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Materials for Grid Energy

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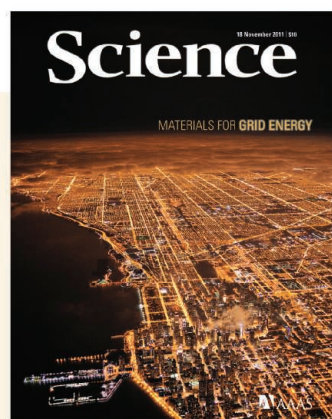
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Nighttime view of present-day Chicago, USA. Since the 1893 Chicago World's Fair introduced alternating current to the public, demand for electrical power has soared. Increased use of power from renewable resources will require new materials to store energy or generate power to ensure proper load balancing, as discussed in the special section beginning on page 921.

Photo: Jim Richardson/National Geographic/Getty Images

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- 941 Crystal Structure of the Eukaryotic 60S Ribosomal Subunit in Complex with Initiation Factor 6
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Clouds of ionized gas located inside our Galaxy provide a major supply of matter for fueling ongoing star formation.
- 958 Giant Piezoelectricity on Si for Hyperactive MEMS
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- 968 Domain Dynamics During Ferroelectric Switching
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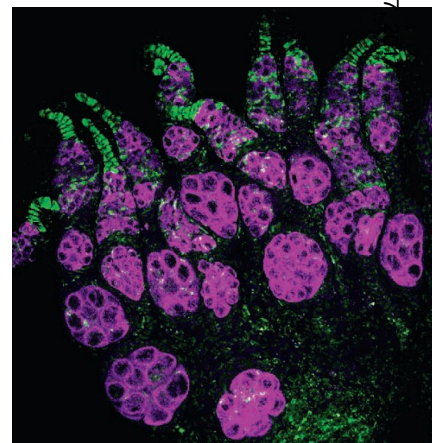
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SCIENCEEXPRESS

www.sciencexpres.org

The Structure of the Eukaryotic Ribosome at 3.0 Å Resolution

A. Ben-Shem et al.

A close-up view of the ribosome's 79 proteins and 5500 RNA nucleotides.

10.1126/science.1212642

Imaging of *Plasmodium* Liver Stages to Drive Next-Generation Antimalarial Drug Discovery

S. Meister et al.

Imidazolopiperazine compounds inhibit liver-stage malaria parasites with one oral dose in mice.

10.1126/science.1211936

>> [Science Podcast](#)

Host Proteasomal Degradation Generates Amino Acids Essential for Intracellular Bacterial Growth

C. T. D. Price et al.

The bacterial pathogen *Legionella pneumophila* ensures amino acid supplies by promoting degradation of target host proteins.

10.1126/science.1212868

Calibrating the End-Permian Mass Extinction

S. Shen et al.

High-precision geochronologic dating constrains probable causes of Earth's largest mass extinction.

10.1126/science.1213454

The Origin of OB Runaway Stars

M. S. Fujii and S. P. Zwart

Most of the unusually fast, young stars in our galaxy are produced in three-body encounters within dense clusters of stars.

10.1126/science.1211927

TECHNICALCOMMENTS

Comment on "Global Trends in Wind Speed and Wave Height"

F. J. Wentz and L. Ricciardulli

Full text at www.sciencemag.org/cgi/content/ful/334/6058/905-b

Response to Comment on "Global Trends in Wind Speed and Wave Height"

I. R. Young et al.

Full text at www.sciencemag.org/cgi/content/ful/334/6058/905-c

SCIENCENOW

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Highlights From Our Daily News Coverage

Leonardo's Formula Explains Why Trees Don't Splinter

This geometry rule probably evolved to help prevent wind breakage.

<http://scim.ag/Leotrees>

Not Pulling Your Leg: Tractor Beams May Be Possible

Several different groups come up with similar ideas for laser beams that can pull objects.

<http://scim.ag/tractor-beam>

Ancient Landslide Merged Trout Populations

River blockade explains surprising genetic similarities in two groups of fish.

<http://scim.ag/land-slide>

SCIENCE SIGNALING

www.sciencesignaling.org

The Signal Transduction Knowledge Environment

15 November issue: <http://scim.ag/ss111511>

RESEARCH ARTICLE: Signaling by the Matrix Proteoglycan Decorin Controls Inflammation and Cancer Through PDCD4 and MicroRNA-21

R. Merline et al.

A component of the extracellular matrix promotes inflammatory responses in sepsis and in tumors.

RESEARCH ARTICLE: Local Application of Neurotrophins Specifies Axons Through Inositol 1,4,5-Trisphosphate, Calcium, and Ca²⁺/Calmodulin-Dependent Protein Kinases

S. Nakamura et al.

Neurotrophins stimulate calcium signaling to promote axon specification.

RESEARCH ARTICLE: The Long-Term Survival Potential of Mature T Lymphocytes Is Programmed During Development in the Thymus

C. Sinclair et al.

T cell receptor signaling in thymocytes determines their responsiveness to a survival cytokine later in life.

ST NETWORK: The Nobel Prize in Physiology or Medicine 2011

This year's Prize was awarded for breakthroughs in innate and adaptive immunity.

SCIENCE TRANSLATIONAL MEDICINE

www.sciencetranslationalmedicine.org

Integrating Medicine and Science

16 November issue: <http://scim.ag/stm111611>

FOCUS: Biomarker-Based Early Cancer Detection—Is It Achievable?

W. D. Hazelton and E. G. Luebeck

A new mathematical model evaluates the power of blood-based biomarkers for early cancer detection.

RESEARCH ARTICLE: Mathematical Model Identifies Blood Biomarker-Based Early Cancer Detection Strategies and Limitations

S. S. Hori and S. S. Gambhir

Early cancer detection using current clinical blood-based biomarker assays may not be possible within the first 10 years of tumor growth.

PERSPECTIVE: Targeting Chaperone-Mediated Autophagy in Cancer

A. Thorburn and J. Debnath

Tumors need chaperone-mediated autophagy for growth and metastasis.

RESEARCH ARTICLE: Chaperone-Mediated Autophagy Is Required for Tumor Growth

M. Kon et al.

Cancer cells depend on chaperone-mediated autophagy for growth revealing a new target for preventing tumorigenesis and inducing tumor regression.

RESEARCH ARTICLE: Treatment and Prevention of Urinary Tract Infection with Orally Active FimH Inhibitors

C. K. Cusumano et al.

Optimized mannoseide compounds that block pathogenic *Escherichia coli* entry into bladder epithelium were effective in the treatment and prevention of urinary tract infections in mice.

SCIENCE CAREERS

www.sciencereers.org/career_magazine

Free Career Resources for Scientists

Tooling Up: Views on an Interview, Part 2

D. Jensen

Ups and downs continue during Scott Jackson's interview at ABC Technologies.

http://scim.ag/TU_InterViews2

Where Are the Neuroscience Jobs?

M. Price

Our correspondent reports from the Neuroscience 2011 meeting in Washington, D.C.

<http://scim.ag/neurocareers2011>

A Mycologist Reaps the (Glowing) Fruit of His Labor

S. Reed

Patrick Hickey's career has grown in a way as unpredictable as the organisms he cultivates.

<http://scim.ag/Hickeyprofile>

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Science Policy News and Analysis

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