



1923 & 1977

Cosmic energy gap



1941, 2002 & 2005

Medfly transformed

NEWS & COMMENT

Suit Alleges Misuse of Peer Review 1912
Peer Review: Written and Unwritten Rules 1913

NAE: Governing Body Clamps Down On Its New Chief Executive 1915

Planning for the Next Flu Pandemic 1916

Science Chair Walker Calls It Quits 1917

Korea Plans New Tokamak Machine 1918

Panel to Feds: Hands Off Radioisotopes 1918

RESEARCH NEWS

A New Guide to the Human Genome 1919

Making a New Ruler for the Nanoworld 1920

Search for Better Crystals Explores Inner, Outer Space 1921

Monsoon Shrinks With Aerosol Models 1922

Does a Cosmic Ray Gap Open the Door on New Physics? 1923

Dendrimers Display Liquid Crystal Talents 1924

Novel Center Seeks to Add Spark to Origins of Life 1925

PERSPECTIVES

Medfly Transformed—Official! 1941
M. Ashburner

Ages of the Oldest Clusters and the Age of the Universe 1942
S. van den Bergh

Plasmodesmata: Plant Channels for Molecules on the Move 1943
P. Zambryski

ARTICLE

An STS-Based Map of the Human Genome 1945

T. J. Hudson, L. D. Stein, S. S. Gerety, J. Ma, A. B. Castle, J. Silva, D. K. Slonim, R. Baptista, L. Kruglyak, S.-H. Xu, X. Hu, A. M. E. Colbert, C. Rosenberg, M. P. Reeve-Daly, S. Rozen, L. Hui, X. Wu, C. Vestergaard, K. M. Wilson, J. S. Bae, S. Maitra, S. Ganiatsas, C. A. Evans, M. M. DeAngelis, K. A. Ingalls, R. W. Nahf, L. T. Horton Jr., M. O. Anderson, A. J. Collymore, W. Ye, V. Kouyoumjian, I. S. Zemsteva, J. Tam, R. Devine, D. F. Courtney, M. T. Renaud, H. Nguyen, T. J. O'Connor, C. Fizames, S. Fauré, G. Gyapay, C. Dib, J. Morissette, J. B. Orlin, B. W. Birren, N. Goodman, J. Weissenbach, T. L. Hawkins, S. Foote, D. C. Page, E. S. Lander

REPORTS

Role of Langmuir Circulation in the Deepening of the Ocean Surface Mixed Layer 1955
M. Li, K. Zahariev, C. Garrett

Mantle Melting and Basalt Extraction by Equilibrium Porous Flow 1958
C. C. Lundstrom, J. Gill, Q. Williams, M. R. Perfit

DEPARTMENTS

THIS WEEK IN SCIENCE 1899

EDITORIAL 1901
Molecule of the Year 1995

MOLECULE OF THE YEAR 1902
A New Form of Matter Unveiled

LETTERS 1906
Effective U.S. Science: R. Roy; J. H. Mauldin • Animal Testing and EPA: W. H. Farland and V. Vaughn-Dellarco • Battery Innovation and E-cars: H. Warlimont and M. Olper; L. B. Lave, C. T. Hendrickson, F. C. McMichael • Among the Young: J. Moore; D. I. Sessler

SCIENCESCOPE 1911

RANDOM SAMPLES 1927

ASSOCIATION AFFAIRS 1930
The Myth of Eve: Molecular Biology and Human Origins: F. J. Ayala

AAAS NEWS & NOTES 2023

BOOK REVIEWS 2035
Brethren of the Net, reviewed by M. Berenbaum • *The Physical Review*, P. Forman • Other Books of Interest • Vignettes

PRODUCTS & MATERIALS 2039

Board of Reviewing Editors

Frederick W. Alt
Don L. Anderson
Michael Ashburner
Stephen J. Benkovic
Alan Bernstein
David E. Bloom
Piet Borst
Henry R. Bourne
Michael S. Brown
James J. Bull
Kathryn Calame
C. Thomas Caskey

Dennis W. Choi
David Clapham
Adrienne E. Clarke
John M. Coffin
F. Fleming Crim
Paul J. Crutzen
James E. Dahlberg
Robert Desimone
Paul T. Englund
G. Ertl
Richard G. Fairbanks
Douglas T. Fearon

