EDITORIAL
125 Boosting Minorities in Science
Freeman A. Hrabowski III

NEWS OF THE WEEK
130 New High-Tech Screen Takes Carrier Testing to Next Level
131 Fermilab to End Its Quest for Higgs Particle This Year
132 Transgenic Chickens Could Thwart Bird Flu, Curb Pandemic Risk
>> Report p. 223
132 Japan Boosts Competitive Grants at Expense of Big Science
133 From the Science Policy Blog
134 Pint-Sized Predator Rattles the Dinosaur Family Tree
>> Report p. 206
>> Research Article p. 176; The Gonzo Scientist p. 121
136 Greenhouse–Power Plant Hybrid Set to Make Jordan’s Desert Bloom
137 From Science’s Online Daily News Site

NEWS FOCUS
138 Why Loneliness Is Hazardous to Your Health
>> Science Podcast
141 Did the First Cities Grow From Marshes?
142 American Geophysical Union Meeting Tectonic Blow Ended Mountain Building, Fired Up Volcanoes
What Heated Up the Eocene?
Snapshots From the Meeting
Worry But Don’t Panic Over Glacial Losses

LETTERS
144 Fostering Success at Community Colleges
I. V. Zaitsev
Response
G. R. Boggs
Microbe Interactions Undermine Predictions
D. Raoult
Response
S. Tefer et al.
Readers’ Poll Results:
Travel Trade-Offs for Scientists
An Integrated Approach to Genome Studies
D. K. Lahiri
147 CORRECTIONS AND CLARIFICATIONS

BOOKS ET AL.
148 Fixing the Sky
J. R. Fleming, reviewed by W. P. McCray
149 A Vast Machine
P. N. Edwards; Science in the Age of Computer Simulation
E. B. Winsberg, reviewed by R. C. J. Somerville

EDUCATION FORUM
152 Changing the Culture of Science Education at Research Universities
W. A. Anderson et al.

PERSPECTIVES
154 When Continents Formed
B. Dhuime et al.
155 A New Twist for Electron Beams
R. A. Herring
>> Report p. 192
156 Northern Meltwater Pulses, CO2, and Changes in Atlantic Convection
M. Sarnthein
>> Report p. 202
158 Lessons from Earth’s Past
J. Kiehl
160 Retrospective: John Bennett Fenn (1917–2010)
D. C. Muddiman

CONTENTS continued >>
REVIEW
171  In Situ Studies of Chemistry and Structure of Materials in Reactive Environments
F. (F.) Tao and M. Salmeron

BREVIA
175  Complex Diel Cycles of Gene Expression in Coral-Algal Symbiosis
O. Levy et al.
Rhythmically expressed genes in reef-building corals may be required to deal with oxidative stress and the coral-algal symbiosis.

RESEARCH ARTICLE
176  Quantitative Analysis of Culture Using Millions of Digitized Books
J.-B. Michel et al.
Linguistic and cultural changes are revealed through the analyses of words appearing in books.

REPORTS
183  A Biological Solution to a Fundamental Distributed Computing Problem
Y. Afek et al.
Modeling of development in the fruit fly yields an algorithm useful in designing wireless communication networks.

186  Observation of Half-Height Magnetization Steps in Sr₂RuO₄
J. Jang et al.
The magnetic response of an exotic superconductor suggests that vortices with half a quantum of flux are present.

189  Light-Induced Superconductivity in a Stripe-Ordered Cuprate
D. Fausti et al.
Laser pulses are used to enable coherent transport between the copper oxide planes of a cuprate superconductor.

192  Electron Vortex Beams with High Quanta of Orbital Angular Momentum
B. J. McMorran et al.
Diffraction holograms are used to create electron vortex beams that should enable higher-resolution imaging.

195  Solvent-Free Oxidation of Primary Carbon-Hydrogen Bonds in Toluene Using Au-Pd Alloy Nanoparticles
L. Kesavan et al.
A gold- and palladium-based catalyst can be used to oxidize toluene and form a commercially useful ester.

199  Supracolloidal Reaction Kinetics of Janus Spheres
Q. Chen et al.
Colloidal particles that are charged on one side, and hydrophobic on the other, can form chiral helices in salt solutions.

202  The Deglacial Evolution of North Atlantic Deep Convection
D. J. R. Thornalley
Radiocarbon data reveal changes in the timing and strength of deep ocean convection during the last glacial termination.

