EDITORIAL
771 Development and Climate Change
Rosina M. Bierbaum and Robert B. Zoellick

NEWS OF THE WEEK
778 Helium-3 Shortage Could Put Freeze on Low-Temperature Physics
779 Peer Review Not Popular at Homeland Security
780 CIRM Awards Seek to Move Cell Therapies to the Clinic
780 Court Orders Stanford Expert to Surrender Manuscript
781 From Science’s Online Daily News Site
782 Developing Countries to Get Some H1N1 Vaccine—But When?
783 When Counting Jobs Isn’t Enough
783 From the Science Policy Blog

NEWS FOCUS
784 ORIGINS
On the Origin of Religion
>> Science Podcast
788 20 YEARS AFTER THE WALL
Aufbau Ost: Max Planck’s East German Experiment
Why So Few East German Directors?
792 Big Dreams Come True
>> Science Careers section p. 765
794 No Genome Left Behind

LETTERS
797 Space Goals Require Worldwide Participation
W. E. Howard III
Biobanks: Questioning Distinctions
M. G. Hansson and K. Maschke
Biobanks: Too Long to Wait for Consent
K. B. Brothers and E. W. Clayton

Biobanks: Oversight Offers Protection
K. Hens et al.
Response
D. Gurwitz et al.
Research for All Science Teachers
J. Dickey

CORRECTIONS AND CLARIFICATIONS

BOOKS ET AL.
800 Stephen Jay Gould and the Politics of Evolution
D. F. Prindle, reviewed by V. B. Smocovitis
801 Evolution of the End of Origin
R. W. D. Nickalls

EDUCATION FORUMS
802 Building on No Child Left Behind
E. A. Hanushek
803 Moving Past No Child Left Behind
D. Koretz

PERSPECTIVES
805 A Comeback for Gene Therapy
L. Naldini
>> Research Article p. 818
806 Biodiversity and Climate Change
K. J. Willis and S. A. Bhagwat
808 Evolution of Animal Pollination
J. Ollerton and E. Coulthard
>> Report p. 840
809 Capturing the Complexities of Molecule-Surface Interactions
E. Hasselbrink
>> Reports pp. 829 and 832
810 Peatland Response to Global Change
N. B. Dise

CONTENTS continued >>
REVIEW

812  Einstein’s Theory of Gravity and the Problem of Missing Mass

P. G. Ferreira and G. D. Starkman

BREVIA

816  Population Structure Mediates Sexual Conflict in Water Striders

O. T. Eldakar et al.

When water striders can disperse among groups, females select for reduced male aggression.

817  Genotype Analysis Identifies the Cause of the “Royal Disease”

E. I. Rogaev et al.

DNA from historical specimens reveals the mutation causing the hemophilia that afflicted the royal families of Europe.

RESEARCH ARTICLE

818  Hematopoietic Stem Cell Gene Therapy with a Lentiviral Vector in X-Linked Adrenoleukodystrophy

N. Carter et al.

Lentiviral-mediated gene therapy of hematopoietic stem cells delays disease progression in patients with a fatal brain disorder.

REPORTS

823  Three-Color Entanglement

A. S. Coelho et al.

Three bright light beams of different colors can be entangled.

826  Electronic Structure Controls Reactivity of Size-Selected Pd Clusters Adsorbed on TiO₂ Surfaces

W. E. Kaden et al.

The activity of these model catalysts for carbon monoxide oxidation reflects changes in cluster electronic structure.

829  Dynamical Steering and Electronic Excitation in NO Scattering from a Gold Surface

N. Shenvi et al.

Theory accounts for the complex ways in which vibrations and rotations of nitric oxide molecules affect scattering from a surface.

832  Chemically Accurate Simulation of a Prototypical Surface Reaction: H₂ Dissociation on Cu(111)

C. Díaz et al.

The use of a fitting parameter produces a much-improved potential energy surface for describing a surface reaction.

835  Shifts in Lake N:P Stoichiometry and Nutrient Limitation Driven by Atmospheric Nitrogen Deposition

J. J. Elser et al.

Deposition of anthropogenically derived nitrogen can cause phosphorus to become the limiting nutrient of lake phytoplankton.

837  Abiotic Gas Formation Drives Nitrogen Loss from a Desert Ecosystem

C. K. McCalley and J. P. Sparks

In the Mojave Desert, high surface temperatures cause large amounts of nitrogen to be lost from the soil.

840  A Probable Pollination Mode Before Angiosperms: Eurasian, Long-Proboscid Scorpionflies

D. Ren et al.

Prior to the coevolution of angiosperms and pollinating insects, scorpionflies may have been pollinating gymnosperms.