Harry A. Fozzard
Klaus Friedrich
Roger I. M. Glass
Stephen P. Goff
Peter N. Goodfellow
Corey S. Goodman
Peter Gruss
Philip C. Hanawalt
Ira Herskowitz
Nobutaka Hirokawa
Tomas Hökfelt
Tasuku Honjo

Susan D. Iversen
Eric F. Johnson
Stephen M. Kosslyn
Michael LaBarbera
Nicole Le Douarin
Charles S. Levings III
Alexander Levitzki
Harvey F. Lodish
Richard Losick
Reinhard Lüthmann
Ruth Lynden-Bell
Seth Marder

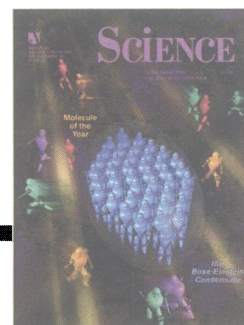
Diane Mathis
Anthony R. Means
Shigetada Nakanishi
Kim Nasmyth
Roger A. Nicoll
Staffan Normark
Stuart L. Pimm
Yeshayau Pocker
Dennis A. Powers
Ralph S. Quatrano
Martin Raff
V. Ramanathan

Douglas C. Rees
T. M. Rice
David C. Rubie
Erkki Ruoslahti
Gottfried Schatz
Jozef Schell
Ronald H. Schwartz
Terrence J. Sejnowski
Ellen Solomon
Thomas A. Steitz
Michael P. Stryker
Tomoyuki Takahashi

Masatoshi Takeichi
Keiji Tanaka
Robert T. N. Tjian
Yoshinori Tokura
Emil R. Unanue
Geerat J. Vermeij
Bert Vogelstein
Arthur Weiss
Zena Werb
George M. Whitesides
Owen N. Witte
William A. Wulf

Artist's conception of supercooled atoms in an exotic phase of matter called the Bose-Einstein condensate, which is Molecule of the Year for 1995. Each of the atoms in the condensate (in blue) has the same quantum mechanical wave function, and so they all move as

one. Atoms outside the condensate move faster and in all directions. See Editorial on page 1901 and Molecule of the Year section beginning on page 1902. [Illustration: Steve Keller]



Complexity of Holocene Climate as Reconstructed from a Greenland Ice Core 1962
S. R. O'Brien, P. A. Mayewski, L. D. Meeker, D. A. Meese, M. S. Twickler, S. I. Whitlow

Al Coordination Changes in High-Pressure Aluminosilicate Liquids 1964
J. L. Yarger, K. H. Smith, R. A. Nieman, J. Diefenbacher, G. H. Wolf, B. T. Poe, P. F. McMillan

High-Resolution Microcoil ¹H-NMR for Mass-Limited, Nanoliter-Volume Samples 1967
D. L. Olson, T. L. Peck, A. G. Webb, R. L. Magin, J. V. Sweedler

Unusually Mild and Selective Hydrocarbon C-H Bond Activation with Positively Charged Iridium(III) Complexes 1970
B. A. Arndtsen and R. G. Bergman

Direct Perception of Three-Dimensional Motion from Patterns of Visual Motion 1973
C. Fermüller and Y. Aloimonos

A Gap in the Highest Energy Cosmic Ray Spectrum as a Signature of Unification Scale Physics 1977
G. Sigl, S. Lee, D. N. Schramm, P. Bhattacharjee

Selective Trafficking of KNOTTED1 Homeodomain Protein and Its mRNA Through Plasmodesmata 1980
W. J. Lucas, S. Bouché-Pillon, D. P. Jackson, L. Nguyen, L. Baker, B. Ding, S. Hake

Interaction of Tobamovirus Movement Proteins with the Plant Cytoskeleton 1983
M. Heinlein, B. L. Epel, H. S. Padgett, R. N. Beachy

Inhibition of Leaf Senescence by Autoregulated Production of Cytokinin 1986
S. Gan and R. M. Amasino

