

507 This Week in *Science*

Editorial

509 Treatment of Hazardous Wastes

Letters

510 The Economic Well-Being of Women: B. R. BERGMANN; S. L. BERGA and F. S. SHERMAN; V. R. FUCHS ■ Edible Plants: C. CONCORDIA

News & Comment

511 Soviets Agree to Broad Seismic Test

512 NASA Responds to the Rogers Commission

513 Soviets Presented Plans for Chernobyl Study

514 Keeping the AIDS Virus Out of Blood Supply

516 *Briefing*: Biotech Guidelines Challenged by Rifkin ■ Hot Market for Biotech Stocks in 1986 ■ Amazing Randi One of 25 MacArthur Genius Winners ■ Congress Considers Warning Labels on Liquor ■ EPA Grapples with Regulating Underground Storage Tanks ■ Chilean Physicians Under Arrest ■ OECD Predicts Growing Concentration of Research

Research News

519 How Important Is Dietary Calcium in Preventing Osteoporosis?

520 *Briefing*: Quake Prediction Under Way in Earnest

521 DNA Fingerprints in Health and Disease ■ A Matter of Maternity

523 Continents at the Core-Mantle Boundary?

Articles

525 Multiple-Quantum Nuclear Magnetic Resonance Spectroscopy: M. MUNOWITZ and A. PINES

532 Transforming Growth Factor- β : Biological Function and Chemical Structure: M. B. SPORN, A. B. ROBERTS, L. M. WAKEFIELD, R. K. ASSOIAN

535 Stable Amplified DNA in Drug-Resistant *Leishmania* Exists as Extrachromosomal Circles: E. P. GARVEY and D. V. SANTI

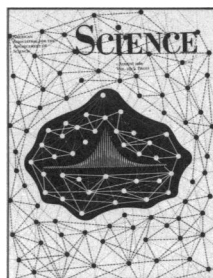
Reports

541 Human Endothelial Cell Growth Factor: Cloning, Nucleotide Sequence, and Chromosome Localization: M. JAYE, R. HOWK, W. BURGESS, G. A. RICCA, I.-M. CHIU, M. W. RAVERA, S. J. O'BRIEN, W. S. MODI, T. MACIAG, W. N. DROHAN

545 Nucleotide Sequence of a Bovine Clone Encoding the Angiogenic Protein, Basic Fibroblast Growth Factor: J. A. ABRAHAM, A. MERGIA, J. L. WHANG, A. TUMOLO, J. FRIEDMAN, K. A. HJERRILD, D. GOSPODAROWICZ, J. C. FIDDES

■ SCIENCE is published weekly on Friday, except the last week in December, and with a plus issue in May 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 at an additional entry. Now combined with *The Scientific Monthly*® Copyright © 1986 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): \$65. Domestic institutional subscription (51 issues): \$98. Foreign postage extra: Canada \$24, other (surface mail) \$27, air-surface via Amsterdam \$65. First class, airmail, school-year, and student rates on request. Single copies \$2.50 (\$3 by mail); back issues \$4 (\$4.50 by mail); Biotechnology issue, \$5.50 (\$6 by mail); classroom rates on request; Guide to Biotechnology Products and Instruments \$16 (\$17 by mail). **Change of address:** allow 6 weeks, giving old and new addresses and seven-digit account number. 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, 21 Congress Street, Salem, Massachusetts 01970. The identification code for *Science* is 0036-8075/83 \$1 + .10. **Postmaster:** Send Form 3579 to *Science*, 1333 H Street, NW, Washington, DC 20005. *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 Multiple-quantum NMR spectroscopy probes magnetic interactions in a network of coupled nuclei by recording the collective response of a group of coherently excited spins. The spectrum in the center, obtained from polycrystalline adamantane, shows resonances arising from the net absorption and emission of up to 60 quanta of electromagnetic radiation. See page 525. [Spectrum by J. Baum, M. Munowitz, A. N. Garroway, and A. Pines. Cover design by M. Munowitz and R. Dennis, Technical Information Division, Lawrence Berkeley Laboratory, Berkeley, CA 94720]

