

1200 New York Avenue, NW
Washington, DC 20005
Editorial: 202-326-6550, FAX 202-289-7526
News: 202-326-6581, FAX 202-371-9227
Bateman House, 82-88 Hills Road
Cambridge, UK CB2 1LQ

Subscription Services For change of address, missing issues, new orders and renewals, and payment questions: 866-434-AAAS (2227) or 202-326-6417, FAX 202-842-1065. Mailing addresses: AAAS, P.O. Box 96178, Washington, DC 20090-6178 or AAAS Member Services, 1200 New York Avenue, NW, Washington, DC 20005

Institutional Site Licenses please call 202-326-6755 for any questions or information

Reprints: Author Inquiries 800-635-7181
Commercial Inquiries 803-359-4578

Permissions 202-326-7074, FAX 202-682-0816

Member Benefits AAAS Travels: Bethchart Expeditions 800-252-4910; Apple Store www.store.apple.com/us/go/epstore/aaas; NASA Federal, 1-888-NASA-FCU (1-888-627-2328) or www.nasafcu.com; Cold Spring Harbor Laboratory Press Publications www.cshlpress.com/affiliates/aaas.htm; GEICO Auto Insurance www.geico.com/landingpage/go51.htm?logo=17624; Hertz 800-654-2200 CDP#343457; Office Depot https://bsd.office depot.com/portalLogin.do; Seabury & Smith Life Insurance 800-424-9883; Subaru VIP Program 202-326-6417; VIP Moving Services www.vipmayflower.com/domestic/index.html; Other Benefits: AAAS Member Services 202-326-6417 or www.aaasmember.org

science_editors@aaas.org (for general editorial queries)
science_letters@aaas.org (for queries about letters)
science_reviews@aaas.org (for returning manuscript reviews)
science_bookrevs@aaas.org (for book review queries)

Published by the American Association for the Advancement of Science (AAAS), *Science* serves its readers as a forum for the presentation and discussion of important issues related to the advancement of science, including the presentation of minority or conflicting points of view, rather than by publishing only material on which a consensus has been reached. Accordingly, all articles published in *Science*—including editorials, news and comment, and book reviews—are signed and reflect the individual views of the authors and not official points of view adopted by AAAS or the institutions with which the authors are affiliated.

AAAS was founded in 1848 and incorporated in 1874. Its mission is to advance science, engineering, and innovation throughout the world for the benefit of all people. The goals of the association are to: enhance communication among scientists, engineers, and the public; promote and defend the integrity of science and its use; strengthen support for the science and technology enterprise; provide a voice for science on societal issues; promote the responsible use of science in public policy; strengthen and diversify the science and technology workforce; foster education in science and technology for everyone; increase public engagement with science and technology; and advance international cooperation in science.

INFORMATION FOR AUTHORS

See pages 752 and 753 of the 10 February 2012 issue or access www.sciencemag.org/about/authors

SENIOR EDITORIAL BOARD

A. Paul Alivisatos, Lawrence Berkeley Nat'l. Laboratory
Cori Bargmann, The Rockefeller Univ.
Ernst Feher, Univ. of Zurich
Erin O'Shea, Harvard Univ.
Michael S. Turner, University of Chicago

BOARD OF REVIEWING EDITORS

Adriano Aguzzi, Univ. Hospital Zürich
Takuzo Aida, Univ. of Tokyo
Sonia Altizer, Univ. of Georgia
Sebastian Amigorena, Institut Curie
Angelika Amon, MIT
Kathryn Anderson, Memorial Sloan-Kettering Cancer Center
Siv G. E. Andersson, Uppsala Univ.
Peter Andolfatto, Princeton Univ.
Meinrat O. Andreae, Max Planck Inst., Mainz
Johan Auwerx, EPFL, St. Andrews
David Auschalom, Univ. of California Santa Barbara
Ben Barres, Stanford Medical School
Jordi Bascompte, Estación Biológica de Doñana, CSIC
Facundo Batista, London Research Inst.
Ray H. Baughman, Univ. of Texas, Dallas
David Baum, Univ. of Wisconsin
Mark Bear, Massachusetts Inst. of Technology
Yasmine Belkaid, NIAID, NIH
Philip Benfey, Duke Univ.
Stephen J. Benkovic, Penn State Univ.
Gregory C. Berzox, Stanford Univ.
Gabriele Bergers, Univ. of California, San Francisco
Peer Bork, EMBL
Bernard Bourdon, Ecole Normale Supérieure de Lyon
Ian Boyd, EPFL, St. Andrews
Christian Büchel, Universitätsklinikum Hamburg-Eppendorf
Joseph A. Burns, Cornell Univ.
William P. Butz, Population Reference Bureau
György Buzsáki, New York Univ., School of Medicine
Katsuhiko Cason, Univ. of Oslo
Mildred Cho, Stanford Univ.
David Clapham, Children's Hospital, Boston
David Clary, Univ. of Oxford
Jonathan D. Cohen, Princeton Univ.
Robert Cook-Deegan, Duke Univ.
James Collins, Boston Univ.
Alan Cowman, Walter & Eliza Hall Inst.
Robert H. Crabtree, Yale Univ.
Wolfgang Cramer, Mediterranean Inst. of Biodiversity and Ecology
F. Fleming Crim, Univ. of Wisconsin
Jeff L. Dangl, Univ. of North Carolina
Tom Daniel, Univ. of Washington

