

Monica M. Bradford **Colin Norman**

MANAGING EDITOR, RESEARCH JOURNALS **Katrina L. Kelner**
 DEPUTY EDITORS **R. Brooks Hanson, Barbara R. Jasny, Andrew M. Sugden, Valda J. Vinson**

EDITORIAL SENIOR EDITORS/COMMENTARY Lisa D. Chong, Brad Wible; **SENIOR EDITORS** Gilbert J. Chin, Pamela J. Hines, Paula A. Kiberstis (Boston), Marc S. Lavine (Toronto), Beverly A. Purnell, L. Bryan Ray, Guy Riddihough, H. Jesse Smith, Phillip D. Szuroimi (Tennessee), Valda Vinson, Jake S. Yeston, Laura M. Zahn (San Diego); **ASSOCIATE EDITORS** Kristen L. Mueller, Jelena Stajic, Sacha Vignier, Nicholas S. Wigginton; **BOOK REVIEW EDITOR** Sherman J. Suter; **ASSOCIATE LETTERS EDITOR** Jennifer Silis; **EDITORIAL MANAGER** Cara Tate; **SENIOR COPY EDITORS** Jeffrey E. Cook, Cynthia Howe, Harry Jach, Lauren Kmeck, Barbara P. Ordway, Trista Wagoner; **COPY EDITOR** Chris Filteau; **SENIOR EDITORIAL COORDINATORS** Carolyn Kyle, Beverly Shields; **EDITORIAL COORDINATORS** Joi S. Granger, Anita Wynn; **PUBLICATIONS ASSISTANTS** Ramatoulaye Diop, Aneera Dobbins, Jeffrey Hearn, Lisa Johnson, Dona Mathieu, Le-Toya Mayne Flood, Shannon McMahon, Scott Miller, Jerry Richardson, Teresa R. Sakon, Brian White; **EDITORIAL ASSISTANT** Patricia M. Moore; **EXECUTIVE EDITOR ASSISTANT** Yolanda O'Bannon (San Francisco); **EXECUTIVE ASSISTANT** Alison Crawford; **ADMINISTRATIVE SUPPORT** Maryrose Madrid; **EDITORIAL FELLOW** Melissa R. McCartney

EDITORIAL DIRECTOR, WEB AND NEW MEDIA Stewart Willis; **SENIOR WEB EDITOR** Sarah Crespi; **WEB EDITOR** Kerry Klein; **WEB DEVELOPMENT MANAGER** Martyn Green; **WEB DEVELOPERS** Corinna Cohn, Andrew Whitesell; **INTERN** Edward Hurme
NEWS DEPUTY NEWS EDITORS Robert Coontz, David Grimm (Online), Eliot Marshall, Jeffrey Nervis, Leslie Roberts, John Travis; **CONTRIBUTING EDITORS** Elizabeth Culotta, Polly Shulman; **NEWS WRITERS** Yudhijit Bhattacharjee, Adrian Cho, Jennifer Couzin-Frankel, Carolyn Gramling, Jocelyn Kaiser, Richard A. Kerr, David Malachuk, Greg Miller, Elizabeth Pennisi, Robert F. Service (Pacific NW), Erik Stokstad; **WEB DEVELOPER** Daniel Berger; **SOCIAL MEDIA STRATEGIST** Meghna Sachdev; **INTERN** Emily Underwood; **CONTRIBUTING CORRESPONDENTS** John Bohannon, Jon Cohen (San Diego, CA), Ann Gibbons, Sam Kean, Eli Kintisch, Andrew Lawler, Mitch Leslie, Charles C. Mann, Virginia Morell, Gary Taubes; **COPY EDITORS** Melissa Raimondi, Kara Estelle, Linda B. Felaco; **ADMINISTRATIVE SUPPORT** Scherraine Mack; **BUREAU** San Diego, CA: 760-942-3252, FAX 760-942-4979; Pacific Northwest: 503-963-1940

PRODUCTION DIRECTOR Wendy K. Shank; **ASSISTANT MANAGER** Rebecca Doshi, Lori Murphy; **SENIOR SPECIALISTS** Steve Forrester, Christopher Redwood, Anthony Rosen; **PREFLIGHT DIRECTOR** David M. Tompkins; **MANAGER** Marcus Spiegler; **SPECIALISTS** Jason Hillman, Tara Kelly
ART DIRECTOR Yael Fitzpatrick; **ASSOCIATE ART DIRECTOR** Laura Creveling; **SENIOR ILLUSTRATORS** Chris Bickel, Katharine Sutfitt; **ILLUSTRATOR** Yana Hammond; **SENIOR ART ASSOCIATES** Holly Bishop, Preston Huey; **ART ASSOCIATES** Kay Engman, Garvin Grullón, Chrystal Smith; **PHOTO EDITOR** Leslie Blizard

