**CONTENTS**

**CONTENTS continued >>**

---

**NEWS OF THE WEEK**

U.S. Visa Delays on the Rise, Scientists Abroad Report 1172
Excess Particles From Space May Hint at Dark Matter 1173
Malaria Drugs, the Coca-Cola Way 1174
Study Shows How Degraded Surroundings Can Degrade Behavior 1175

>> Science Express Report by K. Keizer et al.

**SCIENCESCOPE**

The New Groove in Science Aid: South-South Initiatives 1176
Cast of 1000 Proteins Shines in Movies of Cancer Cells 1176

>> Science Express Research Article by A. A. Cohen et al.

**NEWS FOCUS**

World Oil Crunch Looming? 1178
Cloudy Future for Europe’s Space Plans 1180
Last Stand for the Body Snatcher of the Himalayas? 1182
Reaching for the Stars in Romania 1183

At Home in Bucharest, for Better and for Worse

---

**LETTERS**

Looking Beyond Head Trauma D. T. Okuda 1186
Fostering a Culture of Responsible Lab Conduct A. M. Peiffer, P. J. Laurendt, C. E. Hugenschmidt
The Path Forward for DNA Data P. Boddington et al.
Priorities Come with the Career C. Bolon

STEM Education Crisis: Overblown? A. Depristo
Changes to NIH Grant System May Backfire P. D. Karp et al.
Listening to the Ocean’s Heartbeat E. S. Poloczanska et al.
Legislation Leaves Common Sense Behind H. Scarbro

**CORRECTIONS AND CLARIFICATIONS**

**BOOKS ET AL.**

The Scientific Life: A Moral History of a Late Modern Vocation S. Shapin, reviewed by T. F. Gieryn

Tomorrow’s Table: Organic Farming, Genetics, and the Future of Food P. C. Ronald and R. W. Adamchak, reviewed by M. Tester

The Termesphere Gallery

**POLICY FORUM**

A Force for Peace in the Middle East M. Greene

**PERSPECTIVES**

Gamma Rays and Neutron Stars G. F. Bignami 1193
Interrogating Molecules G. Doumy and L. F. DiMauro 1194
Brain Wnts for Blood Vessels E. Lammert 1195

Coming Soon to a Library Near You? J. Wouters 1196

The Weight of the World Is Quantum Chromodynamics A. S. Kronfeld 1198

Rogue Insect Immunity D. S. Schneider and M. C. Chambers 1199

---

**EDITORIAL**

Opening Japan Up to the World by Kiyoshi Kurokawa 1163
SCIENCE EXPRESS
www.sciencexpress.org

SOCIOLOGY
The Spreading of Disorder
K. Keizer, S. Lindenberg, L. Steg
Upon observing signs of social disorder (such as littering or graffiti), individuals are more likely to disobey a variety of social rules, including prohibitions against theft.
>> News story p. 1175
10.1126/science.1161405

CELL BIOLOGY
Dynamic Proteomics of Individual Cancer Cells in Response to a Drug
A. A. Cohen et al.
Cells that escape death from a chemotherapy drug express a different array of proteins from genetically identical ones that died, which may help to inform cancer therapeutics.
>> News story p. 1176
10.1126/science.1160165

REVIEW
PSYCHOLOGY
The Psychology of Transcending the Here and Now
N. Liberman and Y. Trope
1201

BREVIA
ECOLOGY
Fossil Pollen as a Guide to Conservation in the Galápagos
J. F. N. van Leeuwen et al.
Fossil pollen shows that six plant species in the Galápagos, presumed to be invasive, had actually been native to the islands for thousands of years before human colonization. >> Science Podcast
1206

RESEARCH ARTICLES
CHEMISTRY
Time-Resolved Dynamics in N$_2$O$_4$ Probed Using High Harmonic Generation
W. Li et al.
Electrons can be ejected from multiple orbitals of N$_2$O$_4$ by exploiting different stages in its excited vibrations, yielding an attosecond light probe of molecular dynamics. >> Perspective p. 1194
1207

PHYSICS
Broadband Invisibility by Non-Euclidean Cloaking
U. Leonhardt and T. Tyc
In theory, materials with a negative refractive index deployed in a curved, non-Euclidean space can provide a route to cloaking and invisibility across a range of wavelengths.
10.1126/science.1166332

CHEMISTRY
Real-Time DNA Sequencing from Single Polymerase Molecules
J. Eid et al.
Arrays of narrow waveguides can record the action of a DNA polymerase stepping along a primer template, potentially providing a way to sequence DNA molecules.
10.1126/science.1162986

