This Week in Science

Editorial

Meeting Information Needs

Letters


ScienceScope

A "non-critical" technologies institute; grant rationing at the VA; etc.

News & Comment

Misconduct: Caltech's Trial by Fire
Draft Gallo Report Sees Light of Day Czechmate?
Societies Complain About Ethics Rules
USDA's Food Survey Riddled With Flaws
Industrial R&D Plea
National Science, Technology Medals
A New Buzz in the Medfly Debate
Briefings: On the Trail of Genes for IQ UARS Launches Earth Mission Medical Gender Gap Bromley Worries About Engineering The Promiscuous Boy-Next-Door Thumbs Up for Monoclonal Drugs Mycomummy

Research News

Ancient DNA: Still Busy After Death If Not a Dinosaur, a Mammoth?
Straightening Out the Protein Folding Puzzle
Making Choozy Molecules
An About-Face Found in the Ancient Ocean
Fetal Brain Signals Time for Birth

Recognition of DNA by Cys2,His2 Zinc Fingers: R. E. Klevit

Perspective

Establishment of the Mediterranean Fruit Fly in California: J. R. Carey
Motions and Relaxations of Confined Liquids: S. Granick
The Medial Temporal Lobe Memory System: L. R. Squire and S. Zola-Morgan

Research Article

Reexamination of the Folding of BPTI: Predominance of Native Intermediates: J. S. Weissman and P. S. Kim
High-intensity ultrasound creates localized hot spots in liquids through the process of cavitation: the formation, growth, and implosive collapse of bubbles. Local heating produces excited states of diatomic carbon (C2) from hydrocarbons; these states emit light just as they do in a flame. The images of such sonoluminescence from a vibrating titanium rod (1 centimeter long) is shown in false color. The temperature created in cavitation hot spots, determined from the spectrum of this emission, is ~5000 K. See page 1397. [Photograph by J. A. Gray, K. A. Kemper, and K. S. Suslick; University of Illinois at Urbana-Champaign]


1397 The Temperature of Cavitation: E. B. Flint and K. S. Suslick

1399 The Role of Magma Overpressure in Suppressing Earthquakes and Topography: Worldwide Examples: T. Parsons and G. A. Thompson

1402 Soil Carbon Isotope Evidence for Holocene Habitat Change in the Kenya Rift Valley: S. H. Ambrose and N. E. Sikes


1408 A Combinatorial Approach Toward DNA Recognition: D. Pei, H. D. Ulrich, P. G. Schultz

1411 Oligonucleotide Expansion and CD1 Recognition by Human Intestinal Intraepithelial Lymphocytes: S. P. Balk, E. C. Ebert, R. L. Blumenthal, F. V. McDermott, K. W. Wucherpfennig, S. B. Landau, R. S. Blumberg

1415 A Mechanosensitive Channel in Whole Cells and in Membrane Patches of the Fungus Uromyces: X.-L. Zhou, M. A. Stumpe, H. C. Hoch, C. Kung

1417 Depletion of CD4+ T Cells in Major Histocompatibility Complex Class II–Deficient Mice: M. J. Grusby, R. S. Johnson, V. E. Papaioannou, L. H. Glumcher

1420 Excitatory Synaptic Responses Mediated by GABA_A Receptors in the Hippocampus: H. B. Michelson and R. K. S. Wong

1423 Negative Regulation of CD45 Protein Tyrosine Phosphatase Activity by Ionomycin in T Cells: H. L. Ostergaard and I. S. Trowbridge


1429 Evolution at the Molecular Level, reviewed by R. J. MacIntyre ■ Earthquake Hazard Analysis, S. W. Smith ■ Flow and Reactions in Permeable Rocks, L. Smith ■ Some Other Books of Interest

1437 Sample Volume Cell Disruptor ■ Monoclonal Antibodies ■ Fluorescent Rulers ■ Purification-Free Matrix for DNA Electrophoresis ■ Glass Slurry Purification of DNA ■ Vacuum Pump Oil Changer ■ Graphing Software ■ Literature