NEWS OF THE WEEK
California Academy Practices What It Preaches About Sustainable Living
Smithsonian Takes the Plunge With Ocean Exhibit
Privatization Prevents Collapse of Fish Stocks, Global Analysis Shows
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SCIENCESCOPE
Troubled U.S. Satellite Program Runs Into Additional Hurdles
Lower Malaria Numbers Reflect Better Estimates and a Glimmer of Hope
House Weighs Proposal to Block Mandatory ‘Open Access’

NEWS FOCUS
And Then There Was One
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LETTERS
Tailoring AIDS Prevention P. R. De Lay
HIV Testing for Whole Populations A. M. Prince
Response D. Halperin et al.
Effects of Expanded Mosquito Range S. N. Bevis

BOOKS ET AL.
Giordano Bruno Philosopher/Heretic I. D. Rowland, reviewed by M. Dirda
Cosmology S. Weinberg, reviewed by P. Coles

POLICY FORUM
Development and Conservation Goals in World Bank Projects P. Kareiva, A. Chang, M. Marvier

PERSPECTIVES
Weaving a Web of Trust J. Golbeck
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Apoptosis Turbocharges Epithelial Morphogenesis L. A. Davidson
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Illuminating the Modern Dance of Climate and CO₂ P. Cox and C. Jones
Desperately Seeking New Antibiotics D. J. Payne
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Fluorous Tags Unstick Messy Chemical Biology Problems D. P. Curran
PHYSICS
A High Phase-Space-Density Gas of Polar Molecules
K.-K. Ni et al.
Raman laser irradiation can cool a cloud of KrB molecules to ultralow translational, vibrational, and rotational temperatures, a step toward forming molecular condensates.
10.1126/science.1163861

IMMUNOLOGY
Innate Immunity in Caenorhabditis elegans Is Regulated by Neurons Expressing NPR-1/GPCR
K. L. Styer et al.
In the nematode Caenorhabditis elegans, sensory neurons surprisingly can inhibit innate immune responses, in part through the mitogen-activated protein kinase signaling pathway.
10.1126/science.1163673

CHEMISTRY
Catalytic Conversion of Biomass to Monofunctional Hydrocarbons and Targeted Liquid-Fuel Classes
E. L. Kunkes et al.
A set of two reactors, one that breaks down biomass sugars and a second that directs chain formation, can synthesize various hydrocarbon fuels.
10.1126/science.1159210

TECHNICAL COMMENT ABSTRACTS
GEOLOGY
Comment on “Age and Evolution of the Grand Canyon Revealed by U-Pb Dating of Water Table–Type Speleothems”
J. Pederson et al.
full text at www.sciencemag.org/cgi/content/full/321/5896/1634b
Comment on “Age and Evolution of the Grand Canyon Revealed by U-Pb Dating of Water Table–Type Speleothems”
P. A. Pearthree, J. E. Spencer, J. E. Faulds, P. K. House
full text at www.sciencemag.org/cgi/content/full/321/5896/1634c
Response to Comment on “Age and Evolution of the Grand Canyon Revealed by U-Pb Dating of Water Table–Type Speleothems”
V. Polyak, C. Hill, Y. Asmerom
full text at www.sciencemag.org/cgi/content/full/321/5896/1634d

BREVIA
CLIMATE CHANGE
Ancient Permafrost and a Future, Warmer Arctic
D. G. Froese et al.
The existence of a 700,000-year-old patch of permafrost in sub-Arctic Canada shows that ground ice far from the pole can resist melting during warm intervals.
1648

REPORTS
PHYSICS
Transient Electronic Structure and Melting of a Charge Density Wave in TbTe₃
F. Schmitt et al.
Photoemission spectroscopy is extended to reveal the dynamics of correlated electronic phase transitions, showing how ordered electrons “melt” upon heating of TbTe₃.

CHEMISTRY
Shape Changes of Supported Rh Nanoparticles During Oxidation and Reduction Cycles
P. Nolte et al.
Pyramidal rhodium nanoparticles flatten upon surface oxidation at high temperatures but revert upon reduction, allowing the study of how structure affects catalytic activity.

MATERIALS SCIENCE
Polymer Pen Lithography
F. Huo et al.
An array that can support millions of thin, flexible polymer pens can be used to deposit tiny molecular ink dots of variable size over large areas.

MATERIALS SCIENCE
4D Electron Diffraction Reveals Correlated Unidirectional Behavior in Zinc Oxide Nanowires
D.-S. Yang, C. Lao, A. H. Zewail
Ultrafast electron diffraction reveals that exciting the electrons of a zinc oxide nanowire causes a sudden extension, more than a hundred times longer than expected from heating.
Reports Continued...

Geochemistry
Chondrulelike Objects in Short-Period Comet 81P/Wild 2 1664
T. Nakamura et al.
Stardust samples from a comet, thought to be from the outer solar system, include grains like those in chondrules, primitive grains that formed in the inner solar system.

Psychology
Political Attitudes Vary with Physiological Traits 1667
D. R. Oxley et al.
Individuals’ views on political issues relate to their physiological reactions to threatening stimuli: Desire to protect their group’s interests correlates with greater reactivity to threat.

Microbiology
An Alternative Menaquinone Biosynthetic Pathway Operating in Microorganisms 1670
T. Hiratsuka et al.
Some pathogens synthesize the essential vitamin menaquinone by an unusual pathway, presenting a potential target for new antibiotics.

Developmental Biology
Molecular Coupling of Xist Regulation and Pluripotency 1681
P. Navarro et al.
X chromosome inactivation in stem cells is reversed, a step in pluripotency formation.

Ecology
Can Catch Shares Prevent Fisheries Collapse? 1678
C. Costello, S. D. Gaines, J. Lynham
Global catch statistics since 1950 suggest that fisheries will be half as likely to collapse if fisherman have a sustainability incentive through a guaranteed right of harvest.

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Evolution
Parasite Treatment Affects Maternal Investment in Sons 1681
T. E. Reed et al.
Mother seabirds that are infected by parasitic nematodes are less able to gather food and feed their fast-growing sons, shifting the sex ratio and affecting population viability.

Developmental Biology
Molecular Coupling of Xist Regulation and Pluripotency 1683
P. Navarro et al.
X chromosome inactivation in stem cells is reversed, a step in allowing them to become pluripotent, when three factors repress the inactivation RNA.
Mouthful.

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Speaking Without Sound
Facial muscles tell us whether we are pronouncing words correctly.

No Glee for Grandma?
Brains of the young and old process rewards in different ways.

China Quake No Stress Reliever
Temblor last May could have activated adjoining fault lines.

SCIENCE SIGNALING
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RESEARCH ARTICLE: Structural Basis of CXCR4 Sulfotyrosine Recognition by the Chemokine SDF-1/CXCL12
The structure of SDF-1 bound to an extracellular domain of CXCR4 illustrates how chemokines recognize receptor sulfotyrosines and helps to identify an inhibitor of leukocyte chemotaxis.

PROTOCOL: Analysis of Signaling Events by Combining High-Throughput Screening Technology with Computer-Based Image Analysis
M. Kodiha, C. M. Brown, U. Stochaj
High-throughput screening and MetaXpress software modules can be adapted to quantify the subcellular localization of fluorescently labeled molecules.

PRESENTATION: Dynamic Visualization of Signaling Activities in Living Cells
Engineered fluorescent reporters allow researchers to follow subcellular activities of signaling components in real time in live cells.

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S. Carpenter
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E. Pain
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In Person: A European Career Tour From Research to Research Management
A. Di Trapani
A science officer at the European Science Foundation describes her journey.

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