- 548 A Cusp Singularity in Surfaces That Minimize an Anisotropic Surface Energy: J. E. TAYLOR and J. W. CAHN
- 551 The Generation of Insulin-Like Growth Factor-1-Sensitive Cells by Growth Hormone Action: K. M. ZEZULAK and H. GREEN
- 553 Near-Total Glutathione Depletion and Age-Specific Cataracts Induced by Buthionine Sulfoximine in Mice: H. I. CALVIN, C. MEDVEDOVSKY, B. V. WORGUL
- 556 A Distinct Endothelial Cell Recognition System That Controls Lymphocyte Traffic into Inflamed Synovium: S. JALKANEN, A. C. STEERE, R. I. FOX, E. C. BUTCHER
- 558 Altered Regulation of Airway Epithelial Cell Chloride Channels in Cystic Fibrosis: R. A. FRIZZELL, G. RECHKEMMER, R. L. SHOEMAKER
- 561 Self-Assembling Cytotoxins: D. RIDEOUT
- 563 Hydrogen Sulfide Oxidation Is Coupled to Oxidative Phosphorylation in Mitochondria of *Solemya reidi*: M. A. POWELL and G. N. SOMERO
- 566 A Macrophage-Derived Factor Required by Plasmacytomas for Survival and Proliferation in Vitro: R. P. NORDAN and M. POTTER
- 569 The 35-Nucleotide Spliced Leader Sequence Is Common to All Trypanosome Messenger RNA's: J. A. WALDER, P. S. EDER, D. M. ENGMAN, S. T. BRENTANO, R. Y. WALDER, D. S. KNUTZON, D. M. DORFMAN, J. E. DONELSON
- 571 Regulation by Growth Hormone of Number of Chondrocytes Containing IGF-I in Rat Growth Plate: A. NILSSON, J. ISGAARD, A. LINDAHL, A. DAHLSTRÖM, A. SKOTTNER, O. G. P. ISAKSSON

AAAS News

- 575 AAAS Council Meeting, 1986: MARGE WHITE ■ AAAS Members Elected as Fellows, 29 May 1986 ■ Summer Fellows at Work ■ Paul M. Gross Dies ■ Call for Nominations ■ Media Round Table Transcripts Available ■ Arctic and Pacific Divisions Hold Joint Meeting in Vancouver: JOAN WRATHER ■ AAAS *Congressional Bulletin* Available ■ Obituaries

Book Reviews

- 581 The Militarization of Space, *reviewed by* K. L. NELSON ■ Acid Rain and Friendly Neighbors, D. MUNTON ■ Accretion Power in Astrophysics, D. E. OSTERBROCK ■ Memoirs of a Computer Pioneer, M. R. WILLIAMS ■ Books Received

Products & Materials

- 585 Data Handling for Chemical Analysis ■ Image Analyzer ■ Biological Refrigerators ■ Scientific Computing on the PC ■ Filter Unit ■ Infrared Microscope Accessory ■ Literature

Board of Directors

Gerard Piel
*Retiring President,
Chairman*

Lawrence Bogorad
President

Sheila E. Widnall
President-elect

Robert McC. Adams
Robert W. Berliner
Floyd E. Bloom
Mary E. Clutter
Mildred S. Dresselhaus
Donald N. Langenberg
Dorothy Nelkin
Linda S. Wilson

William T. Golden
Treasurer

William D. Carey
Executive Officer

Editorial Board

David Baltimore
William F. Brinkman
Ansley J. Coale
Joseph L. Goldstein
James D. Idol, Jr.
Leon Knopoff
Seymour Lipset
Walter Massey
Oliver E. Nelson
Allen Newell
Ruth Patrick
David V. Ragone
Vera C. Rubin
Howard E. Simmons
Solomon H. Snyder
Robert M. Solow

Board of Reviewing Editors

Qais Al-Awqati
James P. Allison
Luis W. Alvarez
Don L. Anderson
C. Paul Bianchi
Elizabeth H. Blackburn
Floyd E. Bloom
Charles R. Cantor
James H. Clark
Bruce F. Eldridge
Stanley Falkow
Theodore H. Geballe
Roger I. M. Glass

Stephen P. Goff
Robert B. Goldberg
Patricia S. Goldman-Rakic
Corey S. Goodman
Richard M. Held
Gloria Heppner
Eric F. Johnson
Konrad B. Krauskopf
Karl L. Magleby
Joseph B. Martin
John C. McGiff
Alton Meister
Mortimer Mishkin
Peter Olson
Gordon H. Orians
John S. Pearce
Yeshayau Pocker
Jean Paul Revel

Frederic M. Richards
James E. Rothman
Thomas C. Schelling
Ronald H. Schwartz
Stephen M. Schwartz
Otto T. Solbrig
Robert T. N. Tjian
Virginia Trimble
Geerat J. Vermeij
Martin G. Weigert
Irving L. Weissman
George M. Whitesides
Owen N. Witte
William B. Wood
Harriet Zuckerman

Science

233 (4763)

Science **233** (4763), 507-586.

ARTICLE TOOLS

<http://science.sciencemag.org/content/233/4763>

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.