CONTENTS

EDITORIAL
501 Europe Rethinks Education
Pierre Léna

NEWS OF THE WEEK
506 Research Wolves of Yellowstone Killed in Hunt
507 Life and Death Play Out on the Skins of Frogs
>> Report p. 582
508 Scientists Line Up Against Dam That Would Alter Protected Wetlands
509 From Science’s Online Daily News Site
510 Archaeologists Alarmed by Turkey’s Proposed Dig Rules
510 Hong Kong’s Darwin Defenders Declare Victory in Teaching Fracas
511 From the Science Policy Blog

NEWS FOCUS
512 Race for the Heavens
The Colossus of Europe
>> Science Podcast
516 Another Biofuels Drawback: The Demand for Irrigation
The Promise of Drought-Tolerant Corn
>> Policy Forum p. 527; Science Express Report by J. M. Melillo et al.
518 Sex and Social Structure

LETTERS
521 Defending Freedom in Iran’s Universities
A. Gorji
Restructure Conflicting Grant Incentives
S. C. Moosavi
Stay Tuned for Multimedia Browsing
M. Pasquali
The Antidote to Bias in Research
D. B. Allison
Focus on Enhancing Phytochemical Content
J. Sooby and X. Zhao
522 CORRECTIONS AND CLARIFICATIONS

BOOKS ET AL.
524 The Fallen Sky
C. Cokinos, reviewed by D. S. Lauretta
525 Moral Panics and the Copyright Wars
W. Patry, reviewed by P. Samuelson

POLICY FORUMS
526 Parallel Pursuit of Near-Term and Long-Term Climate Mitigation
S. C. Jackson
527 Fixing a Critical Climate Accounting Error
T. D. Searchinger et al.
>> News story p. 516; Science Express Report by J. M. Melillo et al.; Science Podcast

PERSPECTIVES
529 Glimpsing the Weak Magnetic Field of Light
H. Giessen and R. Vogelgesang
>> Report p. 550
530 A New Virus for Old Diseases?
J. M. Coffin and J. P. Stoye
>> Report p. 585
531 A Lunar Waterworld
P. G. Lucey
>> Reports pp. 562, 565, and 568
532 Carbenes in Action
M. Albrecht
>> Reports pp. 556 and 559
533 Rejoice—RNAi for Yeast
D. Moazed
>> Research Article p. 544

REVIEW
535 Lab Experiments Are a Major Source of Knowledge in the Social Sciences
A. Falk and J. J. Heckman

BREVIA
539 Smallest Algae Thrive As the Arctic Ocean Freshens
W. K. W. Li et al.
In the Arctic Ocean, phytoplankton cell sizes have decreased with warming temperatures and fresher surface waters.

CONTENTS continued >>

COVER
A three-color mosaic derived from the Moon Mineralogy Mapper (M3) near-infrared spectrometer. Orange and pink colors illustrate the distribution of iron-bearing minerals. Green represents the surface brightness at 2.4 micrometers. Blue indicates the presence of small amounts of surficial OH and H2O that are most prominent at these viewing geometries at cooler, higher latitudes. See page 568.

Image: NASA/ISRO/Brown University/R. N. Clark, USGS

www.sciencemag.org SCIENCE VOL 326 23 OCTOBER 2009
Published by AAAS
DEPARTMENTS
498 This Week in Science
503 Editors’ Choice
504 Science Staff
505 Random Samples
601 New Products
602 Science Careers
RESEARCH ARTICLES

540 Intraspecific Polymorphism to Interspecific Divergence: Genetics of Pigmentation in Drosophila
P. J. Wittkopp et al.
Color-determining genes in flies show an ancestral polymorphism that contributes to variation, both within and between species.

544 RNAi in Budding Yeast
I. A. Drinnenberg et al.
Although the Saccharomyces cerevisiae lineage has lost RNA interference, the pathway can be restored by adding genes from S. castellii.

>> Perspective p. 533

REPORTS

550 Probing the Magnetic Field of Light at Optical Frequencies
M. Burresi et al.
A split-ring resonator coupled to a scanning probe is used to measure the weak magnetic component of light.

>> Perspective p. 529

553 Characterization of a Rhodium(I) σ-Methane Complex in Solution
W. H. Bernskoetter et al.
A loosely bound complex of rhodium and methane has been observed by low-temperature nuclear magnetic resonance spectroscopy.

556 Isolation of a C5-Deprotonated Imidazolium, a Crystalline “Abnormal” N-Heterocyclic Carbene
E. Aldeco-Perez et al.
A stable cyclic molecule has been prepared with an unusually positioned divalent carbon.

>> Perspective p. 532

559 Carbenes As Catalysts for Transformations of Organometallic Iron Complexes
V. Lavallo and R. H. Grubbs
Carbenes that are useful for organic catalysis are shown to promote organometallic reactions as well.

>> Perspective p. 532

562 Detection of Adsorbed Water and Hydroxyl on the Moon
R. N. Clark

565 Temporal and Spatial Variability of Lunar Hydration As Observed by the Deep Impact Spacecraft
J. M. Sunshine et al.

568 Character and Spatial Distribution of OH/H₂O on the Surface of the Moon Seen by M² on Chandrayaan-1
C. M. Pieters et al.
Space-based spectroscopic measurements provide evidence for water or hydroxyl (OH) on the surface of the Moon.

>> Perspective p. 531

572 Smoothened Mutation Confers Resistance to a Hedgehog Pathway Inhibitor in Medulloblastoma
R. L. Yauch et al.
A mutation that prevents binding of a promising drug lead to its target protein confers resistance in a human brain tumor.

575 A Cdc20-APC Ubiquitin Signaling Pathway Regulates Presynaptic Differentiation
Y. Yang et al.
The ubiquitin ligase Cdc20-APC is required for proper synapse formation in the developing rat brain.

578 Metagenome of a Versatile Chemolithoautotroph from Expanding Oceanic Dead Zones
D. A. Walsh et al.
An abundant microbe in oxygen-deficient oceanic waters reveals its redox-driven niche specialization.

582 Pathogenesis of Chytridiomycosis, a Cause of Catastrophic Amphibian Declines
J. Voyles et al.
A fungal disease that is associated with frog mortality causes changes in electrolyte transport across the skin.

>> News story p. 507; Science Podcast

585 Detection of an Infectious Retrovirus, XMRV, in Blood Cells of Patients with Chronic Fatigue Syndrome
V. C. Lombardi et al.
Two-thirds of a sample of 101 U.S. patients with chronic fatigue syndrome harbor an infectious retrovirus in their blood cells.

>> Perspective p. 530

589 Complete Reconstitution of a Highly Reducing Iterative Polyketide Synthase
S. M. Ma et al.
Reconstitution of catalytic function provides insight into how multifunctional enzymes synthesize important natural products.

PTPσ Is a Receptor for Chondroitin Sulfate Proteoglycan, an Inhibitor of Neural Regeneration
Y. Shen et al.
Mouse neurons that lack a receptor for inhibitory proteoglycans show improved regeneration.

Using Neural Measures of Economic Value to Solve the Public Goods Free-Rider Problem
I. Krajbich et al.
Neuroimaging measures of individuals’ valuation of public goods suggests a path to a coherent public goods economy.