EDITORIAL
1117 New Rules for Biosecurity
Kavita M. Berger and Alan I. Leshner

NEWS OF THE WEEK
1124 Celebrity Fossil Primate: Missing Link or Weak Link?
1125 Obama Turns to NASA Veterans to Lead Space Agency
1126 As Research Funding Declines, Chávez, Scientists Trade Charges
1127 New Details on Virus’s Promiscuous Past
>> Science Express Report by R. J. Garten et al.
1128 NSF: The Money to Meet the President’s Priorities
Digging for Fresh Ideas in the Sandpit
1129 From the Science Policy Blog
1130 Arsenic and Old Mummies: Poison May Have Spurred First Mummies
1131 A Cloudy Crystal Ball for the Coming Season’s Hurricanes
1131 From Science’s Online Daily News Site
1132 Mystery of the Missing Humpbacks Solved by Soviet Data
1133 Protecting the Last Great Tuna Stocks

NEWS FOCUS
1134 Biologists Struggle to Solve Bat Deaths
>> Science Podcast
1136 Gut Reactions
>> Science Careers article p. 1113
1138 Obama Moves to Revitalize Chesapeake Bay Restoration

LETTERS
1140 “Agriculture” Is Not a Dirty Word
A. S. Levine
Schools Anxiously Await NRC Program Rankings
Z. Bar-Joseph
Response
J. P. Ostriker and C. Kuh
White Wolves Can Stand the Heat
A. H. Harcourt

1143 CORRECTIONS AND CLARIFICATIONS

1143 TECHNICAL COMMENT ABSTRACTS

BOOKS ET AL.
1144 Revisiting Race in a Genomic Age
B. A. Koenig et al., Eds., reviewed by T. Duster
1145 Endocrinology of Social Relationships
P. T. Ellison and P. B. Gray, Eds., reviewed by E. Adkins-Regan
1146 Browsings

EDUCATION FORUM
1147 Tenure and the Future of the University
D. Clawson

PERSPECTIVES
1149 Celebrating the 400th Anniversary of Telescope Astronomy
G. F. Bignami
1150 Getting in Touch with Your Friends
C. J. Marx
1152 Slabs Do Not Go Gently
G. Nolet
>> Report p. 1173
1153 What Determines Coral Health?
V. M. Weis and D. Allemand
1155 Sorting Out Diabetes
C. M. Orme and J. S. Bogan
>> Report p. 1192
1156 It’s the DNA That Counts
C. D. Smolke
>> Report p. 1199

CONTENTS continued >>

COVER
A close-up of the tropical coral *Favia speciosa*. The position and age of related fossil corals have been used to constrain the timing of sea-level rise during the penultimate deglacial period. The timing of past sea-level change, relative to potential forcings, can help determine the mechanisms of climate change and the speed of ice sheet collapse. See page 1186.

*Photo: Getty Images*
<table>
<thead>
<tr>
<th>Page</th>
<th>Summary</th>
</tr>
</thead>
</table>
| 1160 | The Computation of Social Behavior  
T. E. J. Behrens et al. |
| 1165 | Entropic Evidence for Linguistic Structure in the Indus Script  
R. P. N. Rao et al.  
Analysis of the pattern of symbols confirms the linguistic role of ancient signs. |
| 1166 | Magnetic Field Sensing Beyond the Standard Quantum Limit Using 10-Spin NOON States  
J. A. Jones et al.  
Quantum mechanical entanglement of nuclei in a single molecule results in an enhancement of the magnetic field sensitivity. |
| 1169 | Two-Quantum 2D FT Electronic Spectroscopy of Biexcitons in GaAs Quantum Wells  
K. W. Stone et al.  
Controlling the phase and timing of four optical pulses enables measurement of correlations between the electronic semiconductor carriers. |
| 1173 | Tearing of Stagnant Slab  
M. Obayashi et al.  
A tear in the plate in the mantle provides information on the subduction history of the western Pacific.  
>> Perspective p. 1152 |
| 1175 | Assessment of Undiscovered Oil and Gas in the Arctic  
D. L. Gautier et al.  
About 30 percent of the world’s undiscovered gas and 13 percent of the world’s undiscovered oil probably exist north of the Arctic Circle.  
>> Science Podcast |
| 1179 | Volcanism, Mass Extinction, and Carbon Isotope Fluctuations in the Middle Permian of China  
P. B. Wignall et al.  
Fossiliferous rocks from southwest China show that a major extinction in the Middle Permian coincided with extensive volcanic eruptions. |
| 1183 | Implications of Limiting CO₂ Concentrations for Land Use and Energy  
M. Wise et al.  
Technologies for growing crops are potentially as important for limiting the concentration of atmospheric CO₂ as are those for capture and storage. |
| 1186 | Penultimate Deglacial Sea-Level Timing from Uranium/Thorium Dating of Tahitian Corals  
A. L. Thomas et al.  
Sea levels rose during the penultimate deglaciation while Northern Hemisphere insolation was at a minimum. |
| 1190 | Topographical and Temporal Diversity of the Human Skin Microbiome  
E. A. Grice et al.  
The human skin provides a landscape of dry, damp, and greasy niches for a diversity of symbiotic microorganisms. |
| 1192 | A Role for the CHC22 Clathrin Heavy-Chain Isoform in Human Glucose Metabolism  
S. Vassilopoulos et al.  
A human-specific vesicle-forming protein regulates relocation of a glucose transporter to the cell membrane.  
>> Perspective p. 1155 |
| 1196 | Proteasomal Regulation of the Hypoxic Response Modulates Aging in C. elegans  
R. Mehta et al.  
Induction of the hypoxic response in a worm slows aging and enhances resistance to proteotoxicity. |
| 1199 | Synthetic Gene Networks That Count  
A. E. Friedland et al.  
Genetic counters with the ability to count up to three induction events are constructed in Escherichia coli.  
>> Perspective p. 1156 |
| 1203 | Structural Basis of Transcription: Backtracked RNA Polymerase II at 3.4 Angstrom Resolution  
D. Wang et al.  
A backtracked RNA polymerase II reveals how the enzyme proofreads the RNA transcript. |
| 1207 | High-Frequency, Long-Range Coupling Between Prefrontal and Visual Cortex During Attention  
G. G. Gregoriou et al.  
Synchrony in neuronal firing within a specific frequency range may regulate interactions between brain structures. |
| 1210 | Genome-Wide Identification of Human RNA Editing Sites by Parallel DNA Capturing and Sequencing  
J. B. Li et al.  
Hundreds of new RNA editing sites are identified in the human genome. |
| 1213 | Unstable Tandem Repeats in Promoters Confer Transcriptional Evolvability  
M. D. Vinces et al.  
Unstable repetitive DNA in the control regions of yeast genes modulates the evolution of chromatin structure and gene expression. |
IL-21R on T Cells Is Critical for Sustained Functionality and Control of Chronic Viral Infection
A. Fröhlich et al.

