

EDITORIAL

- 1147 **Worldwide Lessons from 11 March**
Koji Omi
>> *News story p. 1164; Review p. 1184*

NEWS OF THE WEEK

- 1152 **A roundup of the week's top stories**

NEWS & ANALYSIS

- 1155 **Surprising Twist in Debate Over Lab-Made H5N1**
- 1156 **A Bumper Year for Chinese Science**
- 1157 **Reviewer's Déjà Vu, French Science Sleuthing Uncover Plagiarized Papers**
- 1158 **Report on Future of Fusion Research Says U.S. Should Hedge Its Bets**
- 1159 **Last Hurrah: Final Tevatron Data Show Hints of Higgs Boson**

NEWS FOCUS

- 1160 **Light in the Deep**
Extraordinary Eyes
>> *Science Podcast*
- 1164 **One Year After the Devastation, Tohoku Designs Its Renewal**
Radioactive Limbo
Nuclear Ambivalence No More?
>> *Editorial p. 1147; Review p. 1184*
- 1167 **The Next Big(ger) Thing**

LETTERS

- 1168 **Asian Medicine: Exploitation of Wildlife**
X. Meng et al.
- Asian Medicine: Exploitation of Plants**
S. Cao and Q. Feng
- Business Journals Combat Coercive Citation**
J. G. Lynch
- Chimp Research Policy: Think Global**
J. Moore
- 1169 **TECHNICAL COMMENT ABSTRACTS**

BOOKS ET AL.

- 1171 **How Economics Shapes Science**
P. Stephan, reviewed by M. Feldman
- 1172 **Memory**
A. Winter, reviewed by E. Johnston

POLICY FORUM

- 1173 **Surveillance of Animal Influenza for Pandemic Preparedness**
J. S. M. Peiris et al.
>> *See all H5N1 coverage online at <http://scim.ag/h5n1>*

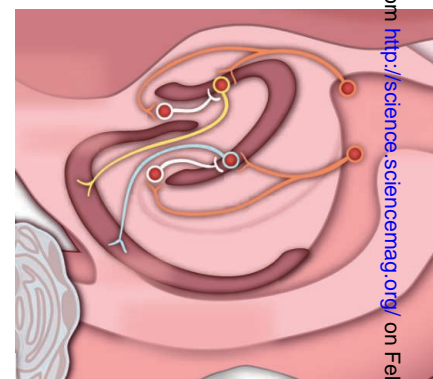
PERSPECTIVES

- 1175 **Youth Culture in the Adult Brain**
G. Kempermann
>> *Report p. 1238*
- 1176 **Moonstruck Magnetism**
G. S. Collins
>> *Report p. 1212*
- 1177 **Experimenting with Politics**
J. N. Druckman and A. Lupia
>> *Science Podcast*
- 1179 **Swell Approaches for Changing Polymer Shapes**
E. Sharon
>> *Report p. 1201*
- 1180 **The Human Factor**
L. Dupont
>> *Report p. 1219*
- 1181 **Embryonic Clutch Control**
W. Razzell and P. Martin
>> *Report p. 1232*
- 1183 **Retrospective: Roy J. Britten (1919–2012)**
E. H. Davidson

CONTENTS continued >>

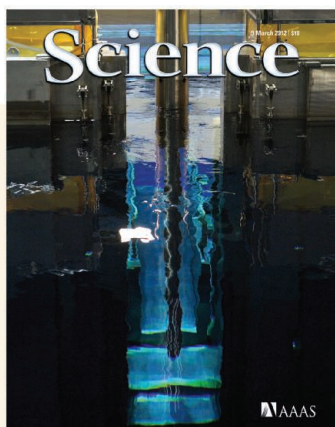


page 1160



pages 1175 & 1238

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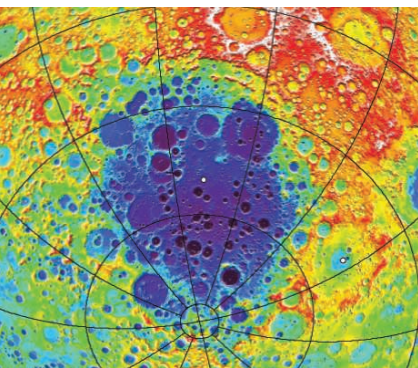
COVER

Cooling pool containing a plutonium-uranium mixed-oxide fuel rod at Fukushima Dai-ichi nuclear power station, Japan, in August 2010. A tsunami on 11 March 2011 damaged three of the station's reactors, prompting reassessment of Japan's reliance on nuclear power and its approach to disaster preparedness. See the Review by Burns *et al.* (page 1184), as well as the related Editorial (page 1147) and News story (page 1164).