SCIENCE INTERNATIONAL

EUROPE (science@science-int.ouk) **EDITORIAL:** INTERNATIONAL MANAGING EDITOR Andrew M. Sugden; **SENIOR EDITOR/COMMENTARY** Julia Fahrenkamp-Uppenbrink; **SENIOR EDITORS** Caroline Ash, Stella M. Hurtle, Ian S. Osborne, Peter Stern; **ASSOCIATE EDITOR** Maria Cruz; **CONTRIBUTING EDITOR** Helen Pickersgill; **EDITORIAL SUPPORT** Rachel Roberts, Alice Whaley; **ADMINISTRATIVE SUPPORT** Janet Clements, John Wood; **NEWS DEPUTY NEWS EDITOR**, U.K. Daniel Clery; **CONTRIBUTING EDITOR**, EUROPE Martin Enserink; **CONTRIBUTING CORRESPONDENTS** Michael Balter (Paris), Kai Kupferschmidt (Berlin), Gretchen Vogel (Berlin)

ASIA Japan Office: Asca Corporation, Tomoko Furusawa, Rustic Bldg. 7F, 77 Tenjin-cho, Shinjuku-ku, Tokyo 162-0808, Japan; +81 3 6802 4616, FAX +81 3 6802 4615, inquiry@sciencemag.jp; **ASIA NEWS EDITOR** Richard Stone (Beijing): rstone@aaas.org; **CONTRIBUTING CORRESPONDENTS** Dennis Normile [Japan: +81 (0) 3 3391 0630, FAX +81 (0) 3 5936 3531; dnormile@gol.com]; Hao Xin [China: cindyhao@gmail.com]; Mara Hvistendahl [China: mhvisten@aaas.org]; Pallava Bagla [South Asia: +91 (0) 11 2271 2896; pbagla@vsnl.com]

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 Buningh; **SYSTEMS ANALYST** Nicole Mehmedovich; **MANAGER, BUSINESS ANALYSIS** Eric Knott; **MANAGER, BUSINESS OPERATIONS** Jessica Tierney; **BUSINESS ANALYSTS** Cory Lipman, Celeste Troxler; **CHRISTINE WEHRI**; **FINANCIAL ANALYST** Julia Nguyen; **RIGHTS AND PERMISSIONS:** ADMINISTRATOR Emilie David; **ASSOCIATE** Elizabeth Sandler; **MARKETING DIRECTOR** Ian King; **MARKETING MANAGERS** Allison Pritchard, Alison Chandler, Julianne Wielga, Samantha Smith; **MARKETING ASSOCIATES** Aimee Aponte, Mary Ellen Crowley, Elizabeth Sattler, Rebecca Rifkin; **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** Iqoo Edim; **MARKETING MANAGER** Christina Schlecht; **MARKETING ASSOCIATES** Paulina Curto, Mitchell Edmund; **CUSTOMER RELATIONS ASSOCIATE:** Joe Horn; **ELECTRONIC MEDIA:** DIRECTOR Lizabeth Harman; **ASSISTANT MANAGER** Lisa Stanford; **PRODUCTION SPECIALISTS** Antoinette Hodal, Thomas Jaensch, Nichelle 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 COLLABORATION, CUSTOM PUBLICATIONS, ADVERTISING Bill Moran
EDITOR, CUSTOM PUBLISHING Sean Sanders: 202-326-6430
ASSISTANT EDITOR, CUSTOM PUBLISHING Tianna Hicklin 202-326-6463
ASSOCIATE DIRECTOR, COLLABORATION, CUSTOM PUBLICATIONS/CHINA/TAIWAN/KOREA/SINGAPORE Ruolei Wu +86-1367-101-5294

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 rwu@aaas.org
WORLDWIDE ASSOCIATE DIRECTOR OF SCIENCE CAREERS Tracy Holmes: +44 (0) 1223 326525, FAX +44 (0) 1223 326532

CLASSIFIED (advertise@sciencecareers.org); **U.S.:** EAST COAST/WEST COAST/SOUTH CENTRAL/SOUTH AMERICA Tina Burks: 202-326-6577; **MIDWEST/CANADA/INDUSTRY** Allyson Rose: 202-326-6578; **SALES ADMINISTRATOR** Marci Gallun; **EUROPE/ROW** Sales Benjamin Asfaha, Lucy Nelson; **SALES ASSISTANT** Kelly Grace; **JAPAN** Yuri Kobayashi +81 (6) 6627-9250; **CAREERADS**@sciencemag.jp; **CHINA/TAIWAN** Ruolei Wu: +86 1367 1015 294 rwu@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 Lajimhinjung; **SENIOR TRAFFIC ASSOCIATE** Christine Hall; **SALES COORDINATOR** Shirley Young

AAAS BOARD OF DIRECTORS RETIRING PRESIDENT, CHAIR Nina V. Fedoroff; **PRESIDENT** William H. Press; **RETIREMENT** Phillip A. Sharp; **TREASURER** David E. Shaw; **CHIEF EXECUTIVE OFFICER** Alan I. Leshner; **BOARD** May R. 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