Frans de Waal, Emory Univ.
Stanislas Dehaene, Collège de France
Robert Desimone, MIT
Claude Desplan, New York Univ.
Ard diekerhoff, Radboud Univ. of Nijmegen
Dennis Discher, Univ. of Pennsylvania
Gerald W. Dorn II, Washington Univ. School of Medicine
Jennifer A. Doudna, Univ. of California, Berkeley
Julian Downward, Cancer Research UK
Brian Drossner, Univ. of California, Los Angeles
Christopher Dye, WHO
David Ehrhardt, Carnegie Inst. of Washington
Tim Elston, Univ. of North Carolina at Chapel Hill
Gerhard Ertl, Fritz-Haber-Institut, Berlin
Barry Everitt, Univ. of Cambridge
Paul G. Falkowski, Rutgers Univ.
Ernst Feher, Univ. of Zurich
Tom Fenchel, Univ. of Copenhagen
Michael Feuer, The George Washington Univ.
Alain Fischer, INSERM
Susan Fiske, Princeton Univ.
Anne C. Ferguson-Smith, Univ. of Cambridge
Wulfraut Gerstner, EPFL Lausanne
Karl Heinz Glassmeier, TU Braunschweig
Elizabeth Grove, Univ. of Chicago
Kip Guy, St. Jude's Children's Research Hospital
Taejip Ha, Univ. of Illinois at Urbana-Champaign
Christian Haas, Ludwig Maximilians Univ.
Steven Hahn, Fred Hutchinson Cancer Research Center
Gregory J. Hannon, Cold Spring Harbor Lab.
Martin Heimann, Max Planck Inst., Jena
Isaac Held, NOAA
James A. Hendler, Rensselaer Polytechnic Inst.
Janet G. Hering, Swiss Fed. Inst. of Aquatic Science & Technology
Ray Hilborn, Univ. of Washington
Michael E. Himmel, National Renewable Energy Lab.
Kai-Uwe Hinrichs, Univ. of Bremen
Thomas Hirose, Tokyo Inst. of Technology
David Holdell, Univ. of Cambridge
David Holden, Imperial College
Lora Hooper, UT Southwestern Medical Ctr at Dallas
Jeffrey A. Hubbell, EPFL Lausanne
Thomas Hudson, Ontario Inst. for Cancer Research
Steven Jacobsen, Univ. of California, Los Angeles
Kai Johnson, EPFL Lausanne
Peter Jonas, Universität Freiburg
William Kaetzel Jr., Dana-Farber Cancer Inst.
Daniel Kahne, Harvard Univ.
Daniel Kammen, Univ. of California, Berkeley
Joel Kingsolver, Univ. of North Carolina at Chapel Hill

Robert Kingston, Harvard Medical School
Roberto Kolter, Harvard Medical School
Alberto R. Kornblith, Univ. of Buenos Aires
Leonid Kruglyak, Princeton Univ.
Thomas Lange, Univ. of Cologne
Mitchell A. Lazar, Univ. of Pennsylvania
David Lazer, Harvard Univ.
Virginia Lee, Univ. of Pennsylvania
Ottoline Leyser, Cambridge Univ.
Olle Lindvall, Univ. Hospital, Lund
Marcia C. Linn, Univ. of California, Berkeley
John Lis, Cornell Univ.
Jiangyao Liu, Michigan State Univ.
Jonathan Losos, Harvard Univ.
Ke Liu, Chinese Acad. of Sciences
Laura Machesky, CRUK Beatson Inst. for Cancer Research
Ernie Magurran, Univ. of St Andrews
Oscar Marin, CSIC & Univ. Miguel Hernández
Charles Marshall, Univ. of California, Berkeley
Martin M. Matzuk, Baylor College of Medicine
Graham Medley, Univ. of Warwick
Yasuhiko Miyashita, Univ. of Tokyo
Richard Morris, Univ. of Edinburgh
Edward Moser, Norwegian Univ. of Science and Technology
Sean Munro, MRC Lab. of Molecular Biology
Thomas Murray, The Hastings Center
Naoto Nagaosa, Univ. of Tokyo
James Nelson, Stanford Univ. School of Med.
Timothy W. Nilsen, Case Western Reserve Univ.
Per Nordlund, Karolinska Inst.
Helga Nowotny, European Research Advisory Board
Luk O'Neill, Trinity College, Dublin
Stuart Newman, New York Medical College
N. Phuan Ong, Princeton Univ.
Joe Orenstein, Univ. of California, Berkeley & Lawrence Berkeley National Lab
Stuart H. Orkin, Dana-Farber Cancer Inst.
Harry Orr, Univ. of Minnesota
N. Aravind, Univ. of California, Berkeley
Andrew Oswald, Univ. of Warwick
Steve Palumbi, Stanford Univ.
Jane Parker, Max-Planck Inst. of Plant Breeding Research
Donald R. Paul, Univ. of Texas at Austin
P. David Pearson, Univ. of California, Berkeley
Reginald M. Penner, Univ. of California, Irvine
John H. J. Petrini, Memorial Sloan-Kettering Cancer Center
Simon Phillipot, Univ. of Florida
Joshua Potkin, Univ. of Pennsylvania
Richard Potts, CNRS
Colin Renfrew, Univ. of Cambridge
Trevor Robbins, Univ. of Cambridge