Thymus cells of the immune system require the cytokine interleukin-21 to control chronic viral infections.
10.1126/science.1176733

Structure and Mechanism of an Amino Acid Antipporter
X. Gao et al.

The architecture of a membrane protein channel helps explain how Escherichia coli survive the acidic conditions of the stomach.
10.1126/science.1173654

Ventral Tegmental Area BDNF Induces an Opiate-Dependent–Like Reward State in Naïve Rats
H. Vargas-Perez et al.

A growth factor involved in neuronal plasticity alters neurons in a specific area of the brain after chronic exposure to opioid drugs.
10.1126/science.1168501

Venezuelan Science at Risk
C. Bifano
10.1126/science.1176733

TECHNICAL COMMENTS

Comment on “A Large Excess in Apparent Solar Oblateness Due to Surface Magnetism”
J. R. Kuhn et al.
full text at www.sciencemag.org/cgi/content/full/324/5931/1143-b

Response to Comment on “A Large Excess in Apparent Solar Oblateness Due to Surface Magnetism”
M. D. Fivian et al.
full text at www.sciencemag.org/cgi/content/full/324/5931/1143-c

ESCAPES FROM OBLATENESS

Balancing two science careers in one family.
M. D. Fivian et al.
full text at www.sciencemag.org/cgi/content/full/324/5931/1143-b

Response to Comment on “A Large Excess in Apparent Solar Oblateness Due to Surface Magnetism”
M. D. Fivian et al.
full text at www.sciencemag.org/cgi/content/full/324/5931/1143-c

SCIENCECAREERS

Balancing two science careers in one family.

In Person: Breaking All the Rules
A. Sasso
Terral Topp and Dorkina Myrick have two careers, their research careers.
>> News story p. 1136

SCIENCENOW

Highlights From Our Daily News Coverage
Compact Discs Enter the Fifth Dimension
A new technology could boost the storage capacity of conventional optical discs 10,000-fold.
Martian Water Had Antifreeze
Dissolved minerals might have kept liquid flowing on the Red Planet.
Tumors Trigger Cancer Blues
Biochemical signals from tumors cause anxiety and depression in rats.

SCIENCESIGNALING

The Signal Transduction Knowledge Environment
EDITORIAL GUIDE: “Omic” Risk Assessment
M. B. Major and R. T. Moon
Integration of multiple data sets is the key to hit validation.

RESEARCH ARTICLE: System-Wide Changes to SUMO Modifications in Response to Heat Shock
F. Golebiowski et al.
SUMO is redistributed among many targets to mediate both short- and long-term signaling events.

RESEARCH ARTICLE: Bruton’s Tyrosine Kinase Revealed as a Negative Regulator of Wnt–β-Catenin Signaling
R. G. James et al.
Combining an siRNA screen with a small-molecule screen reveals a negative pathway regulator.

REVIEW: CD36, a Scavenger Receptor Involved in Immunity, Metabolism, Angiogenesis, and Behavior
R. L. Silverstein and M. Febbraio
Signaling by CD36 is ligand and cell specific and is implicated in multiple human diseases.

EVENTS
Plan your travel with this list of meetings, conferences, and workshops related to cell signaling.

SCIENCEPODCAST
Free Weekly Show
Download the 29 May Science Podcast to hear about assessing Arctic oil and gas reserves, bat white-nose syndrome, your letters to Science, and more.

ORIGINSBLOG
blogs.sciencemag.org/origins
A History of Beginnings

SCIENCEINSIDER
blogs.sciencemag.org/scienceinsider
Science Policy News and Analysis

SCIENCEPRESS
www.sciencexpress.org
Antigenic and Genetic Characteristics of Swine-Origin 2009 A(H1N1) Influenza Viruses Circulating in Humans
R. J. Garten et al.
Evolutionary analysis suggests a triple reassortant avian-to-pig origin for the 2009 influenza A(H1N1) outbreak.
10.1126/science.1176225

CREDIT: (CAREERS) PHOTODISC
full text at www.sciencemag.org/cgi/content/full/324/5931/1143-b

SCIENCEPOLICY

Published by AAAS