

EDITORIAL

- 250 The Basics of Translation
Huda Y. Zoghbi

NEWS OF THE WEEK

- 256 A roundup of the week's top stories

NEWS & ANALYSIS

- 259 Killings Force Rethinking of Pakistan's Anti-Polio Drive
- 260 For \$60, a Peek Inside Your Dog's Mind
- 262 Genealogy Databases Enable Naming of Anonymous DNA Donors
>> *Policy Forum p. 275; Report p. 321*
- 263 Performance of Nanowire Solar Cells on the Rise
>> *Science Express Report by J. Wallentin et al.*

NEWS FOCUS

- 264 Who Will Step Up to Exascale?
- 267 The Promise and Perils of Oxytocin
>> *Science Podcast*

LETTERS

- 270 Exploitation in Northeast India
S. Dalvi et al.
- Sharing Future Conservation Costs
D. Sheil et al.
- Response
S. H. M. Butchart et al.
- 271 CORRECTIONS AND CLARIFICATIONS
- 271 TECHNICAL COMMENT ABSTRACTS

BOOKS ET AL.

- 273 What Did the Romans Know?
D. Lehoux, reviewed by P. Pestic
- 274 The Fractalist
B. B. Mandelbrot, reviewed by B. Finegold

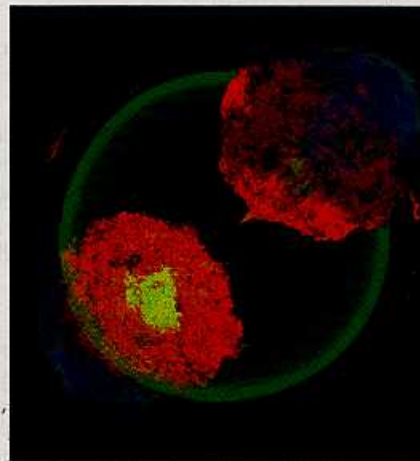
POLICY FORUMS

- 275 The Complexities of Genomic Identifiability
L. L. Rodriguez et al.
>> *News story p. 262; Report p. 321*
- 277 Essential Biodiversity Variables
H. M. Pereira et al.

PERSPECTIVES

- 279 Hormones and the Social Brain
B. S. McEwen
>> *Reports pp. 332 and 335*
- 280 The Closing Door of Climate Targets
T. F. Stocker
- 282 A Wet and Volatile Mercury
P. G. Lucey
>> *Reports pp. 292, 296, and 300*
- 283 Re-Engineering Nature's Catalysts
A. R. H. Narayan and D. H. Sherman
>> *Report p. 307*
- 284 Polymer Rigidity Improves Microporous Membranes
M. D. Guiver and Y. M. Lee
>> *Report p. 303*

CONTENTS continued >>



page 264



pages 262, 275, & 321

Explore our rich online offerings, including multimedia, news, and our two research journals—*Science Signaling* and *Science Translational Medicine*—at www.sciencemag.org



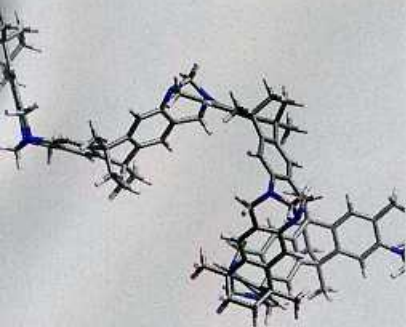
COVER

Map of highest surface temperature in the north polar region of Mercury superimposed on topography measured by the MESSENGER spacecraft. Red areas surrounding the pole (center) reach temperatures above 450 K. Blue and purple areas inside polar impact craters never exceed 100 K and are sufficiently cold to harbor water ice and frozen organic compounds. The largest ice-containing crater near the center of the image is ~112 km in diameter and 2.7 km deep. See pages 282, 292, 296, and 300. For the story behind the cover, go to <http://scim.ag/cov6117>.

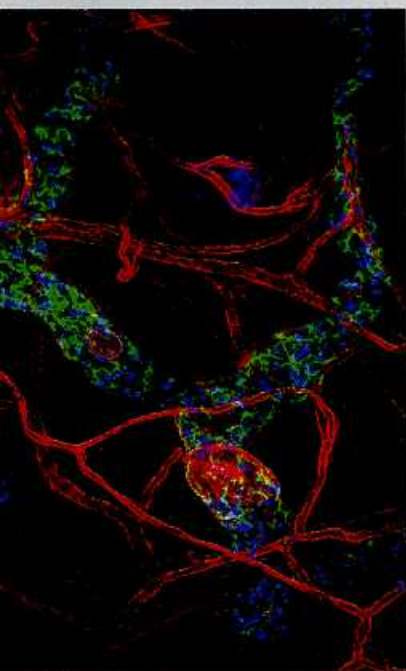
Image: NASA/Johns Hopkins University Applied Physics Laboratory/Carnegie Institution of Washington/UCLA/David Paige

DEPARTMENTS

- 249 This Week in *Science*
- 251 Editors' Choice
- 254 *Science* Staff
- 353 New Products
- 354 *Science* Careers



pages 284 & 303



page 328

REVIEW

- 286 **Neutralizing Tumor-Promoting Chronic Inflammation: A Magic Bullet?**
L. M. Coussens et al.

