EDITORIAL
1301 Peace Through Vaccine Diplomacy
Peter J. Hotez

>> Science Podcast

NEWS OF THE WEEK
1308 Chile’s Earthquake May Set Back Research for Years
1309 The Puzzling Rise and Fall of a Dark-Horse Alzheimer’s Drug
1311 Severe Drought Puts Spotlight on Chinese Dams
1312 From Science’s Online Daily News Site
1312 New Tuberculosis Lab Hailed as Breakthrough in Health Diplomacy
1313 From the Science Policy Blog
1314 APA Seeks to Overhaul Personality Disorder Diagnoses
1315 A Civil Conversation About Animals in Research
1316 Elsevier to Editor: Change Controversial Journal or Resign
1317 Matchmaking Is Part of the Party as ARPA-E Marks Its First Birthday

NEWS FOCUS
1318 On Rarity and Richness
>> Science Podcast
1320 Ironing Out Consensus on the Iron-Based Superconductors
1322 NASA Dives Into Its Past to Retrieve Vintage Satellite Data

LETTERS
1325 Rebuilding Haiti Smarter
T. Dixon et al.
The Hidden Face of Haiti’s Tragedy
M. Ben-Ezra et al.
The Fate of Atlantic Bluefin Tuna
J.-M. Fromentin
Applying Privacy Guidelines
S. Guo et al.
Response
T. Mitchell
1327 CORRECTIONS AND CLARIFICATIONS

BOOKS ET AL.
1329 The Trauma Myth
S. A. Clancy, reviewed by E. F. Loftus and S. J. Frenda
1330 Inventing Equal Opportunity
F. Dobbin, reviewed by A.-M. Marshall

POLICY FORUM
1331 Elephants, Ivory, and Trade
S. Wasser et al.

PERSPECTIVES
1333 Random Quantum Networks
D. S. Wiersma
>> Report p. 1352
1334 Trees, Fast and Accurate
E. S. Allman and J. A. Rhodes
>> Report p. 1376
1335 Enforcing Order on Signaling
M. Paszek and V. Weaver
>> Report p. 1380
1337 Remote Enzyme Microsurgery
J. M. Bollinger Jr. and M. L. Matthews
>> Report p. 1392
1338 Revealing Titan’s Interior
F. Sohl
>> Report p. 1367
1339 Interesting Times for Marine N₂O
L. A. Codispoti

CONTENTS continued >>

COVER
Substances deposited by a mother bird into her eggs influence how intensely her offspring beg for food after hatching. In canaries, these substances are effectively a prenatal signal of parental generosity. In contrast to the common assumption, they function primarily to serve the evolutionary interests of the offspring rather than the mother. See page 1373.

Photo: Fernando Trabanco

DEPARTMENTS
1297 This Week in Science
1303 Editors’ Choice
1306 Science Staff
1307 Random Samples
1395 New Products
1396 Science Careers

www.sciencemag.org SCIENCE VOL 327 12 MARCH 2010 1291

Published by AAAS
REVIEW
1341 Altruism, Spite, and Greenbeards
   S. A. West and A. Gardner

RESEARCH ARTICLE
1345 Identification of a Primary Target of Thalidomide Teratogenicity
   T. Ito et al.
   Thalidomide exerts its damaging effects by binding to cereblon and blocking its activity in limb development.

REPORTS
1350 Variations in the Sun’s Meridional Flow over a Solar Cycle
   D. H. Hathaway and L. Rightmire
   Observed variations in the Sun’s poleward flow have consequences for models and predictions of the solar cycle.

1352 Cavity Quantum Electrodynamics with Anderson-Localized Modes
   L. Sapienza et al.
   Optical scattering is used to induce quantum coupling between light and an artificial atom.

1355 Light-Controlled Self-Assembly of Semiconductor Nanoparticles into Twisted Ribbons
   S. Srivastava et al.
   The photooxidation of cadmium sulfide nanoparticles within cadmium telluride nanoparticle ribbons causes surface stresses that lead to twisting.

1359 The Near-Tip Fields of Fast Cracks
   A. Livne et al.
   The linear and nonlinear elastic responses near a growing crack tip can reveal how materials fail.

1363 Imaging Local Electrochemical Current via Surface Plasmon Resonance
   X. Shan et al.
   The concentration of electrochemically active species on a gold electrode provides a local measurement of current density.

1367 Gravity Field, Shape, and Moment of Inertia of Titan
   L. Iess et al.
   Analysis of gravity data reveals that Saturn’s moon Titan has a partially differentiated internal structure.

1369 Plumage Color Patterns of an Extinct Dinosaur
   Q. Li et al.
   Comparison of melanosome shape and density between fossil feathers and modern ones reveals the appearance and color of a theropod.

1373 Parent-Offspring Conflict and Coadaptation
   C. A. Hinde et al.
   Prenatal hormonal signaling can match a mother bird’s capacity to provide food with her offsprings’ expectations.

1376 Toward Extracting All Phylogenetic Information from Matrices of Evolutionary Distances
   S. Roch
   Methods recently developed for taxonomic analysis are fast and do not compromise accuracy.

1380 Restriction of Receptor Movement Alters Cellular Response: Physical Force Sensing by EphA2
   K. Salaita et al.
   Mechanical forces acting on a cell-surface receptor affect the activation of a signaling pathway involved in breast cancer.

1385 Lgr6 Marks Stem Cells in the Hair Follicle That Generate All Cell Lineages of the Skin
   H. J. Snippert et al.
   Skin wounds can be repaired by primitive stem cells into fully differentiated tissue, complete with hairs and sebaceous glands.

