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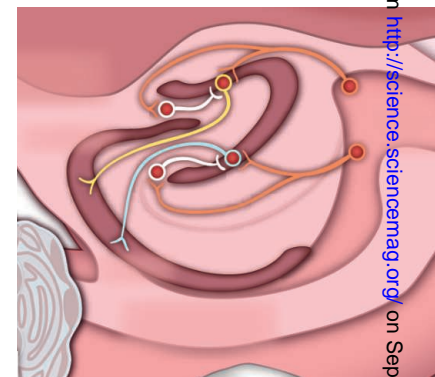
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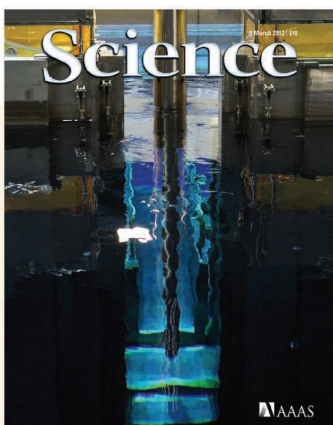
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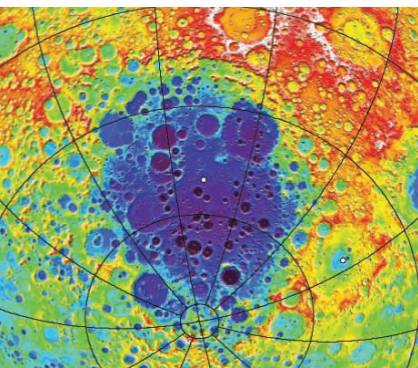
COVER

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

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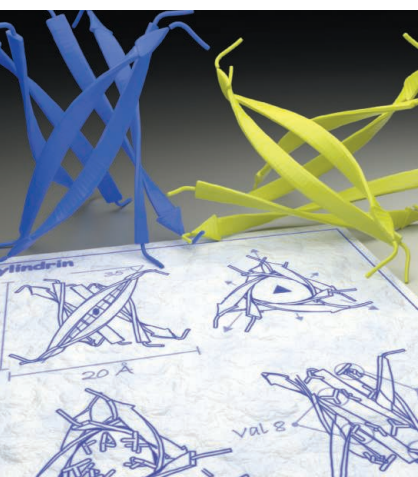
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SCIENCEONLINE

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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

TECHNICALCOMMENTS

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. Huldgren et al.

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

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Highlights From Our Daily News Coverage

Sharing the Blame for the Mammoth's Extinction

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

http://scim.ag/Blame_Extinction

Plants Gone Wild: Antarctica Edition

Tourists and scientists are ferrying seeds of invasive species to the coldest continent.

http://scim.ag/Plants_Antarctica

Proposed Cloaking Device for Water Waves Could Protect Ships at Sea

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.

SCIENCE TRANSLATIONAL MEDICINE

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Integrating Medicine and Science

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

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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

www.sciencereers.org/career_magazine

Free Career Resources for Scientists

Science in the Community

E. Pain

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

<http://scim.ag/CommunityScience>

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.

<http://scim.ag/MintzBiotechTraining>

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Science Policy News and Analysis

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