Photo: Tomohiro Ohsumi/Bloomberg via Getty Images

DEPARTMENTS

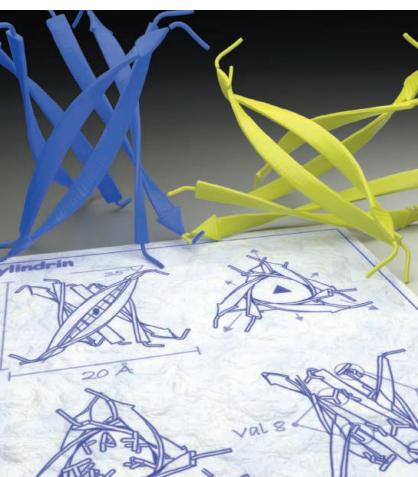
- 1145 **This Week in Science**
- 1148 **Editors' Choice**
- 1150 **Science Staff**
- 1243 **New Products**
- 1244 **Science Careers**



pages 1176 & 1212



page 1222



page 1228

REVIEWS

- 1184 **Nuclear Fuel in a Reactor Accident**
P. C. Burns et al.
>> *Editorial p. 1147; News story p. 1164; Science Podcast*
- 1188 **Natural SIV Hosts: Showing AIDS the Door**
A. Chahroudi et al.

BREVIA

- 1194 **Fluorescence Imaging of Cellular Metabolites with RNA**
J. S. Paige et al.
Cellular metabolites are detected within living cells by fluorescent RNA-based ligand-binding sensors.

RESEARCH ARTICLE

- 1195 **Lin28b Reprograms Adult Bone Marrow Hematopoietic Progenitors to Mediate Fetal-Like Lymphopoiesis**
J. Yuan et al.
The RNA binding protein Lin28 drives fetal modes of immune cell development.

REPORTS

- 1201 **Designing Responsive Buckled Surfaces by Halftone Gel Lithography**
J. Kim et al.
Halftone lithography can pattern two-dimensional swellable gels to produce complex three-dimensional shapes.
>> *Perspective p. 1179*
- 1205 **Coking- and Sintering-Resistant Palladium Catalysts Achieved Through Atomic Layer Deposition**
J. Lu et al.
Uniform oxide coating on palladium nanoparticles prevents carbon accumulation and particle growth during chemical reactions.
- 1209 **Isolated Metal Atom Geometries as a Strategy for Selective Heterogeneous Hydrogenations**
G. Kyriakou et al.
Palladium atoms adsorbed on a copper surface activate hydrogen adsorption for subsequent hydrogenation reactions.
- 1212 **An Impactor Origin for Lunar Magnetic Anomalies**
M. A. Wieczorek et al.
Most lunar magnetic anomalies can be attributed to magnetic materials in the projectile that formed the largest lunar basin.
>> *Perspective p. 1176; Science Podcast*

- 1215 **Reconstruction of *Microraptor* and the Evolution of Iridescent Plumage**
Q. Li et al.
Iridescence in the feathers of a feathered dinosaur suggests an early role for feathers in ornamental display and signaling.
- 1219 **Intensifying Weathering and Land Use in Iron Age Central Africa**
G. Bayon et al.
Savannas abruptly replaced rainforests around 3000 years ago on account of both climate and human land-use changes.
>> *Perspective p. 1180*
- 1222 **A Bruce Effect in Wild Geladas**
E. K. Roberts et al.
Long-term field studies show female monkeys improve their fitness by terminating their pregnancies when a new male becomes dominant.
- 1225 **Molecular Determinants of Scouting Behavior in Honey Bees**
Z. S. Liang et al.
The molecular underpinnings of novelty-seeking in honey bees are similar to those of vertebrates.
- 1228 **Atomic View of a Toxic Amyloid Small Oligomer**
A. Laganowsky et al.
Cylindrin from the amyloid-forming protein α B crystallin represents an amyloid oligomer.
- 1232 **Triggering a Cell Shape Change by Exploiting Preexisting Actomyosin Contractions**
M. Roh-Johnson et al.
Morphogenesis in developing worms and flies harnesses ongoing cortical motility.
>> *Perspective p. 1181*
- 1235 **Nucleosomes Suppress Spontaneous Mutations Base-Specifically in Eukaryotes**
X. Chen et al.
The placement of nucleosomes, which help to package DNA, affects mutation accumulation across eukaryotic lineages.
- 1238 **Unique Processing During a Period of High Excitation/Inhibition Balance in Adult-Born Neurons**
A. Marin-Burgin et al.
A specific set of functional properties can be attributed to immature granule cells developing in the hippocampus.
>> *Perspective p. 1175*

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Extrachromosomal MicroDNAs and Chromosomal Microdeletions in Normal Tissues

Y. Shibata et al.

The formation of circular microDNAs can result in somatic and germline microdeletions in mammalian cells.

