NEWS & COMMENT

Britain’s Big Science in a Bind 898
Walker Sets Off Alarm Bells With Efforts to Rein In EOS 900
NCI Cuts Contracts to Fund More Grants 901
Calculus Reform Sparks a Backlash 901
Linacs Offer Straight Line To Future 902
Heavy Hitters Anchor the AAAS Lineup at Annual Meeting 903

RESEARCH NEWS

Setting a Biological Stopwatch 905
Evolving Rhythms 906
Star-Watchers Team Up Telescopes for a Sharper View 907
Adding Depth to X-ray Maps 908
New Clues to Brain Dopamine Control, Cocaine Addiction 909
Seismologists Learn the Language of Quakes 910
Quark Studies Put Theorists in a Spin 911
Leishmania Susceptibility Puzzle Gets Another Twist 912

DEPARTMENTS

THIS WEEK IN SCIENCE 885
EDITORIAL 889
LETTERS 891

SCIENCESCOPE 897
RANDOM SAMPLES 915
BOOK REVIEWS 948
PRODUCTS & MATERIALS 1003

Board of Reviewing Editors

Frederick W. Alt
Don L. Anderson
Michael Ashburner
Stephen J. Benkovic
Alan Bernstein
David E. Bloom
Piotr Borst
Henry R. Bourne
Michael S. Brown
James J. Bull
Kathryn Calame
Dennis W. Choi
David Clapham
Adrienne E. Clarke
John M. Coffin
F. Fleming Crim
Paul J. Crutzen
James E. Dahlberg
Robert Desmonde
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
Nobutaka Hirokawa
Tomoyuki Hori
Takanori Hori
Sue D. Iversen
Eric F. Johnson
Stephen M. Kosslyn
Michael LaBarbera
Nicole Le Douarin
Charles S. Levinson III
Harvey F. Lodish
Richard Losick
Rendsh Lührmann
Ruth Lydén-Bell
Sashe Marder
Diane Mathis
Anthony R. Means
Shigetada Nakanishi
Kim Nasmyth
Roger A. Nicoll
Steffan Normark
Stuart L. Pinn
Yeshaury Pocker
Richard H. Quatrano
Martin Raft
V. Ramanathan
Douglas C. Rees
T. M. Rice
David C. Rubie
Erikku Ruoslahti
Gottfried Schatz
Jozef Schell
Ronald H. Schwartz
Teresa J. Sejnowski
Thomas A. Stein
Michael P. Stoyker
Tomoyuki Takahashi
Masatoshi Takagi
Keiji Tanaka
Robert T. N. Tjian
Yoshinori Tokura
Emil R. Unanue

ALERTS

NEWS

Small Clusters Hit the Big Time 920
Ordering Nanoclusters Around 921
Clusters Whip Light Atomic Nuclei Into Shape 922
ARTICLES
Structure, Dynamics, and Thermodynamics of Clusters: Tales from Topographic Potential Surfaces D. J. Wales 925
Researchers Nail Down Leptin Receptor 911

PERSPECTIVES
Do Big and Little Earthquakes Start Differently J. E. Vidale 952
Bio-Molecular Dynamics Comes of Age H. J. C. Berendsen 954
When Proteins Receive Deadly Messages at Birth S. Jentsch 955

RESEARCH ARTICLE
A Lower Limit on the Age of the Universe 957
B. Chaboyer, P. Demarque, P. J. Kernan, L. M. Krauss
The isolated water pentamer adopts a ring structure, with each molecule acting as a single donor and single acceptor of a hydrogen bond. The average separation between oxygen atoms (red spheres) is 2.76 angstroms. Similar water pentagons are prominent structures in the dynamic hydrogen-bonding network revealed in computer simulations of liquid water, like that depicted in the background. See page 929 in the Special Section on clusters beginning on page 920, and a related Report (page 963). [Image: Tim Robinson, Chemistry Graphics Facility, University of California, Berkeley]

**Water Clusters**
K. Liu, J. D. Cruzan, R. J. Saykally 929

**Semiconductor Clusters, Nanocrystals, and Quantum Dots**
A. P. Alivisatos 933

**Magnetic Clusters in Molecular Beams, Metals, and Semiconductors**
J. Shi, S. Gider, K. Babcock, D. A. Wenschaholm 937

Ab Initio Calculations of Fullerenes
G. E. Scuseria 942

**REPORTS**

**Dust: A Diagnostic of the Hydrologic Cycle During the Last Glacial Maximum**
Y. L. Yung, T. Lee, C.-H. Wang, Y.-T. Shieh 962

**From Topographies to Dynamics on Multidimensional Potential Energy Surfaces of Atomic Clusters**
K. D. Ball, R. S. Berry, R. E. Kunz, F.-Y. Li, A. Proykova, D. J. Wale 963

**Catalytic Cleavage of the C–H and C–C Bonds of Alkanes by Surface Organometallic Chemistry: An EXAFS and IR Characterization of a Zr-H Catalyst**
J. Corker, F. LeFebvre, C. Lécuyer, V. Dufaud, F. Quignard, A. Chaplin, J. Evans, J.-M. Basset 966

**Lamellar Biogels: Fluid-Membrane-Based Hydrogels Containing Polymer Lipids**
H. E. Warriner, S. H. J. Idziak, N. L. Slack, P. Davidson, C. R. Safinya 969

**Were Thick Galactic Disks Made by Levitation?**
S. Sridhar and J. Touma 973

**Complex Phase Behavior in Solvent-Free Nonionic Surfactants**

**Chain Migration of Neuronal Precursors**
C. Lois, J.-M. García-Verdugo, A. Alvarez-Buylla 978

**Role of Rho in Chemoattractant-Activated Leukocyte Adhesion Through Integrins**
C. Laudanna, J. J. Campbell, E. C. Butcher 981

**Genetic Susceptibility to Leishmania: IL-12 Responsiveness in T H1 Cell Development**

**Susceptibility to Leishmania major**
N. Noben-Traut, P. Kropf, L. Müller 987

**Infection in Interleukin-4–Deficient Mice**
K. C. Keiler, P. R. H. Waller, R. T. Sauer 990

**Phenotypes of Mouse diabetes and Rat fatty Due to Mutations in the OB (Leptin) Receptor**

**Ligand Binding: Molecular Mechanics Calculation of the Streptavidin-Biotin Rupture Force**
H. Grubmüller, B. Heymann, P. Tavan 997

**Direct Visualization of A-, P-, and E-Site Transfer RNAs in the Escherichia coli Ribosome**
R. K. Agrawal, P. Penczek, R. A. Grassucci, Y. Li, A. Leith, K. H. Nierhaus, J. Frank 1000

**Neurons traveling in chains**

**AAAS Board of Directors**

Rita R. Colwell
President

Jane Lubchenco
President-elect

Michael S. Dresdenn
President-elect

Sheila Jasanoff

William A. Lester Jr.

**Indicates accompanying feature**

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 © 1996 by the American Association for the Advancement of Science. The title SCIENCE is a registered trademark of the AAAS. Domestic individual membership and subscription ($1 issues): $102 ($55 allocated to subscription). Domestic institutional subscription ($1 issues): $250. Foreign postage extra. Mexico, Caribbean (surface mail): $55; other countries (air mail delivery): $90. First class, airmail, student, and emeritus rates on request. Canadian rates with GST available upon request, GST #125488122. Printed in the U.S.A.