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 Fehr, 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
David Awschalom, Univ. of California Santa Barbara
Ben Barres, Stanford Univ.
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.
Christophe Bernard, Aix-Marseille Univ.
Gregory C. Berzix, Stanford Univ.
Gabriele Bergers, Univ. of California, San Francisco
Peer Bork, EMBL
Bernard Bourdon, Ecole Normale Supérieure de Lyon
Ian Boyd, Univ. of St. Andrews
Christian Büchel, Universität Hamburg-Eppendorf
Joseph A. Burns, Cornell Univ.
William P. Butz, Population Reference Bureau
GYORY BUZSAKI, New York Univ., School of Medicine
Mats Carlsson, Univ. of Oslo
Mildred Cho, Stanford Univ.
David Clapham, Children's Hospital, Boston
David Clary, Univ. of Oxford
Jonathan D. Cohen, Penn State 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.
Stéphane Dehaene, Collège de France
Robert Desimone, MIT
Claude Desplan, New York Univ.
Ap Dijksterhuis, Radboud Univ. of Nijmegen
Dennis Discher, Univ. of Pennsylvania
Gerald W. Dorn, Washington Univ. School of Medicine
Jennifer A. Doudna, Univ. of California, Berkeley
Julian Downward, Cancer Research UK
Bruce Dunn, Univ. of California, Los Angeles
Christopher Dye, WHO
David Echarat, 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 Fehr, 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
Wulfraim Gerstner, EPFL Lausanne
Karl-Heinz Glassmeier, TU Braunschweig
Elizabeth Grove, Univ. of Chicago
Kip Guy, St. Jude's Children's Research Hospital
Taejeup Ha, Univ. of Illinois at Urbana-Champaign
Christian Haass, Ludwig Maximilians Univ.
Steven Hahn, Fred Hutchinson Cancer Research Center
Gregory J. Hannon, Cold Spring Harbor Lab.
Karl Johnson, 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
Kei Hirose, Tokyo Inst. of Technology
David Holdell, Univ. of Cambridge
David Holdren, 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
James C. Jernigan, EPHI
Peter Jonas, Universität Freiburg
William Kaelin 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. Kornblitt, Univ. of Buenos Aires
Leonid Kruglyak, Princeton Univ.
Thomas Langer, 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.
Hanguo Liu, Michigan State Univ.
Jonathan Losos, Harvard Univ.
Ke Lu, Chinese Acad. of Sciences
Christian Lüscher, Univ. of Geneva
Laura Maresky, CRUK Beatson Inst. for Cancer Research
Anne 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
Yasushi 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 Wellcome Trust
Naoto Nagaoa, Univ. of Tokyo
James Nelson, Stanford Univ. School of Med.
Timothy W. Nilsen, Case Western Reserve Univ.
Pär Nordlund, Karolinska Inst.
Martin J. O'Neill, European Research Advisory Board
Luke 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
Christine Ortiz, MIT
Andrew Oswald, Univ. of Warwick
Steve Palaniappan, 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. Petrin, Memorial Sloan-Kettering Cancer Center
Simon Philippot, Univ. of Florida
Joshua Plotkin, Univ. of Pennsylvania
Philippe Poulin, CNRS
Colin Renfrew, Univ. of Cambridge
Trevor Roberts, Univ. of California, Berkeley
Barbara A. Romanowicz, Univ. of California, Berkeley

Jens Rostrup-Nielsen, Haldor Topsøe
Mikie Ryan, Univ. of Texas, Austin
Shimon Sakauchi, Kyoto Univ.
Miguel Salmeron, Lawrence Berkeley National Lab
Jürgen Sandkühner, Medical Univ. of Vienna
Randy Seeley, Univ. of Cincinnati
Walter Shih, Purdue Univ.
Joseph Silk, Institut d'Astrophysique de Paris
Demis Simon, Arizona State Univ.
Alison Smith, John Innes Centre
Davor Solter, Inst. of Medical Biology, Singapore
Peter Sörger, Harvard Medical School
John Speakman, Univ. of Aberdeen
Jonathan S. Spradling, Carnegie Institution of Washington
Alan Thomas Sprent, Garvan Inst. of Medical Research
Paula Stephan, Georgia State Univ. and National Bureau of Economic Research
Elisbeth Stern, 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. Weber, Harvard Univ. School of Graduate Studies
Douglas Wallace, Dalhousie Univ.
Ian Walmsey, 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
Wes Westler, Univ. of California, Riverside
Kathy Willis, Oxford Univ.
Ian A. Wilson, The Scripps Res. Inst.
Timothy D. Wilson, Univ. of California, Santa Cruz
Rosemary Wyse, Johns Hopkins Univ.
Jan Zaenen, Leiden Univ.
Kenneth Zaret, Univ. of Penn. School of Medicine
Mayana Zatz, University of Sao Paulo
Jonathan Zeitlin, Univ. of California, Santa Cruz
Maria Zuber, MIT

BOOK REVIEW BOARD

John Aldrich, Duke Univ.
David Bloom, Harvard Univ.
John H. Dunning, Harvard Univ.
Angela Creager, Princeton Univ.
Richard Shweder, Univ. of Chicago
Ed Wasserman, DuPont
Lewis Wolpert, Univ. College London