Barbara A. Romanowicz, Univ. of California, Berkeley
Jens Rostrup-Nielsen, Haldor Topsoe
Mike Ryan, Univ. of Texas, Austin
Shimom Sakaguchi, Kyoto Univ.
Michael Salmeron, Lawrence Berkeley National Lab
Jürgen Sandkühler, Medical Univ. of Vienna
Randy Seeley, Univ. of Cincinnati
Vladimir Shalaev, Purdue Univ.
Joseph Silk, Institut d'Astronomie de Paris
Daniel Simon, Arizona State Univ.
Alison Smith, John Innes Centre
David Solter, Inst. of Medical Biology, Singapore
Peter Sorger, Harvard Medical School
John Speakman, Univ. of Aberdeen
Allen C. Spradling, Carnegie Institution of Washington
Jonathan Sprent, Garvan Inst. of Medical Research
Paula Stephan, Georgia State Univ. and National Bureau of Economic Research
Elisabeth Steyer, ETH Zürich
Ira Tabas, Columbia Univ.
Yoshiko Takahashi, Kyoto Univ.
Sarah Teichmann, Cambridge Univ.
John Thomas, Duke Univ.
Herbert Virgin, Washington Univ.
Bert Vogelstein, Johns Hopkins Univ.
Cynthia Volkert, Univ. of Göttingen
Bruce D. Walker, Harvard Medical School
Douglas Wallace, Dalhousie Univ.
Herbert W. Young, Univ. of Oxford
David A. Wardle, Swedish Univ. of Agric Sciences
David Waxman, Fudan Univ.
Detlef Weigel, Max-Planck Inst., Tübingen
Jonathan Weissman, Univ. of California, San Francisco
Sue Westler, Univ. of California, Riverside
Kathy Willis, Oxford Univ.
Ian A. Wilson, The Scripps Res. Inst.
Timothy D. Wilson, Univ. of Virginia
Jan Zaenen, Leiden Univ.
Kenneth Zaretzky, Univ. of Penn. School of Medicine
Mayana Zatz, University of Sao Paulo
Jonathan Zehr, Univ. of California, Santa Cruz
Marian Zuber, MIT

BOOK REVIEW BOARD

John Aldrich, Duke Univ.
David Bloom, Harvard Univ.
Angela Creager, Princeton Univ.
Richard Swedner, Univ. of Chicago
Ed Wasserman, Penn. State
Lewis Wolpert, Univ. College London

FULFILLMENT SYSTEMS AND OPERATIONS (membership@aaas.org); CUSTOMER SERVICE SUPERVISOR Pat Butler; SPECIALISTS LaToya Casteel, Michelle Ofordire, April Marshall; MANAGER, DATA ENTRY Mickie Napoleoni; DATA ENTRY SPECIALISTS Tarrika Hill, JJ Regan, Eva Mae Campbell