847  Polymorphic Butterfly Reveals the Missing Link in Ecological Speciation

N. L. Chamberlain et al.

Mate selection based on preferences for polymorphic wing color patterns is generating reproductive isolation.

850  A Type I–Secreted, Sulfated Peptide Triggers XA21-Mediated Innate Immunity

S.-W. Lee

The bacterial trigger for a rice innate immune response is identified.

853  Small-Molecule Activators of a Proenzyme

D. W. Wolan et al.

Small molecules that promote a procaspase conformation susceptible to activation by proteolysis have been identified.

858  High Diversity of the Viral Community from an Antarctic Lake

A. López-Bueno et al.

Virus populations in polar freshwater lakes show marked shifts in composition during ice melt.

861  Viral Glycosphingolipids Induce Lytic Infection and Cell Death in Marine Phytoplankton

A. Vardi et al.

A specific virus encodes membrane components that broadcast cell death and population demise of its coccolithophore host.

865  Genome Sequence, Comparative Analysis, and Population Genetics of the Domestic Horse

C. M. Wade et al.

The horse genome reveals an evolutionary new centromere and conserved chromosomal sequences relative to other mammals.

867  MafB/c-Maf Deficiency Enables Self-Renewal of Differentiated Functional Macrophages

A. Aziz et al.

The absence of two transcription factors allows long-term propagation of a differentiated immune cell population that is nontumorigenic.

871  A Single Peptide–MHC Complex Positively Selects a Diverse and Specific CD8 T Cell Repertoire

B. Wang et al.

Positive selection by a single peptide–MHC complex imparts exquisite specificity to developing T cells.
RESEARCH ARTICLE: Activation of a Bacterial Virulence Protein by the GTPase RhoA
M. Christen et al.
An enzyme essential for the virulence of Salmonella in mammals is activated by the GTP-bound form of RhoA.

PERSPECTIVE: In with the TRP Channels—Intracellular Functions for TRPM1 and TRPM2
S. Patel and R. Docampo
Cationic channels of the TRP melastatin family are involved in pigmentation and oxidative stress responses.

MEETING REPORT: The Hippo Tumor Suppressor Pathway—A Brainstorming Workshop
G. Blandino et al.
Researchers of flies and mammals met to discuss components of the Hippo signaling pathway.

E-LETTER: Innovators Award
Science Signaling Editors
Science Signaling authors E. S. Emamian and A. Abdi received an Innovators Award from the New Jersey Inventors Hall of Fame.

NETWATCH: Cancer Gene Census
Browse a collection of genes implicated in human cancers; in Bioinformatics Resources.

NETWATCH: Developmental Therapeutics Program
Access a variety of reagents and services for identifying compounds with antitumor activity; in Bioinformatics Resources.

SCIENCECAREERS
www.sciencecareers.org/career_magazine
Free Career Resources for Scientists

After the Fall of the Wall: Science Careers in Eastern Europe
Science Careers Staff
Eastern Europe is seeing returns from young scientists on a world without walls.

More Opportunities for International Collaborations in Eastern Europe
E. Pain
Eastern European scientists have more chances to benefit from international collaborations.

On Going Home: Succeeding in Science in Eastern Europe
E. Pain
Three early-career scientists discuss returning to their countries after spending time abroad.

RESEARCH ARTICLE: The Rfx4 Transcription Factor Modulates Shh Signaling by Regional Control of Ciliogenesis
A. M. Ashique et al.
Rfx4 regulates the formation of primary cilia, thereby playing a crucial role in central nervous system development.

SCIENCECAREERS
www.sciencecareers.org/career_magazine
Free Career Resources for Scientists

After the Fall of the Wall: Science Careers in Eastern Europe
Science Careers Staff
Eastern Europe is seeing returns from young scientists on a world without walls.

More Opportunities for International Collaborations in Eastern Europe
E. Pain
Eastern European scientists have more chances to benefit from international collaborations.

On Going Home: Succeeding in Science in Eastern Europe
E. Pain
Three early-career scientists discuss returning to their countries after spending time abroad.

RESEARCH ARTICLE: The Rfx4 Transcription Factor Modulates Shh Signaling by Regional Control of Ciliogenesis
A. M. Ashique et al.
Rfx4 regulates the formation of primary cilia, thereby playing a crucial role in central nervous system development.
Science 326 (5954), 767-885.

http://science.sciencemag.org/content/326/5954

http://www.sciencemag.org/help/reprints-and-permissions