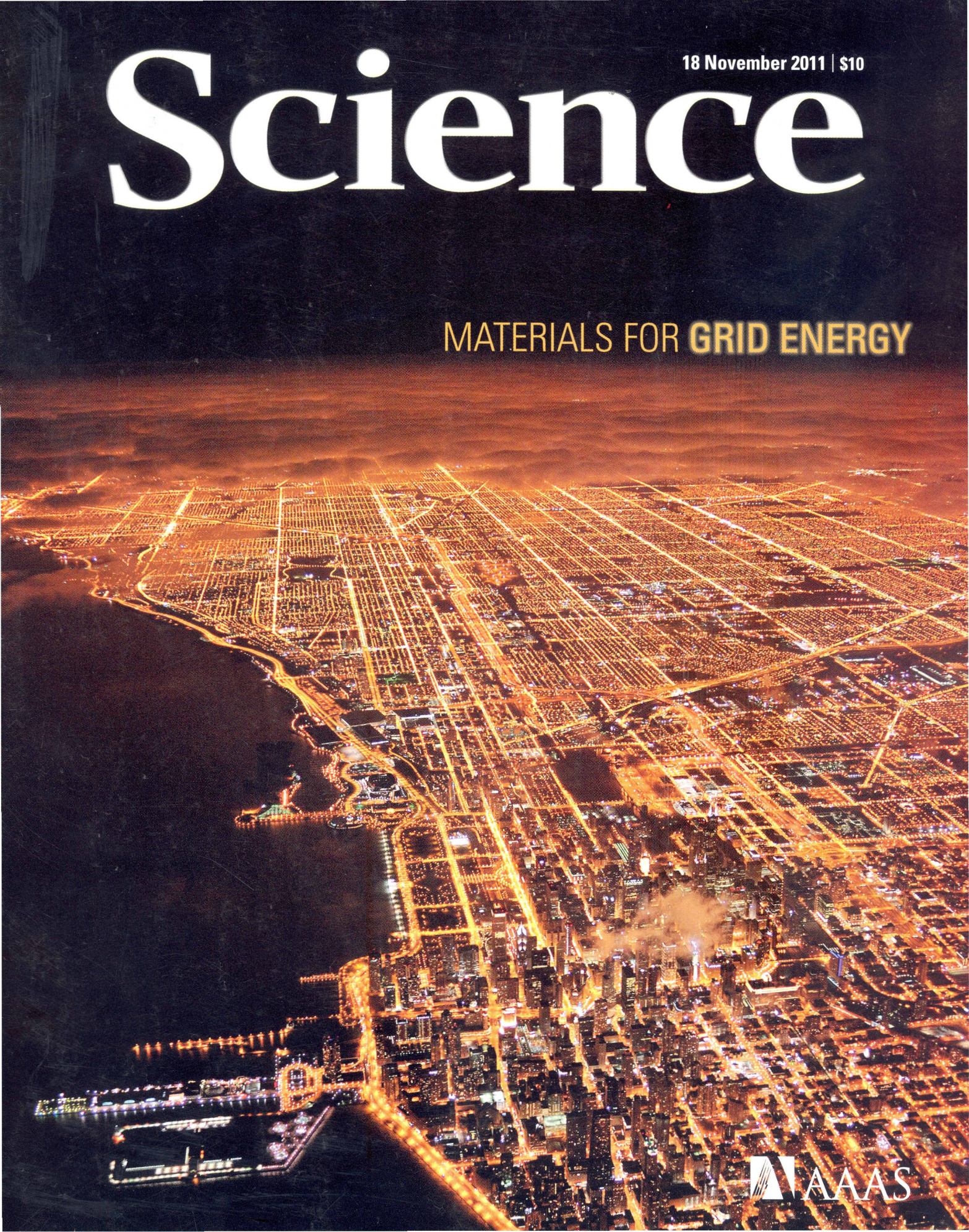
18 November 2011 | $10

Science

MATERIALS FOR GRID ENERGY



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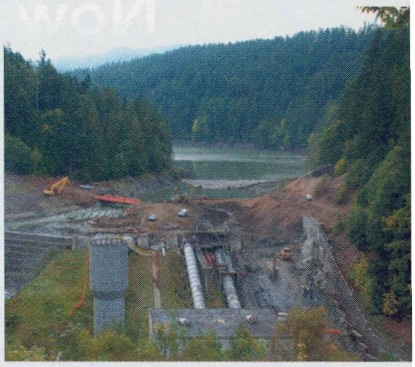
SPECIAL SECTION

