

A. Matsuzawa et al.

Degradation of one member of a protein complex that forms when a cytokine receptor is activated causes the complex to move to the cytoplasm, triggering the downstream pathway.

>> Perspective p. 648

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Protostar Formation in the Early Universe 669

N. Yoshida, K. Omukai, L. Hernquist

A model traces the coalescence of small variations in gas density after the Big Bang into protostars, showing that the first stars would be large enough to make heavy elements.

>> Perspective p. 647

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Legally drunk.

SCIENCE NOW

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HIGHLIGHTS FROM OUR DAILY NEWS COVERAGE

Now That's a Party Animal

Researchers discover a wild tree shrew that lives on alcoholic nectar.

Take a Deep Breath—and Thank Mount Everest

Plate tectonics gave rise to atmospheric oxygen.

To Sleep, Perchance to Forget

Aging may impair the consolidation of memories during sleep.



Anesthetics increase postoperative pain.

SCIENCE SIGNALING

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THE SIGNAL TRANSDUCTION KNOWLEDGE ENVIRONMENT

PODCAST

N. R. Gough and A. M. VanHook

Some anesthetics activate TRPA1 channels to trigger pain and nerve-mediated inflammation.

PRESENTATION: A Static Network Analysis Tool for Pharmacological Analysis of Signal Transduction Pathways

B. B. Samal and L. E. Eiden

Simulate knocking out one or more components from a pathway to find alternate connections between a stimulus and a target response.



A career in keeping athletics clean.

SCIENCE CAREERS

www.sciencereers.org/career_development

FREE CAREER RESOURCES FOR SCIENTISTS

Taken for Granted: The Fat Lady Sings

B. L. Benderly

Organizers claim success in unionizing postdocs on University of California campuses.

A Scientist in the Service of Clean Sports

E. Pain

Chemist Osquel Barroso matches his scientific and sporting interests at the World Anti-Doping Agency.

>> News story p. 627

Careers in Research Support

S. Gaidos

Institutions recognize the advantages of hiring science Ph.D.'s as research administrators.

August 2008 Funding News

J. Fernández

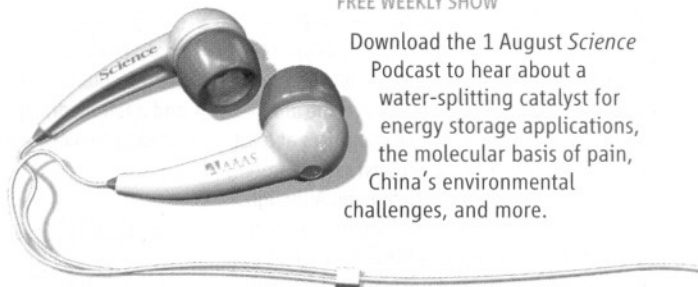
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