This Week in Science

Editorial

485 Transportation Fuels

Policy Forum

490 Risk-Based Oversight of Experiments in the Environment: H. I. Miller, R. H. Burris, A. K. Vidaver, N. A. Wivel

Letters


News & Comment

496 Cold Spring Harbor Turns 100
499 The Shuttle: Whistling Past the Graveyard?
501 Energy Science Takes a Heavy Budget Hit
502 Not Enough Monkey Business
Gallo Reports Mystery Break-in
503 Briefings: Snaking Across the Martian Sands ■ Is MCAT Next? ■ Grim Times for British Science ■ Fermi Award

Research News

504 Evolving Similarities—Between Disciplines
506 Playing Tetherball in the Nervous System
508 Physics Nobel Honors the Discovery of Quarks
509 Three "Practical" Economists Share Nobel
510 Chemistry "Grand Master" Garners a Nobel Prize
511 Earthquake—or Earthquack?

Perspective

512 RNA Editing—A Novel Genetic Phenomenon?: L. Simpson

Articles

517 The Flight from the Arts and Sciences: Trends in Degrees Conferrered: S. E. Turner and W. G. Bowen
521 Scattering and Recoiling Spectrometry: An Ion's Eye View of Surface Structure: J. W. Rabalais

Research Articles

528 DNA Looping and Unlooping by AraC Protein: R. B. Lobell and R. F. Schleif
533 Biophysical and Molecular Mechanisms of Shaker Potassium Channel Inactivation: T. Hoshi, W. N. Zagotta, R. W. Aldrich

Copyright

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. 484440) paid at Washington, DC, and additional mailing offices. 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): $80. Domestic institutional subscription (51 issues): $150. Foreign postage extra: Canada $46, other (surface mail) $46, airmail via Amsterdam $85. First class, airmail, school-year, and student rates on request. 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 1723, Riverton, NJ 08077. Single copy sales: Current issue, $3.50; back issues, $5.00; Biotechnology issue, $5.00 (for postage and handling, add per copy $0.50 U.S., $1.00 all foreign); Guide to Biotechnology Products and Instruments, $20 (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 $1.00. 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 objectives 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, to advance education in science, and to increase public understanding and appreciation of the importance and promise of the methods of science in human progress.

A Novel Topological Compression Mechanism in a Covalent Liquid: L. Stixrude and M. S. T. Bukowinski

Tetraplex Formation of a Guanine-Containing Nonamer DNA Fragment: R. Jin, K. J. Breslauer, R. A. Jones, B. L. Gaffney


Involvement of the Silencer and UAS Binding Protein RAP1 in Regulation of Telomere Length: A. J. Lustig, S. Kurzt, D. Shore

Protection of Mice Against the Lyme Disease Agent by Immunizing with Recombinant OspA: E. Firkig, S. W. Barthold, F. S. Kantor, R. A. Flavell


Molecular Cloning and Functional Expression of the Cardiac Sarcolemmal Na⁺-Ca²⁺ Exchanger: D. A. Nicoll, S. Longoni, K. D. Phielipson

Voltage-Independent Calcium Release in Heart Muscle: E. Niggli and W. J. Lederer

Restoration of Inactivation in Mutants of Shaker Potassium Channels by a Peptide Derived from Shb: W. N. Zagotta, T. Hoshi, R. W. Aldrich

At the Heart of the Bomb, reviewed by: J. R. Sutton Morphogenesis, A. K. Harris Genetic Data Analysis, R. R. Hudson Molecular Astrophysics, S. Green Books Received

Noncontact Thermometers Automated Peptide Synthesizer Laboratory on a Stick Ion Measurement in Living Cells Computer Virus Simulator Bibliographic Reference Software Messenger RNA Isolation Kit Literature