

263 This Week in *Science*

## Editorial

265 Andrei Sakharov, 1921–1989

## Letters

270 The Genome Project: Pro and Con: M. S. FOX, B. MAGASANIK, E. R. SIGNER, F. SOLOMON, M. F. GELLERT, J. E. HABER; D. E. KOSHLAND, JR.; L. H. MUSCHEL ■ The Decline of Systematics: M. R. GREHAN ■ Cone Loss of the Week: J. A. TAYLOR ■ Elephant Appropriation: R. E. LEAKEY

## News & Comment

272 Defense Research After the Cold War  
274 East German Environment Comes into the Light  
276 The Fluoride Debate: One More Time  
278 University Restructuring Based on False Premise?

## Research News

279 Emerging Viruses, Emerging Threat ■ Influenza Mutants Deadly  
281 Whatever Happened to the Genetic Map?  
282 Planetary Science Funds Cut  
283 Sunny Chemistry Outlook Revealed in Hawaii ■ Mountain in the Sea ■ Reaching for the Ring ■ Getting the Blues ■ CO<sub>2</sub> in Space ■ Ceramic Membranes  
284 *Briefings*: Inspector General Cracks Down at NSF ■ Africanized Bees Near Texas Border ■ Students: Watson Gets Mixed Grades ■ NSF Grant Sizes Trimmed for 1990 ■ Johns Hopkins Talks with MIT's Deutch ■ Oat Bran Competitor ■ Oak Ridge Seeks Fusion Reactor ■ Melting the Cold War ■ Treatment Lacking for Pregnant Addicts

## Articles

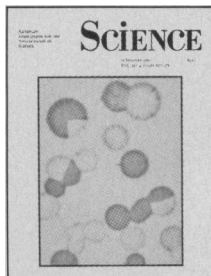
286 The Loma Prieta, California, Earthquake: An Anticipated Event: U.S. Geological Survey Staff  
294 Asbestos: Scientific Developments and Implications for Public Policy: B. T. MOSSMAN, J. BIGNON, M. CORN, A. SEATON, J. B. L. GEE  
301 Priming and Human Memory Systems: E. TULVING AND D. L. SCHACTER

## Reports

307 Elimination of Current Dissipation in High Transition Temperature Superconductors: J. Z. SUN, B. LAIRSON, C. B. EOM, J. BRAVMAN, T. H. GEBALLE  
309 Sedimentary 24-*n*-Propylcholestanes, Molecular Fossils Diagnostic of Marine Algae: J. M. MOLDOWAN, F. J. FAGO, C. Y. LEE, S. R. JACOBSON, D. S. WATT, N.-E. SLOUGUI, A. JEGANATHAN, D. C. YOUNG  
312 Effects of Fish and Plankton on Lake Temperature and Mixing Depth: A. MAZUMDER, W. D. TAYLOR, D. J. MCQUEEN, D. R. S. LEAN

■ **SCIENCE** is published weekly on Friday, except the last week in December, and with an extra issue in March by the American Association for the Advancement of Science, 1333 H Street, NW, Washington, DC 20005. Second-class Non-profit postage (publication No. 484460) paid at Washington, DC, and at an additional entry. Copyright © 1990 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): \$75. Domestic institutional subscription (51 issues): \$120. Foreign postage extra: Canada \$46, other (surface mail) \$46, air mail via Amsterdam \$85. First class, airmail, school-year, and student rates on request. **Single copy sales:** Current issue, \$3.50; back issues, \$5.00; Biotechnology issue, \$6.00 (for postage and handling, add per copy \$0.50 U.S., \$1.00 all foreign); Guide to Biotechnology Products and Instruments, \$18 (for postage and handling add per copy \$1.00 U.S., \$1.50 Canada, \$2.00 other foreign). 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, Massachusetts 01970. The identification code for *Science* is 0036-8075/83 \$1 + .10. **Change of address:** allow 6 weeks, giving old and new addresses and 11-digit account number. **Postmaster:** Send Form 3579 to *Science*, P.O. Box 1722, Riverton, NJ 08077. *Science* is indexed in the *Reader's Guide to Periodical Literature* and in several specialized indexes.

■ The American Association for the Advancement of Science was founded in 1848 and incorporated in 1874. Its objects are to further the work of scientists, to facilitate cooperation among them, to foster scientific freedom and responsibility, to improve the effectiveness of science in the promotion of human welfare, and to increase public understanding and appreciation of the importance and promise of the methods of science in human progress.



COVER Immunological staining of individual *Mycoplasma hyorhinitis* colonies with a monoclonal antibody to a surface lipoprotein antigenic variant. High-frequency switching in the expression of this component is reflected in the heterogeneous staining and sectoring of colonies representing clonally derived populations of this organism. See page 315. [Photomicrograph by Renate Rosengarten and Kim S. Wise, Department of Molecular Microbiology and Immunology, University of Missouri-Columbia, Columbia, MO 65212]