RESEARCH ARTICLES
BIOCHEMISTRY
The 2.6 Angstrom Crystal Structure of a Human A$_{2A}$ Adenosine Receptor Bound to an Antagonist
V.-P. Jaakola et al.
The ligand binding pocket of the caffeine-binding human adenosine receptor has a different position and orientation than that of other G protein–linked receptors.
1211

ASTRONOMY
The Fermi Gamma-Ray Space Telescope Discovers the Pulsar in the Young Galactic Supernova Remnant CTA 1
A. A. Abdo et al.
The Fermi Space Telescope has detected a gamma-ray pulsar associated with a young supernova remnant, implying that such stars may be unidentified gamma-ray sources.
>> Perspective p. 1193
1218

ASTRONOMY
Observation of Pulsed γ-Rays Above 25 GeV from the Crab Pulsar with MAGIC
The MAGIC Collaboration
The MAGIC telescope has detected higher-energy, pulsed gamma rays from the Crab pulsar and a threshold suggesting that they are emitted from the outer magnetosphere.
>> Perspective p. 1193
1221

PHYSICS
Ab Initio Determination of Light Hadron Masses
S. Dürr et al.
A quantum electrodynamics model that includes a full representation of quarks and their electromagnetic interactions accurately determines the masses of neutrons and protons.
>> Perspective p. 1198
1224

Published by AAAS
www.sciencemag.org  SCIENCE  VOL 322  21 NOVEMBER 2008  1153
CONTENTS continued >>
DEVELOPMENTAL BIOLOGY
Canonical Wnt Signaling Regulates Organ-Specific Assembly and Differentiation of CNS Vasculature
J. M. Stenman et al.
In mice, two specialized ligands for a key developmental signaling pathway are produced by neuroepithelial cells and direct endothelial cells to form the blood-brain barrier. >> Perspective p. 1195

MEDICINE
Regulation of Pancreatic β Cell Mass by Neuronal Signals from the Liver
J. Imai et al.
In obese mice, fat tissue stimulates proliferation of insulin-producing pancreatic cells via a neural relay through the liver, contributing to symptoms of metabolic syndrome.

ECOLOGY
Control of Toxic Marine Dinoflagellate Blooms by Serial Parasitic Killers
A. Chambouvet, P. Morin, D. Marie, L. Guillou
As successive populations of protists have caused summer red tides in France, each has been killed off by a distinct, persistent parasite, establishing a self-regulating ecosystem.

IMMUNOLOGY
Antimicrobial Defense and Persistent Infection in Insects
E. R. Haine, Y. Moret, M. T. Siva-Jothy, J. Rolf
Flies fight some infections by quickly engulfing bacteria in phagocytic cells then deploying antimicrobial peptides, a system that avoids bacterial resistance. >> Perspective p. 1199

SOCIETY
Multi-University Research Teams: Shifting Impact, Geography, and Stratification in Science
B. F. Jones, S. Wuchty, B. Uzzi
Over the past 30 years, scientific papers have become increasingly likely to be written by teams of authors from more than one of a small number of elite universities.

Special Feature
Scientists as Financial Analysts
Finance’s Quantiﬁ (um) Mechanics
Analyzing Scientiﬁ c Investments
>> See Science Careers section p. 1157
or go to www.sciencemag.org: Science Podcast
Regulating TGF-β signaling from the nucleus.

SCIENCE SIGNALING
www.sciencesignaling.org
THE SIGNAL TRANSDUCTION KNOWLEDGE ENVIRONMENT

EDITORIAL GUIDE: Focus Issue—An Expanding World for TGF-β Signaling
N. R. Gough
With new modes of regulation and new functions for members of the pathway, TGF-β breaks the canonical barrier.

PERSPECTIVE: Holding Their Own—The Noncanonical Roles of Smad Proteins
L. L. Hoover and S. W. Kubalak
There are TGF-β–independent regulatory mechanisms and functions of Smads.

PERSPECTIVE: PCTA—A New Player in TGF-β Signaling
F. Liu
The distribution of promyelocytic leukemia protein between the nucleus and cytoplasm controls Smad activation.

FORUM: Highlights from a TGF-β Workshop
N. R. Gough
In addition to talks emphasizing the role of TGF-β in cancer, many speakers shared memories of Anita Roberts, scientist mentor, colleague, and friend.

NETWATCH: Cell Biology Promotion
Find an array of images, animations, and slides for teaching cell biology and signal transduction; in Educator Sites.

NETWATCH: Pfam
Explore the structures and functions of thousands of protein domain families; in Protein Databases.

Separate individual or institutional subscriptions to these products may be required for full-text access.
Science 322 (5905), 1159-1267.