BUSINESS OPERATIONS AND ADMINISTRATION DIRECTOR Deborah Rivera-Wienhold; BUSINESS SYSTEMS AND FINANCIAL ANALYSIS DIRECTOR Randy Yi; MANAGER, FULFILLMENT SYSTEMS Frits Bunnigh; SYSTEMS ANALYST Nicole Mehmedovich; MANAGER, BUSINESS ANALYSIS Eric Knott; MANAGER, BUSINESS OPERATIONS Jessica Tierney; BUSINESS ANALYSTS Cory Lipman, Celeste Troxler; Christine Wehrli; FINANCIAL ANALYST Julia Nguyen; RIGHTS AND PERMISSIONS: ADMINISTRATOR Emilie David; ASSOCIATE Elizabeth Sandler; MARKETING DIRECTOR Ian King; MARKETING MANAGERS Allison Pritchard, Alison Chandler, Julieanne Wielga, Samantha Smith; MARKETING ASSOCIATES Aimee Aponte, Mary Ellen Crowley, Elizabeth Sattler, Rebecca Riffkin; SENIOR MARKETING EXECUTIVE Jennifer Reeves; DIRECTOR, SITE LICENSING Tom Ryan; DIRECTOR, CORPORATE RELATIONS Eileen Bernadette Moran; SENIOR PUBLISHER RELATIONS SPECIALIST Kiki Forsythe; PUBLISHER RELATIONS MANAGER Catherine Holland; PUBLISHER RELATIONS, EASTERN REGION Keith Layson; PUBLISHER RELATIONS, WESTERN REGION Ryan Rexroth; CUSTOMER RELATIONS MANAGER Iquo Edim; MARKETING MANAGER Christina Schlecht; MARKETING ASSOCIATES Paulina Curto, Mitchell Edmund; CUSTOMER RELATIONS ASSOCIATE: Joe Horn; ELECTRONIC MEDIA: DIRECTOR Elizabeth Harman; ASSISTANT MANAGER Lisa Stanford; PRODUCTION SPECIALISTS Antoinette Hodal, Thomas Jaensch, Nichole Johnston, Kimberly Oster; WEB AND NEW MEDIA: SENIOR PROJECT MANAGER Trista Smith, PROJECT LEADER Luke Johnson COMPUTER SPECIALISTS Walter Jones, Kai Zhang, WEB DEVELOPER Jeremy Bates; PROGRAM DIRECTOR, AAAS MEMBER CENTRAL Peggy Mihelich

DIRECTOR, GLOBAL COORDINATION, CUSTOM PUBLICATIONS, ADVERTISING Bill Moran
COMMERCIAL EDITOR Sean Sanders: 202-326-6430
ASSISTANT COMMERCIAL EDITOR Tianna Hickin 202-326-6463
PRODUCT (science_advertising@aaas.org); MIDWEST Rick Bongiovanni: 330-405-7080, FAX 330-405-7081; EAST COAST/E. CANADA Laurie Faraday: 508-747-9395, FAX 617-507-8189; WEST COAST/W. CANADA Lynne Stickrod: 415-931-9782, FAX 415-520-6940; UK/EUROPE/ASIA Roger Gonçalves: TEL/FAX +41 43 243 1358; JAPAN, Makiko Hara: +81 (0) 3 6802 4616, FAX +81 (0) 3 6802 4615; ads@sciencemag.jp; CHINA/TAIWAN Ruolei Wu: +86 1367 1015 294 ruw@aaas.org

WORLDWIDE ASSOCIATE DIRECTOR OF SCIENCE CAREERS Tracy Holmes: +44 (0) 1223 326525, FAX +44 (0) 1223 326532
CLASSIFIED (advertise@sciencereaders.org); U.S.: MIDWEST/WEST COAST/CANADA/SOUTH AMERICA Tina Burks: 202-326-6577; EAST COAST/INDUSTRY Elizabeth Early: 202-326-6578; SALES ADMINISTRATOR Marci Gallun; EUROPE/ROW SALES Simone Jux, Lucy Nelson; SALES ASSISTANT Kelly Grace; JAPAN Yuri Kobayashi +81 (6) 6627-9250; careerads@sciencemag.jp; CHINA/TAIWAN Ruolei Wu: +86 1367 1015 294 ruw@aaas.org; ADVERTISING SUPPORT MANAGER Karen Foote: 202-326-6740; ADVERTISING PRODUCTION OPERATIONS MANAGER Deborah Tompkins; SENIOR PRODUCTION SPECIALIST/GRAPHIC DESIGNER Amy Hardcastle; PRODUCTION SPECIALIST Yuse Lajminmuhip; SENIOR TRAFFIC ASSOCIATE Christine Hall; SALES COORDINATOR Shirley Young

AAAS BOARD OF DIRECTORS RETIRING PRESIDENT, CHAIR Nina V. Fedoroff; PRESIDENT William H. Press; PRESIDENT-ELECT Phillip A. Sharp; TREASURER David E. Shaw; CHIEF EXECUTIVE OFFICER Alan I. Leshner; BOARD MEMBER B. Berenbaum, Bonnie L. Bassler, Stephen L. Mayo, Raymond Orbach, Julia M. Phillips, Sue V. Rosser, David D. Sabatini, Inder M. Verma



ADVANCING SCIENCE. SERVING SOCIETY