EDITORIAL
909 Bridge or Crutch? Marcia McNutt

NEWS OF THE WEEK
914 A roundup of the week’s top stories

NEWS & ANALYSIS
917 New Tools Light Up the Intricacies of the Brain
918 Humans Fueled Global Warming Millennia Ago
>> Report p. 964
919 Proposed Tweaks to NSF Peer Review Spur Tensions
920 Physicists Snare a Precious Few Neutrinos From the Cosmos
>> Research Article p. 947
921 Cancer Therapies Use a Little Help From Microbial Friends
>> Reports pp. 967 and 971

NEWS FOCUS
922 When Mice Mislead
926 Missing the Mark
Missile Defense Made Practical
>> Science Podcast

LETTERS
930 Atlantic Rainforest’s Jaguars in Decline M. Galetti et al.
Capping Progress on Invasive Species? C. Carboneras et al.
Drilling Plans Endanger Yasuní’s Biodiversity J. J. Alava and N. Calle
931 CORRECTIONS AND CLARIFICATIONS

BOOKS ET AL.
933 Status Update A. E. Marwick, reviewed by W. H. Dutton
934 String Theory and the Scientific Method R. Dawid, reviewed by G. Ellis

EDUCATION FORUM
935 Instructional Complexity and the Science to Constrain It K. R. Koedinger et al.

PERSPECTIVES
938 Unwanted Evolution I. Bozic and M. A. Nowak
>> Report p. 995
939 Metamaterials Beyond Optics M. Wegener
940 Chromosome Capture Brings It All Together N. Kleckner et al.
>> Research Article p. 948
942 A View on Energy Transfer Between Cold Atoms E. A. Donley
>> Report p. 954
943 Not an Oxidase, But a Peroxidase F. M. Raushel
>> Report p. 991
944 Synapses, Language, and Being Human P. Lieberman
>> Report p. 987

ON THE WEB THIS WEEK
>> Science Podcast
Listen to stories on the minimum requirements for a Y chromosome, the future of missile defense, details of an extraordinary gamma-ray burst, and more.

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COVER
Hit distribution (red, early; green, late) of a neutrino interaction with the Antarctic IceCube neutrino detector on 14 July 2011. Light from this transfer of 250 teraelectron volts of energy fills a sphere 600 meters across. This event, among the highest-energy neutrino interactions ever observed, forms part of the first evidence for a high-energy neutrino flux of astrophysical origin. See pages 920 and 947 and http://dx.doi.org/10.1126/science.1242856.

Credit: IceCube Collaboration
REPORTS

964 Constraints on the Late Holocene Anthropogenic Contribution to the Atmospheric Methane Budget
L. Mitchell et al.
Records derived from polar ice cores provide constraints on methane emissions during the late preindustrial Holocene.
>> News story p. 918

RESEARCH ARTICLES

947 Evidence for High-Energy Extraterrestrial Neutrinos at the IceCube Detector
IceCube Collaboration
The IceCube observatory at the South Pole detected neutrinos from outside our solar system.
Research Article Summary; for full text: http://dx.doi.org/10.1126/science.1242856
>> News story p. 920

948 Organization of the Mitotic Chromosome
N. Naumova et al.
Chromosome conformation changes dramatically during the cell cycle and is unlikely to carry epigenetic information.
>> Perspective p. 940

954 Observing the Dynamics of Dipole-Mediated Energy Transport by Interaction-Enhanced Imaging
G. Günter et al.
An imaging technique based on a cloud of cold atoms provides a model system to study the coherent transport of energy.
>> Perspective p. 942

956 Selective C-H Fluorination of Pyridines and Diazines Inspired by a Classic Amination Reaction
P. S. Fier and J. F. Hartwig
A mild fluorination method could help produce compounds of interest in medicinal research.

960 Imaging of a Circumsolar Dust Ring Near the Orbit of Venus
M. H. Jones et al.
Imaging data from the STEREO mission indicate the presence of a dust ring around Venus.

964 Commensal Bacteria Control Cancer Response to Therapy by Modulating the Tumor Microenvironment
N. Iida et al.

971 The Intestinal Microbiota Modulates the Anticancer Immune Effects of Cyclophosphamide
S. Vida et al.
The gut microbiota promote the efficacy of several antineoplastic agents in mice.
>> News story p. 921

976 Substitutions Near the Receptor Binding Site Determine Major Antigenic Change During Influenza Virus Evolution
B. F. Koel et al.
The major antigenic changes of the influenza virus are primarily caused by a single amino acid near the receptor binding site.

979 Yeast Reveal a “Druggable” Rsp5/Nedd4 Network that Ameliorates α-Synuclein Toxicity in Neurons
D. F. Tardiff et al.
The toxic effect of α-synuclein, associated with Parkinson’s disease, may be reduced by a novel small-molecule inhibitor.

983 Identification and Rescue of α-Synuclein Toxicity in Parkinson Patient-Derived Neurons
C. Y. Chung et al.
Screening in yeast yields an effective therapeutic for Parkinson’s patient-derived neuronal stem cells.

987 The Human Language–Associated Gene SRPX2 Regulates Synapse Formation and Vocalization in Mice
G. M. Sia et al.
Studies in mice and rats elucidate the function of a protein encoded by a gene that affects language.
>> Perspective p. 944

991 Evidence that the Fosfomycin-Producing Epoxidase, HppE, Is a Non–Heme-Iron Peroxidase
C. Wang et al.
An iron enzyme previously thought to use O2 as an oxidant appears to use peroxide instead.
>> Perspective p. 943

995 Defining Stem Cell Dynamics in Models of Intestinal Tumor Initiation
L. Vermeulen et al.
Common genetic alterations during tumor initiation in the mouse gut reveal clonal advantages.
>> Perspective p. 938
Science 342 (6161), 908-999.