10.1126/science.1213307

A Segmentation Clock with Two-Segment Periodicity in Insects

A. F. Sarrazin et al.

Oscillating gene expression, a key feature of vertebrate segmentation, is shown to occur during segmentation in beetles.

10.1126/science.1218256

Mapping the Core of the *Arabidopsis*

Circadian Clock Defines the Network Structure of the Oscillator

W. Huang et al.

Morning and evening components of circadian rhythms are coordinated and stabilized by a repressor.

10.1126/science.1219075

Gap Junctions Compensate for Sublinear Dendritic Integration in an Inhibitory Network

K. Vervaeke et al.

Synaptic charge spreads into the dendrites of neighboring interneurons via dendritic gap junctions.

10.1126/science.1215101

A 2D Quantum Walk Simulation of Two-Particle Dynamics

A. Schreiber et al.

An optical approach extends quantum walk methodology from one to two dimensions.

10.1126/science.1218448

TECHNICAL COMMENTS

Comment on "Fossilized Nuclei and Germination Structures Identify Ediacaran 'Animal Embryos' as Encysting Protists"

S. Xiao et al.

Full text at www.sciencemag.org/cgi/content/full/335/6073/1169-c

Response to Comment on "Fossilized Nuclei and Germination Structures Identify Ediacaran 'Animal Embryos' as Encysting Protists"

T. Hultgren et al.

Full text at www.sciencemag.org/cgi/content/full/335/6073/1169-d

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A new study attributes the worldwide demise of these big beasts to both climate change and humans.

http://scim.ag/Blame_Extinction

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http://scim.ag/Plants_Antarctica

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This scheme works on a principle different from electromagnetic invisibility cloaks.

<http://scim.ag/Cloaking-Device>

SCIENCE SIGNALING

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The Signal Transduction Knowledge Environment

6 March issue: <http://scim.ag/ss030612>

RESEARCH ARTICLE: Akt and ERK Control the Proliferative Response of Mammary Epithelial Cells to the Growth Factors IGF-1 and EGF

Through the Cell Cycle Inhibitor p57^{Kip2}

D. T. Worster et al.

PODCAST

J. G. Albeck et al.

Signaling from two growth factors converges on the cell cycle inhibitor p57 to regulate proliferation and limit oncogenesis.

RESEARCH ARTICLE: STING Specifies IRF3 Phosphorylation by TBK1 in the Cytosolic DNA Signaling Pathway

Y. Tanaka and Z. J. Chen

PERSPECTIVE: The STING in the Tail for Cytosolic DNA-Dependent Activation of IRF3

A. Bowie

The scaffold STING directs the kinase TBK1 toward its substrate, the transcription factor IRF3, to promote antiviral signaling.

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7 March issue: <http://scim.ag/stm030712>

RESEARCH ARTICLE: Fasting Cycles Retard Growth of Tumors and Sensitize a Range of Cancer Cell Types to Chemotherapy

C. Lee et al.

PERSPECTIVE: Impersonalized Medicine

H. Scrabble

Fasting simultaneously enhances normal cell function and potentiates the effects of conventional chemotherapeutic agents on tumor growth, metastasis, and long-term survival.

RESEARCH ARTICLE: Chimerism and Tolerance Without GVHD or Engraftment Syndrome in HLA-Mismatched Combined Kidney and Hematopoietic Stem Cell Transplantation

J. Leventhal et al.

FOCUS: The Quest for Transplantation Tolerance—Have We Finally Sipped from the Cup?

J. F. Markmann and T. Kawai

New advances in achieving hematopoietic chimerism may facilitate immunological tolerance to kidney transplants.

RESEARCH ARTICLE: A Human Stem Cell Model of Early Alzheimer's Disease Pathology in Down Syndrome

Y. Shi et al.

Cultured cerebral cortex neurons generated from human Down syndrome–induced pluripotent stem cells rapidly develop Alzheimer's disease pathologies.

SCIENCE CAREERS

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Science in the Community

E. Pain

Researchers have much to gain from involving citizens as research partners—provided they are prepared and open-minded.

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Your Research, Their Hope

M. Price

Scientists working with patient-advocacy groups need to set legal and ethical guidelines so interactions can be mutually beneficial.

http://scim.ag/Research_Hope

Biotech Training Programs Expand Employment Options

C. Mintz

Trainees who obtain industry-specific training are more likely to find jobs in the life-sciences industry.

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Science Policy News and Analysis

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