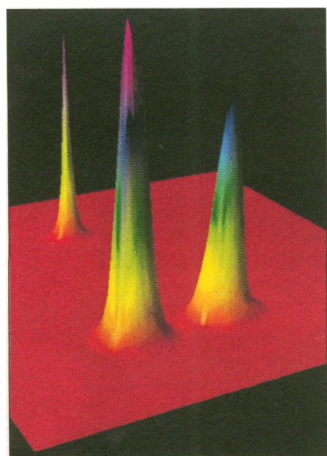


1208

Caveolae's role in cell explored



1229

Laser-stabilized atoms

NEWS & COMMENT

- Can Russia Slim Down to Survive?** 1200
 New Foundation Goes Back to Basics
 Soros Seeks Secondary Sources
- ORI Drops Gallo Case in Legal Dispute** 1202
- Survey Tracks Misconduct, to an Extent** 1203
- Europeans Get Into Festival Spirit** 1204
- German HIV-Blood Scandal Reveals Flaws in the System** 1205
- Astronomy Funding Goes South of the Border** 1206

RESEARCH NEWS

- Cell Biologists Explore 'Tiny Caves'** 1208
- Neuroscientists Reach a Critical Mass in Washington** 1210
 New Alzheimer's Theory Stirs Controversy
 This Is Your Brain on Stress
 The Mice That Roared
 New Accomplices in Cell Death

- Transgenic Mice Display a Class (Switching) Act** 1212

- Mercury Meets the X-Ray Sun** 1213

POLICY FORUMS

- The Remaining Stocks of Smallpox Virus Should Be Destroyed** 1223
 B. W. J. Mahy, J. W. Almond, K. I. Berns, R. M. Chanock, D. K. Lvov, R. F. Petterson, H. G. Schatzmayr, F. Fenner
- Why the Smallpox Virus Stocks Should Not Be Destroyed** 1225
 W. K. Joklik, B. Moss, B. N. Fields, D. H. L. Bishop, L. S. Sandakhchiev

PERSPECTIVE

- Checkpoints That Couple Gene Expression to Morphogenesis** 1227
 R. Losick and L. Shapiro

ARTICLE

- Atomic Stabilization by Super-Intense Lasers** 1229
 J. H. Eberly and K. C. Kulander

DEPARTMENTS

- THIS WEEK IN SCIENCE** 1189

- EDITORIAL** 1191
 Unfunded Federal Environmental Mandates

- LETTERS** 1193
 Tropical Poison Frogs: C. W. Myers and J. W. Daly
 • Peer Review in the Czech Republic: V. Pačes and V. Viklíčký; S. Dickman • Misconduct in Science: D. E. Buzzelli; R. W. Schmitt • Proton Decay Interest: D. B. Cline • Caltech Biology in Perspective: L. E. Kay

- SCIENCESCOPE** 1199

- RANDOM SAMPLES** 1207

- BOOK REVIEWS** 1282
Snakes, reviewed by H. W. Greene • *Biology of Whiptail Lizards*, P. E. Vanzolini • *El Niño*, B. K. Linsley • *Photodissociation Dynamics*, J. Baggot • Vignettes • Books Received

- AAAS MEETINGS** 1287
 The 1994 AAAS Annual Meeting, 18–23 February 1994, San Francisco Expanded Program • Seminars • Employment Exchange • Advance Registration Form • Hotel Reservation Form

- PRODUCTS & MATERIALS** 1321

Board of Reviewing Editors

John Abelson
 Frederick W. Alt
 Don L. Anderson
 Michael Ashburner
 Stephen J. Benkovic
 David E. Bloom
 Floyd E. Bloom
 Piet Borst
 Michael S. Brown
 Henry R. Bourne
 James J. Bull

Kathryn Calame
 C. Thomas Caskey
 Dennis W. Choi
 John M. Coffin
 Paul J. Crutzen
 Robert Desimone
 Nicole Le Douarin
 Bruce F. Eldridge
 Paul T. Englund
 Richard G. Fairbanks
 Douglas T. Fearon