Materials for Grid Energy



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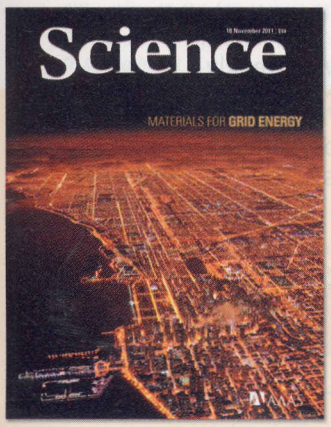

COVER

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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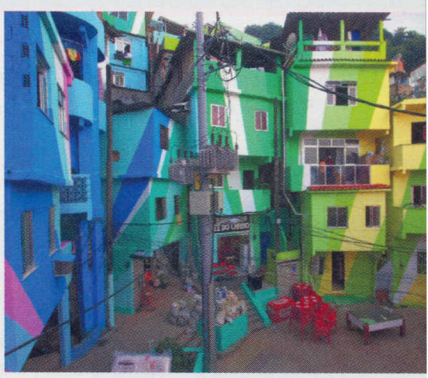

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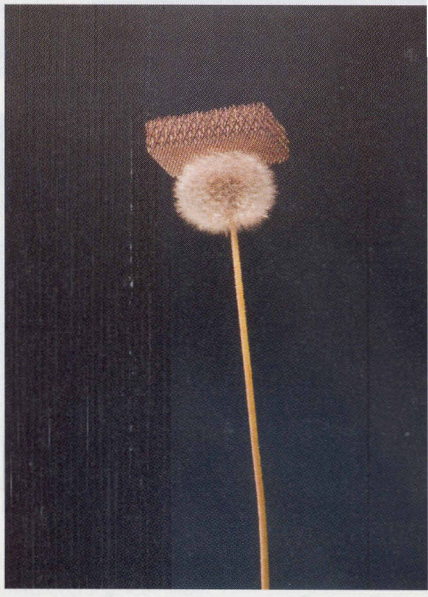

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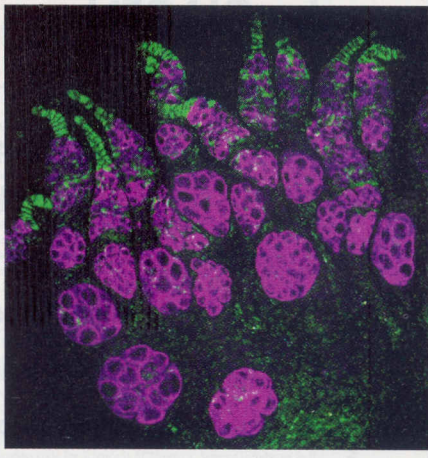

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SCIENCEONLINE

SCIENCEXPRESS

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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.
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Comment on "Global Trends in Wind Speed and Wave Height"
F. J. Wentz and L. Ricciardulli
Full text at www.sciencemag.org/cgi/content/full/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/full/334/6058/905-c

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This geometry rule probably evolved to help prevent wind breakage.
http://scim.ag/Leotrees

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http://scim.ag/land-slide

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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 Ca^{2+}/Calmodulin–Dependent Protein Kinases
S. Nakamuta 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 NETWATCH: The Nobel Prize in Physiology or Medicine 2011
This year's Prize was awarded for breakthroughs in innate and adaptive immunity.

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

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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.
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