1389 Structural Sources of Robustness in Biochemical Reaction Networks
   G. Shinar and M. Feinberg
   Models of metabolic regulation show how the stability of specific components is maintained within a varying environment.

In Crystallo Posttranslational Modification Within a MauG/Pre–Methylamine Dehydrogenase Complex
   L. M. R. Jensen et al.
   Bacterial ammonia and formaldehyde production requires prior processing of a dehydrogenase to form a cofactor.

CONTENTS continued >>
Pain’s in the Genes

A subtle genetic variant seems to dictate how much pain people feel.

Expectant moms’ bad eating habits may hurt boys more than girls.

Bulky polytungstate ligands stabilize a cobalt-based oxidation catalyst highly active for splitting water.

Extensive regions of mass have been located in Intracluster Globular Clusters in the Virgo Cluster.

A fast soluble carbon-free molecular water oxidation catalyst based on abundant metals.

Detection of a large-scale structure of intracluster globular clusters in the Virgo cluster.

A peroxidase/dual oxidase system modulates midgut epithelial immunity in Anopheles gambiae.

Deoxyribonuclease ribonuclease into a death-promoting caspase-dependent conversion of Dicer.

Catalyst highly active for splitting water.

M. G. Lee et al.

Extensive regions of mass have been located between the galaxies of the Virgo cluster.

Oxidation catalyst based on abundant metals.

Q. Yin et al.

Bulky polytungstate ligands stabilize a cobalt-based catalyst highly active for splitting water.

M. G. Lee et al.

A peroxidase/dual oxidase system modulates midgut epithelial immunity in Anopheles gambiae.

S. Kumar et al.

Bonding between cell-surface proteins forms a physical barrier in mosquito guts to prevent microbe invasion.

S. Kumar et al.

Discovery of a large-scale structure of intracluster globular clusters in the Virgo cluster.

M. G. Lee et al.

Extensive regions of mass have been located between the galaxies of the Virgo cluster.

Oxidation catalyst based on abundant metals.

Q. Yin et al.

Bulky polytungstate ligands stabilize a cobalt-based catalyst highly active for splitting water.

M. G. Lee et al.

A peroxidase/dual oxidase system modulates midgut epithelial immunity in Anopheles gambiae.

S. Kumar et al.

Bonding between cell-surface proteins forms a physical barrier in mosquito guts to prevent microbe invasion.

S. Kumar et al.

Discovery of a large-scale structure of intracluster globular clusters in the Virgo cluster.

M. G. Lee et al.

Extensive regions of mass have been located between the galaxies of the Virgo cluster.

Oxidation catalyst based on abundant metals.

Q. Yin et al.

Bulky polytungstate ligands stabilize a cobalt-based catalyst highly active for splitting water.

M. G. Lee et al.

A peroxidase/dual oxidase system modulates midgut epithelial immunity in Anopheles gambiae.

S. Kumar et al.

Bonding between cell-surface proteins forms a physical barrier in mosquito guts to prevent microbe invasion.

S. Kumar et al.

Discovery of a large-scale structure of intracluster globular clusters in the Virgo cluster.

M. G. Lee et al.

Extensive regions of mass have been located between the galaxies of the Virgo cluster.

Oxidation catalyst based on abundant metals.

Q. Yin et al.

Bulky polytungstate ligands stabilize a cobalt-based catalyst highly active for splitting water.

M. G. Lee et al.

A peroxidase/dual oxidase system modulates midgut epithelial immunity in Anopheles gambiae.

S. Kumar et al.

Bonding between cell-surface proteins forms a physical barrier in mosquito guts to prevent microbe invasion.

S. Kumar et al.

Discovery of a large-scale structure of intracluster globular clusters in the Virgo cluster.

M. G. Lee et al.

Extensive regions of mass have been located between the galaxies of the Virgo cluster.

Oxidation catalyst based on abundant metals.

Q. Yin et al.

Bulky polytungstate ligands stabilize a cobalt-based catalyst highly active for splitting water.

M. G. Lee et al.

A peroxidase/dual oxidase system modulates midgut epithelial immunity in Anopheles gambiae.

S. Kumar et al.

Bonding between cell-surface proteins forms a physical barrier in mosquito guts to prevent microbe invasion.

S. Kumar et al.

Discovery of a large-scale structure of intracluster globular clusters in the Virgo cluster.

M. G. Lee et al.

Extensive regions of mass have been located between the galaxies of the Virgo cluster.

Oxidation catalyst based on abundant metals.

Q. Yin et al.

Bulky polytungstate ligands stabilize a cobalt-based catalyst highly active for splitting water.

M. G. Lee et al.

A peroxidase/dual oxidase system modulates midgut epithelial immunity in Anopheles gambiae.

S. Kumar et al.

Bonding between cell-surface proteins forms a physical barrier in mosquito guts to prevent microbe invasion.

S. Kumar et al.

Discovery of a large-scale structure of intracluster globular clusters in the Virgo cluster.

M. G. Lee et al.

Extensive regions of mass have been located between the galaxies of the Virgo cluster.

Oxidation catalyst based on abundant metals.

Q. Yin et al.

Bulky polytungstate ligands stabilize a cobalt-based catalyst highly active for splitting water.

M. G. Lee et al.

A peroxidase/dual oxidase system modulates midgut epithelial immunity in Anopheles gambiae.

S. Kumar et al.

Bonding between cell-surface proteins forms a physical barrier in mosquito guts to prevent microbe invasion.

S. Kumar et al.
Science 327 (5971), 1297-1395.