Harry A. Fozzard
 K. Friedrich
 Theodore H. Geballe
 Margaret J. Geller
 John C. Gerhart
 Roger I. M. Glass
 Stephen P. Goff
 Peter N. Goodfellow
 Corey S. Goodman
 Stephen J. Gould
 Ira Herskowitz

Eric F. Johnson
 Stephen M. Kosslyn
 Michael LaBarbera
 Charles S. LeVings III
 Alexander Levitzki
 Harvey F. Lodish
 Richard Losick
 Diane Mathis
 Anthony R. Means
 Shigetada Nakanishi
 Roger A. Nicoll

William H. Orme-Johnson III
 Stuart L. Pimm
 Yeshayau Pocker
 Dennis A. Powers
 Ralph S. Quatrano
 V. Ramanathan
 Douglas C. Rees
 T. M. Rice
 Erkki Ruoslahti
 David C. Rubie

Gottfried Schatz
 Jozef Schell
 Ronald H. Schwartz
 Terrence J. Sejnowski
 Ellen Solomon
 Thomas A. Steitz
 Michael P. Stryker
 Richard F. Thompson
 Robert T. N. Tjian
 Emil R. Unanue
 Geerat J. Vermeij

Bert Vogelstein
 Harold Weintraub
 Zena Werb
 George M. Whitesides
 Owen N. Witte
 William A. Wulf
 Keith Yamamoto

Science and a Changing World is the theme for the 1994 AAAS annual meeting in San Francisco from 18 to 23 February. This is the 160th AAAS meeting, and it upholds our interdisciplinary tradition as researchers from every facet of science—including medical, environmental, evolutionary, physical, social, and

technological—convene to exchange and publicize new knowledge. See page 1287 for a complete program and registration information. [Earth image: National Aeronautics and Space Administration. Additional illustration: Tracy Keaton Drew, Washington, DC]



RESEARCH ARTICLE

- Structural Basis of Pilus Subunit Recognition by the PapD Chaperone** 1234
M. J. Kuehn, D. J. Ogg, J. Kihlberg, L. N. Slonim, K. Flemmer, T. Bergfors, S. J. Hultgren

REPORTS

- Quantum Confinement in Size-Selected, Surface-Oxidized Silicon Nanocrystals** 1242
W. L. Wilson, P. F. Szajowski, L. E. Brus

- Real-Time Observation of the Vibration of a Single Adsorbed Molecule** 1244
F. Watanabe, G. M. McClelland, H. Heinzelmann

- Effective Coupling in Biological Electron Transfer: Exponential or Complex Distance Dependence?** 1247
J. W. Evenson and M. Karplus

- Growth of High Aspect Ratio Nanometer-Scale Magnets with Chemical Vapor Deposition and Scanning Tunneling Microscopy** 1249
A. D. Kent, T. M. Shaw, S. von Molnár, D. D. Awschalom

- Uncertainties in Carbon Dioxide Radiative Forcing in Atmospheric General Circulation Models** 1252
R. D. Cess, M.-H. Zhang, G. L. Potter, H. W. Barker, R. A. Colman, D. A. Dazlich, A. D. Del Genio, M. Esch, J. R. Fraser, V. Galin, W. L. Gates, J. J. Hack, W. J. Ingram, J. T. Kiehl, A. A. Lacis, H. Le Treut, Z.-X. Li, X.-Z. Liang, J.-F. Mahfouf, B. J. McAvaney, V. P. Meleshko, J.-J. Morcrette, D. A. Randall, E. Roeckner, J.-F. Royer, A. P. Sokolov, P. V. Sporyshev, K. E. Taylor, W.-C. Wang, R. T. Wetherald

- Photocrosslinking of 5-Iodouracil-Substituted RNA and DNA to Proteins** 1255
M. C. Willis, B. J. Hicke, O. C. Uhlenbeck, T. R. Cech, T. H. Koch

