

883 This Week in *Science*

Editorial

885 High-Tech Materials Processing

Letters

888 Animal Research: D. J. BARNES ■ The LiMB Database: C. BURKS, J. R. LAWTON, G. I. BELL ■ Marijuana Test: No Ibuprofen Interference: J. GORSKY

News & Comment

893 Mystery Disease Strikes Europe's Seals
895 Artificial Insemination Report Prompts Call for Regulation
896 Nonprofits Could Face a Taxing Time
897 NSF and Antarctic Wastes
898 Setting Research Goals Not Enough, Says OECD
899 Funds Voted for NSF, NASA
DeVita Is Leaving Cancer Institute for Sloan-Kettering
Decision on Gene Test Deferred

Research News

900 Solar Cells Turn 30 ■ A Bright Spot on the Solar Scene
902 Heads Up! Sunspots Are Dragging Down Satellites
903 Sexual Responses Are—Almost—All in the Brain
905 The Farthest Galaxies: A New Champion
906 New Targets for Human Gene Therapy
907 *Random Samples*: Things Are Popping at the Academy ■ A Bit of Science History Is Lost ■ A Huge Problem for NIH?

Articles

Materials Processing

913 Low-Pressure, Metastable Growth of Diamond and "Diamondlike" Phases: J. C. ANGUS AND C. C. HAYMAN
922 Processing Techniques for the 93 K Superconductor Ba₂YCu₃O₇: D. W. MURPHY, D. W. JOHNSON, JR., S. JIN, R. E. HOWARD
930 Synthesis of Buried Oxide and Silicide Layers with Ion Beams: A. E. WHITE AND K. T. SHORT
936 Future Beam-Controlled Processing Technologies for Microelectronics: D. P. KERN, T. F. KUECH, M. M. OPRYSKO, A. WAGNER, D. E. EASTMAN

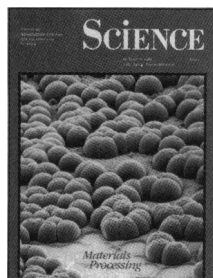
Research Articles

945 A New Laboratory Source of Ozone and Its Potential Atmospheric Implications: T. G. SLANGER, L. E. JUSINSKI, G. BLACK, G. E. GADD

Reports

951 Enhancement of Symbiotic Dinitrogen Fixation by a Toxin-Releasing Plant Pathogen: T. J. KNIGHT AND P. J. LANGSTON-UNKEFER

- SCIENCE is published weekly on Friday, except the last week in December, and with an extra issue in February 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 © 1988 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): \$70. Domestic institutional subscription (51 issues): \$110. Foreign postage extra: Canada \$32, other (surface mail) \$32, air-surface via Amsterdam \$85. First class, airmail, school-year, and student rates on request. Single copies \$3.00 (\$3.50 by mail); back issues \$4.50 (\$5.00 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 Polycrystalline diamond balls grown at high supersaturation using combined hot filament and microwave plasma-assisted deposition. The source gas was 1.5% methane in hydrogen at 10 torr. The diameter of the balls is approximately 18 micrometers. See page 913. [Scanning electron micrograph is courtesy of Thomas Anthony, General Electric Corp., Schenectady, NY]

- 954 The Incommensurate Modulation of the 2212 Bi-Sr-Ca-Cu-O Superconductor: Y. GAO, P. LEE, P. COPPENS, M. A. SUBRAMANIAN, A. W. SLEIGHT
- 956 Neutron Imaging of Laser Fusion Targets: D. RESS, R. A. LERCHE, R. J. ELLIS, S. M. LANE, K. A. NUGENT
- 959 Chromosomal Gene Transfer in *Spiroplasma citri*: G. BARROSO AND J. LABARÈRE
- 961 Concerted Nonsyntenic Allelic Loss in Human Colorectal Carcinoma: D. J. LAW, S. OLSCHWANG, J.-P. MONPEZAT, D. LEFRANÇOIS, D. JAGELMAN, N. J. PETRELLI, G. THOMAS, A. P. FEINBERG
- 965 Mammalian Glucocorticoid Receptor Derivatives Enhance Transcription in Yeast: M. SCHENA AND K. R. YAMAMOTO
- 968 Antiphosphotyrosine Recovery of Phospholipase C Activity After EGF Treatment of A-431 Cells: M. I. WAHL, T. O. DANIEL, G. CARPENTER
- 970 Autoregulation of Enzymes by Pseudosubstrate Prototypes: Myosin Light Chain Kinase: R. B. PEARSON, R. E. H. WETTENHALL, A. R. MEANS, D. J. HARTSHORNE, B. E. KEMP
- 973 Beta-N-Methylamino-L-Alanine Neurotoxicity: Requirement for Bicarbonate as a Cofactor: J. H. WEISS AND D. W. CHOI
- 976 Characterization of a Helical Protein Designed from First Principles: L. REGAN AND W. F. DEGRADO
- 978 Coordinate Hormonal and Synaptic Regulation of Vasopressin Messenger RNA: F. BALDINO, JR., T. M. O'KANE, S. FITZPATRICK-MCCELLIGOTT, B. WOLFSON
- 981 NMDA Receptor Losses in Putamen from Patients with Huntington's Disease: A. B. YOUNG, J. T. GREENAMYRE, Z. HOLLINGSWORTH, R. ALBIN, C. D'AMATO, I. SHOULSON, J. B. PENNEY

AAAS Meetings

- 985 AAAS Forum '88: Science Teaching: Advance Registration and Housing Form

Book Reviews

- 988 Nuclear Non-Proliferation AND Without the Bomb, reviewed by R. W. JONES ■ Cold War on Campus, R. GRIFFITH ■ Radon and Its Decay Products in Indoor Air, R. S. EATON ■ Some Other Books of Interest ■ Books Received

Products & Materials

- 992 Immunohistochemical Staining Kits ■ Membranes for Epifluorescence ■ Chromatography Software ■ Quick-Freeze Freezers ■ Multivariate Analysis Software ■ Biotinylated Molecule Detection ■ Literature

Board of Directors

Sheila E. Widnall
*Retiring President,
Chairman*

Walter E. Massey
President

Richard C. Atkinson
President-elect

Floyd E. Bloom
Mary E. Clutter
Eugene H. Cota-Robles
Mildred S. Dresselhaus
Joseph G. Gavin, Jr.
John H. Gibbons
Beatrice A. Hamburg
Donald N. Langenberg

William T. Golden
Treasurer

Alvin W. Trivelpiece
Executive Officer

Editorial Board

Elizabeth E. Bailey
David Baltimore
William F. Brinkman
E. Margaret Burbidge
Philip E. Converse
Joseph L. Goldstein
F. Clark Howell
James D. Idol, Jr.
Leon Knopoff
Oliver E. Nelson
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
Charles R. Cantor
Ralph J. Cicerone
John M. Coffin
Robert Dorfman
Bruce F. Eldridge
Paul T. Englund
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
Jiri Novotny
Gordon H. Orans

Carl O. Pabo
Yeshayau Pocker
Michael I. Posner
Jean Paul Revel
Russell Ross
James E. Rothman
Daniel V. Santi
Ronald H. Schwartz
Vernon L. Smith
Otto T. Solbrig
Robert T. N. Tjian
Virginia Trimble
Geerat J. Vermeij
Harold Weintraub
Irving L. Weissman
George M. Whitesides
Owen N. Witte
William B. Wood

Science

241 (4868)

Science **241** (4868), 883-992.

ARTICLE TOOLS

<http://science.sciencemag.org/content/241/4868>

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. The title *Science* is a registered trademark of AAAS.

Copyright © 1988 The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works.