- 315 Phenotypic Switching in Mycoplasmas: Phase Variation of Diverse Surface Lipoproteins: R. ROSENGARTEN AND K. S. WISE
- 318 Prenylated Proteins: The Structure of the Isoprenoid Group: H. C. RILLING; E. BREUNGER, W. W. EPSTEIN, P. F. CRAIN
- 320 Identification of Geranylgeranyl-Modified Proteins in HeLa Cells: C. C. FARNSWORTH, M. H. GELB, J. A. GLOMSET
- 322 A Dominant Mutation That Predisposes to Multiple Intestinal Neoplasia in the Mouse: A. R. MOSER, H. C. PITOT, W. F. DOVE
- 324 Cloning of an Interleukin-3 Receptor Gene: A Member of a Distinct Receptor Gene Family: N. ITOH, S. YONEHARA, J. SCHREURS, D. M. GORMAN, K. MARUYAMA, A. ISHII, I. YAHARA, K. ARAI, A. MIYAJIMA
- 327 Microinjection of a Conserved Peptide Sequence of p34<sup>cdc2</sup> Induces a Ca<sup>2+</sup> Transient in Oocytes: A. PICARD, J.-C. CAVADORE, P. LORY, J.-C. BERNENGO, C. OJEDA, M. DORÉE
- 329 Far-Red Radiation Reflected from Adjacent Leaves: An Early Signal of Competition in Plant Canopies: C. L. BALLARÉ, A. L. SCOPEL, R. A. SÁNCHEZ
- 332 Specific Expression of a Tyrosine Kinase Gene, *blk*, in B Lymphoid Cells: S. M. DYMECKI, J. E. NIEDERHUBER, S. V. DESIDERIO
- 336 Auditory Association Cortex Lesions Impair Auditory Short-Term Memory in Monkeys: M. COLOMBO, M. R. D'AMATO, H. R. RODMAN, C. G. GROSS
- 338 Survival of Adult Basal Forebrain Cholinergic Neurons After Loss of Target Neurons: M. V. SOFRONIEW, N. P. GALLETTY, O. ISACSON, C. N. SVENDSEN

## Technical Comments

- 343 California Aftershock Model Uncertainties: P. A. RYDELEK; P. A. REASENBERG AND M. V. MATTHEWS ■ California Aftershock Hazard Forecasts: P. A. REASENBERG AND L. M. JONES

## Book Reviews

- 347 A History of Immunology; Immunology, 1930-1980, reviewed by E. S. GOLUB ■ The Politics of Knowledge, D. H. WAGNER ■ The Mendelian Revolution, F. B. CHURCHILL ■ Blacks, Science, and American Education, T. L. HILTON ■ Gene Transfer in the Environment, R. MILKMAN ■ Percolation, J. WIEMAN ■ Books Received

## Products & Materials

- 355 Magnetic Stirrer for Hazardous Areas ■ Factory-Formatted Disks for the Macintosh ■ Corrosion Database ■ HPLC Chemistry for Protein Purification ■ Software for Unit Conversion ■ Time-Saving Crosslinker ■ Measuring Through Microscope or Macro Lenses ■ Literature

### Board of Directors

Walter E. Massey  
Retiring President,  
Chairman

Richard C. Atkinson  
President

Donald N. Langenberg  
President-elect

Mary Ellen Avery  
Francisco J. Ayala  
Floyd E. Bloom  
Mary E. Clutter  
Eugene H. Cota-Robles  
Joseph G. Gavin, Jr.  
John H. Gibbons  
Beatrix A. Hamburg

William T. Golden  
Treasurer

Richard S. Nicholson  
Executive Officer

### Editorial Board

Elizabeth E. Bailey  
David Baltimore  
William F. Brinkman  
E. Margaret Burbidge  
Philip E. Converse  
Joseph L. Goldstein  
Mary L. Good  
F. Clark Howell  
James D. Idol, Jr.  
Leon Knopoff  
Oliver E. Nelson  
Yasutomi Nishizuka  
Helen M. Ranney  
David M. Raup  
Howard A. Schneiderman  
Larry L. Smarr  
Robert M. Solow  
James D. Watson

### Board of Reviewing Editors

John Abelson  
Qais Al-Awqati  
Don L. Anderson  
Stephen J. Benkovic  
Floyd E. Bloom  
Henry R. Bourne  
James J. Bull  
Kathryn Calame  
Charles R. Cantor  
Ralph J. Ciccerone  
John M. Coffin  
Robert Dorfman  
Bruce F. Eldridge  
Paul T. Englund  
Fredric S. Fay  
Theodore H. Geballe

Roger I. M. Glass  
Stephen P. Goff  
Robert B. Goldberg  
Corey S. Goodman  
Jack Gorski  
Stephen J. Gould  
Richard M. Held  
Gloria Heppner  
Eric F. Johnson  
Konrad B. Krauskopf  
Charles S. Levings III  
Richard Losick  
Karl L. Magleby  
Philippa Marrack  
Joseph B. Martin  
John C. McGiff  
Mortimer Mishkin  
Carl O. Pabo

Yeshayau Pocker  
Michael I. Posner  
Dennis A. Powers  
Russell Ross  
James E. Rothman  
Erkki Ruoslahti  
Ronald H. Schwartz  
Vernon L. Smith  
Robert T. N. Tjian  
Virginia Trimble  
Emil R. Unanue  
Geerat J. Vermeij  
Bert Vogelstein  
Harold Weintraub  
Irving L. Weissman  
George M. Whitesides  
Owen N. Witte  
William B. Wood

# Science

**247 (4940)**

*Science* **247** (4940), 263-355.

ARTICLE TOOLS

<http://science.sciencemag.org/content/247/4940>

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.