- Genetic Relationships Determined by a DNA Heteroduplex Mobility Assay: Analysis of HIV-1 *env* Genes** 1257
E. L. Delwart, E. G. Shpaer, J. Louwagie, F. E. McCutchan, M. Grez, H. RübSamen-Waigmann, J. I. Mullins

- Induction of Metaphase Arrest in Cleaving *Xenopus* Embryos by MAP Kinase** 1262
O. Haccard, B. Sarcevic, A. Lewellyn, R. Hartley, L. Roy, T. Izumi, E. Erikson, J. L. Maller

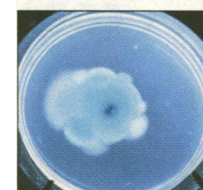
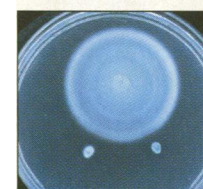
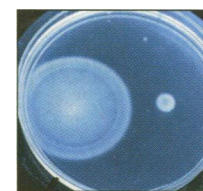
- Requirement of Tyrosine Phosphorylation for Rapid Activation of a DNA Binding Factor by IL-4** 1265
H. Kotanides and N. C. Reich

- Targeted Insertion of a Variable Region Gene into the Immunoglobulin Heavy Chain Locus** 1268
S. Taki, M. Meiering, K. Rajewsky

- Generation of a Mouse Strain That Produces Immunoglobulin κ Chains with Human Constant Regions** 1271
Y.-R. Zou, H. Gu, K. Rajewsky

- Bcl-2 Inhibition of Neural Death: Decreased Generation of Reactive Oxygen Species** 1274
D. J. Kane, T. A. Sarafian, R. Anton, H. Hahn, E. B. Gralla, J. S. Valentine, T. Örd, D. E. Bredesen

- Sensing Structural Intermediates in Bacterial Flagellar Assembly by Export of a Negative Regulator** 1277
K. T. Hughes, K. L. Gillen, M. J. Semon, J. E. Karlinsey



1277
Behavior of *Salmonella flgM* mutants on motility plates

AAAS Board of Directors

F. Sherwood Rowland
Retiring President,
Chairman
Eloise E. Clark
President
Francisco J. Ayala
President-elect

Robert A. Frosch
Florence P. Haseltine
William A. Lester, Jr.

Alan Schriesheim
Jean'ne M. Shreeve
Chang-Lin Tien
Warren M. Washington
Nancy S. Wexler

William T. Golden
Treasurer
Richard S. Nicholson
Executive Officer

■ **SCIENCE (ISSN 0036-8075) is published weekly on Friday, except the last week in December, by the American Association for the Advancement of Science, 1333 H Street, NW, Washington, DC 20005.** Second-class postage (publication No. 484460) paid at Washington, DC, and additional mailing offices. Copyright © 1993 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): \$87 (\$47 allocated to subscription). Domestic institutional subscription (51 issues): \$205. Foreign postage extra: Mexico, Caribbean (surface mail) \$50; other countries (air assist delivery) \$95. First class, airmail, student and emeritus rates on request. Canadian rates with GST available upon request, GST #1254 88122. **Change of address:** allow 6 weeks, giving old and new addresses and 11-digit

account number. **Postmaster:** Send change of address to *Science*, P.O. Box 2033, Marion, OH 43305-2033. **Single copy sales:** \$6.00 per issue prepaid includes surface postage; Guide to Biotechnology Products and Instruments, \$20. 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 the base fee of \$1 per copy plus \$0.10 per page is paid directly to CCC, 27 Congress Street, Salem, MA 01970. The identification code for *Science* is 0036-8075/93 \$1 + .10. *Science* is indexed in the *Reader's Guide to Periodical Literature* and in several specialized indexes.

Science

262 (5137)

Science **262** (5137), 3-1321.

ARTICLE TOOLS

<http://science.sciencemag.org/content/262/5137>

PERMISSIONS

<http://www.sciencemag.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of Service](#)

Science (print ISSN 0036-8075; online ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. 2017 © The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works. The title *Science* is a registered trademark of AAAS.