REPORTS

- 292 **Evidence for Water Ice Near Mercury's North Pole from MESSENGER Neutron Spectrometer Measurements**
D. J. Lawrence et al.
- 296 **Bright and Dark Polar Deposits on Mercury: Evidence for Surface Volatiles**
G. A. Neumann et al.
- 300 **Thermal Stability of Volatiles in the North Polar Region of Mercury**
D. A. Paige et al.
Spacecraft data and a thermal model show that water ice and organic volatiles are present at Mercury's north pole.
>> *Perspective p. 282*
- 303 **An Efficient Polymer Molecular Sieve for Membrane Gas Separations**
M. Carta et al.
Intrinsically porous polymers made using reactions associated with Tröger's base manifested enhanced membrane properties.
>> *Perspective p. 284*
- 307 **Olefin Cyclopropanation via Carbene Transfer Catalyzed by Engineered Cytochrome P450 Enzymes**
P. S. Coelho et al.
An oxidative enzyme has been engineered to transfer carbon to synthetic substrates in place of oxygen.
>> *Perspective p. 283*
- 310 **Metamaterial Apertures for Computational Imaging**
J. Hunt et al.
Metamaterial-based sensors can be used for compressive image reconstruction.
>> *Science Podcast*
- 313 **Climate Events Synchronize the Dynamics of a Resident Vertebrate Community in the High Arctic**
B. B. Hansen et al.
Reindeer, ptarmigan, vole, and fox populations on Svalbard respond together to extreme weather.
- 316 **Invasive Plants Have Scale-Dependent Effects on Diversity by Altering Species-Area Relationships**
K. I. Powell et al.
In three different biomes, invasive plant species cause larger declines in common species than in rare species.
- 318 **Structure of Histone mRNA Stem-Loop, Human Stem-Loop Binding Protein, and 3' hExo Ternary Complex**
D. Tan et al.
Two RNA binding proteins recognize their target RNA through shape, rather than sequence.
- 321 **Identifying Personal Genomes by Surname Inference**
M. Gymrek et al.
Anonymity of male personal genome data sets can be compromised by means of publicly available data.
>> *News story p. 262; Policy Forum p. 275; Science Podcast*
- 324 **GDE2 Promotes Neurogenesis by Glycosylphosphatidylinositol-Anchored Cleavage of RECK**
S. Park et al.
A molecular mechanism to inhibit Delta-Notch signaling and initiate neurogenesis is elucidated.
- 328 **Interstitial Dendritic Cell Guidance by Haptotactic Chemokine Gradients**
M. Weber et al.
In mouse skin, immune cells migrate toward lymphatic vessels along an immobilized chemokine gradient.
- 332 **Chronic Stress Triggers Social Aversion via Glucocorticoid Receptor in Dopaminergic Neurons**
J. Barik et al.
Aggressive defeat stress in mice causes glucocorticoid release and increased activity in the dopamine system.
- 335 **Adolescent Stress-Induced Epigenetic Control of Dopaminergic Neurons via Glucocorticoids**
M. Niwa et al.
Genetically susceptible mice isolated during adolescence can subsequently present schizophrenia-like symptoms.
>> *Perspective p. 279*

SCIENCE (ISSN 0036-8075) is published weekly on Friday, except the last week in December, by the American Association for the Advancement of Science, 1200 New York Avenue, NW, Washington, DC 20005. Periodicals Mail postage (publication No. 484460) paid at Washington, DC, and additional mailing offices. Copyright © 2013 by the American Association for the Advancement of Science. The title SCIENCE is a registered trademark of the AAAS. Domestic individual membership and subscription (51 issues): \$149 (\$74 allocated to subscription). Domestic institutional subscription (51 issues): \$990. Foreign postage extra: Mexico, Caribbean (surface mail) \$55; other countries (air assist delivery) \$85. First class, airmail, student, and emeritus rates on request. Canadian rates with GST available upon request, GST #R12345 88122. Publications Mail Agreement Number 3069624. 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, \$15.00 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 \$30.00 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.

CREDIT: (BOTTOM) MICHELE WEBER AND MICHAEL SIXT/IST AUSTRIA