206  A Basal Dinosaur from the Dawn of the Dinosaur Era in Southwestern Pangaea
R. N. Martinez et al.
Two hundred thirty million years ago, in what is now Argentina, dinosaurs could be found as the dominant carnivores or as small herbivores.

211  Writing About Testing Worries Boosts Exam Performance in the Classroom
G. Ramirez and S. L. Beilock
A brief classroom intervention helps remove anxiety from the testing situation.

214  Genomic Signatures Predict Migration and Spawning Failure in Wild Canadian Salmon
K. M. Miller et al.
High mortality of sockeye salmon in the Fraser River is associated with signals of metabolic and immune stress.

217  The Structure of Human 5-Lipoxygenase
N. C. Gilbert
Substitution of a destabilizing sequence has allowed crystallization of a key enzyme of the inflammatory response.

220  Light-Driven Changes in Energy Metabolism Directly Entrain the Cyanobacterial Circadian Oscillator
M. J. Rust et al.
Cyanobacterial circadian clock components are directly coupled to the metabolic status of the cell through interactions with adenine nucleotides.

223  Suppression of Avian Influenza Transmission in Genetically Modified Chickens
J. Lyall et al.
Transgenic birds expressing a short hairpin RNA that blocks viral polymerase hinder influenza transmission.

226  Human Tears Contain a Chemosignal
S. Gelstein et al.
Merely sniffing women’s negative emotional tears reduces sexual arousal in men.
Proteome Half-Life Dynamics in Living Human Cells
E. Eden et al.
In times of stress, long-lived proteins increase their durability.
10.1126/science.1199784

Aberrant Overexpression of Satellite Repeats in Pancreatic and Other Epithelial Cancers
D. T. Ting et al.
Noncoding RNAs transcribed from DNA repeats in heterochromatin are expressed at surprisingly high levels in tumors.
10.1126/science.1200801

KOI-126: A Triply Eclipsing Hierarchical Triple with Two Low-Mass Stars
J. A. Carter et al.
The Kepler telescope detected a triple stellar system and reveals details of the structure of low-mass stars.
10.1126/science.1201274

2500 Years of European Climate Variability and Human Susceptibility
U. Büntgen et al.
Variability of central European temperature and precipitation shows correlations with some major historical changes.
10.1126/science.1197175

THE GONZO SCIENTIST: The Science Hall of Fame
THE GONZO SCIENTIST: The Science Hall of Fame
The frequency with which names appear in books has been used to create a pantheon of the most famous scientists of the past two centuries (with video).
>> News story p. 135; Research Article p. 176

PODCAST
PODCAST
Free Weekly Show
Download the 14 January Science Podcast to hear about genetically modifying chickens to curb the spread of influenza, reducing testing anxiety through writing, the science of loneliness, and more.

RESEARCH ARTICLE: Carrier Testing for Severe Childhood Recessive Diseases by Next-Generation Sequencing
C. J. Bell et al.
>> News story p. 130

The title SCIENCE is a registered trademark of the AAAS. Domestic individual subscription (51 issues): $149 (1174 allocated to subscription). Domestic institutional subscription (15 issues): $999; foreign postage extra: Mexico, Caribbean (surface mail) $55; other countries (air assist delivery) $250. First class, airmail, student, and emeritus rates on request. Canadian rates with GST available upon request. GST #125488122. Publications Mail Agreement Number 1069624. Printed in the U.S.A.
Change of address: Allow 4 weeks, giving old and new addresses and 8-digit account number. Postmaster: Send change of address to AAAS, P.O. Box 96178, Washington, DC 20090-6178. Single-copy sales: $10.00 current issue, $5.00 back issue prepaid includes surface postage; bulk rates on request. Authorization to photocopy material for internal or personal use under circumstances not falling within the fair use provisions of the Copyright Act is granted by AAAS to libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that $25.00 per article is paid directly to CCC, 222 Rosewood Drive, Danvers, MA 01923. The identification code for Science is 0036-8075. Science is indexed in the Reader’s Guide to Periodical Literature and in several specialized indexes.

www.sciencemag.org

SCIENCE
VOL 331 14 JANUARY 2011

121

www.sciencemag.org

SCIENCE
VOL 331 14 JANUARY 2011

121

www.sciencemag.org

SCIENCE
VOL 331 14 JANUARY 2011

121