Tobacco MAP Kinase: A Possible Mediator in Wound Signal Transduction Pathways 1988
S. Seo, M. Okamoto, H. Seto, K. Ishizuka, H. Sano, Y. Ohashi

Tissue Plasminogen Activator Induction in Purkinje Neurons After Cerebellar Motor Learning 1992
N. W. Seeds, B. L. Williams, P. C. Bickford

A Subclass of bHLH Proteins Required for Cardiac Morphogenesis 1995
D. Srivastava, P. Cserjesi, E. N. Olson

The ARF1 GTPase-Activating Protein: Zinc Finger Motif and Golgi Complex Localization 1999
E. Cukierman, I. Huber, M. Rotman, D. Cassel

Gene Transfer into the Medfly, *Ceratitis capitata*, with a *Drosophila hydei* Transposable Element 2002
T. G. Loukeris, I. Livadaras, B. Arcà, S. Zabalou, C. Savakis

The *white* Gene of *Ceratitis capitata*: A Phenotypic Marker for Germline Transformation 2005
L. J. Zwiebel, G. Saccone, A. Zacharopoulou, N. J. Besansky, G. Favia, F. H. Collins, C. Louis, F. C. Kafatos

Identification of a Member of the MAPKKK Family as a Potential Mediator of the TGF- β Signal Transduction 2008
K. Yamaguchi, K. Shirakabe, H. Shibuya, K. Irie, I. Oishi, N. Ueno, T. Taniguchi, E. Nishida, K. Matsumoto

Evolution of Body Size in the Woodrat over the Past 25,000 Years of Climate Change 2012
F. A. Smith, J. L. Betancourt, J. H. Brown

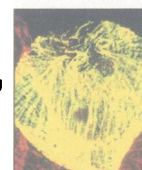
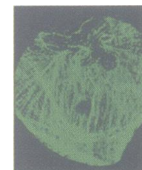
TECHNICAL COMMENTS

Age of Bacteria from Amber 2015
F. G. Priest; A. T. Beckenbach; R. J. Cano

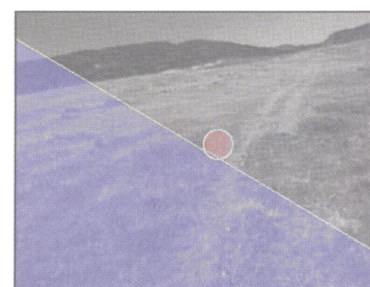
The Effect of Sodium Salicylate and Aspirin on NF- κ B 2017
B. Frantz and E. A. O'Neill; S. Ghosh and E. Kopp

Neurotrophins and Excitotoxicity 2019
M. T. Fernández-Sánchez and A. Novelli; J.-Y. Koh, B. J. Gwag, D. Lobner, D. W. Choi

Quarterly Index 2024



1943,
1980
& 1983
Trafficking in
plants



1973
Computer vision

AAAS Board of Directors

Francisco J. Ayala
Retiring President,
Chairman
Rita R. Colwell
President
Jane Lubchenco
President-elect

William A. Lester Jr.
Simon A. Levin
Michael J. Novacek

Anna C. Roosevelt
Alan Schriesheim
Jean E. Taylor
Chang-Lin Tien
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 © 1995 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): \$97 (\$50 allocated to subscription). Domestic institutional subscription (51 issues): \$228. Foreign postage extra: Mexico, Caribbean (surface mail) \$53; other countries (air assist delivery) \$93. First class, airmail, student, and emeritus rates on request. Canadian rates with GST available upon request, GST #1254 88122. Printed in the U.S.A.

Change of address: allow 4 weeks, giving old and new addresses and 8-digit account number. **Postmaster:** Send change of address to *Science*, P.O. Box 1811, Danbury, CT 06813-1811. **Single copy sales:** \$7.00 per issue prepaid includes surface postage, 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 \$3.00 per article is paid directly to CCC, 27 Congress Street, Salem, MA 01970. The identification code for *Science* is 0036-8075/83 \$3.00. *Science* is indexed in the *Reader's Guide to Periodical Literature* and in several specialized indexes.

Science

270 (5244)

Science **270** (5244), 1905b-2040.

ARTICLE TOOLS

<http://science.sciencemag.org/content/270/5244>

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 © 1995 The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works.