COVER
Using sunlight to rearrange the chemical bonds of water into hydrogen and oxygen, as in photosynthesis, would constitute a practical way to store solar energy as a fuel. Such an energy source will depend on new catalysts that promote this fuel-forming reaction cheaply and efficiently. See page 1072.

Photo illustration: Paul Montie
(images: iStockphoto.com; Getty Images)

NEWS OF THE WEEK
FBI Discusses Microbial Forensics—but Key Questions Remain Unanswered
Six Anthrax Science Questions the FBI Has Yet to Answer
Pumping Up the Tibetan Plateau From the Far Pacific Ocean
>> Review p. 1054
‘Simple’ Animal’s Genome Proves Unexpectedly Complex

SCIENCESCOPE
New Regulation Would Lessen Influence of Fish and Wildlife Experts
Departments Scramble to Find Math Education Faculty

NEWS FOCUS
Turbulent Times for Climate Model
>> Science Podcast
Shielding a Buddhist Shrine From the Howling Desert Sands
Can High-Speed Tests Sort Out Which Nanomaterials Are Safe?

LETTERS
An Editor’s Checklist R. W. Guillery
High-Profile Journals Not Worth the Trouble J. L. Rosenbaum
Taking Responsibility for Scientific Discourse S. D. Friedman
The Carrageenan Diet: Not Recommended J. K. Tobacman et al.

CORRECTIONS AND CLARIFICATIONS

BOOKS ET AL.
Just One Child Science and Policy in Deng’s China S. Greenhalgh, reviewed by E. A. Mueggler
Fatal Misconception The Struggle to Control World Population M. Connelly, reviewed by J. C. Caldwell

POLICY FORUM
Toward a Global Biodiversity Observing System R. J. Scholes et al.

PERSPECTIVES
The Unseen Mind T. D. Wilson and Y. Bar-Anan
Stars in the Making P. J. Armitage
How Now, Brown Fat? M. A. Lazar
Soluble Allotropes of Main-Group Elements C. A. Dyker and G. Bertrand
Using Tobacco to Treat Cancer C. J. Arntzen
PHYSICS
Quantum Communication with Zero-Capacity Channels
G. Smith and J. Yard
Two quantum communication channels, each of which is so noisy that it has zero-capacity to independently transmit information, can do so when used together.
10.1126/science.1162242

CELL BIOLOGY
High-Quality Binary Protein Interaction Map of the Yeast Interactome Network
H. Yu et al.
Comparison of existing methods for mapping protein-protein interactions in yeast cells shows that the high-throughput approaches are complementary to one another.
10.1126/science.1158684

TECHNICAL COMMENT ABSTRACTS
PALEONTOLOGY
Comment on “Protein Sequences from Mastodon and Tyrannosaurus rex Revealed by Mass Spectrometry”
P. A. Pevzner, S. Kim, J. Ng
full text at www.sciencemag.org/cgi/content/full/321/5892/1040b

Response to Comment on “Protein Sequences from Mastodon and Tyrannosaurus rex Revealed by Mass Spectrometry”
J. M. Asara, M. H. Schweitzer, L. C. Cantley, J. S. Cottrell
full text at www.sciencemag.org/cgi/content/full/321/5892/1040c

REVIEW
GEOLOGY
The Geological Evolution of the Tibetan Plateau
L. H. Royden, B. C. Burchfiel, R. D. van der Hilst
>> News story p. 1028

BREVIA
ATMOSPHERIC SCIENCE
N₂O₅ Oxidizes Chloride to Cl₂ in Acidic Atmospheric Aerosol
J. M. Roberts et al.
Laboratory studies affirm that the oxidation of chloride ions in aerosols by N₂O₅ is a significant source of chlorine in the troposphere, a major reactant that helps form ozone.
10.1126/science.1161818

PHYSICS
Quantum Gas of Deeply Bound Ground State Molecules
J. G. Danzl et al.
A coherent Raman pumping scheme cools cesium molecules to a state with minimal rotational energy, needed for producing cold molecular Bose-Einstein condensates.
10.1126/science.1161818

MATERIALS SCIENCE
Observation of Atomic Diffusion at Twin-Modified Grain Boundaries in Copper
The presence of twinned grains at grain boundaries reduces current-induced diffusion of atoms in small copper wires, which can produce voids or even breaks.
10.1126/science.1161818
MOLECULAR BIOLOGY
Heterochromatin Integrity Affects Chromosome Reorganization After Centromere Dysfunction
K. Ishii et al.
When the centromere is removed from a yeast chromosome, a new one forms near the end of the chromosome, over a cluster of poorly expressed genes.

NEUROSCIENCE
Grueneberg Ganglion Cells Mediate Alarm Pheromone Detection in Mice
J. Brechbühl, M. Klaey, M.-C. Broillet
A mysterious ganglion at the tip of the nose is an olfactory subsystem that senses alarm pheromones in mice.

CELL BIOLOGY
Control of the Reversibility of Cellular Quiescence by the Transcriptional Repressor HES1
L. Sang, H. A. Coller, J. M. Roberts
For quiescent cells to periodically divide and then rest, a member of the Notch signaling pathway HES1 must be present; this protein is also activated in some tumors.

PSYCHOLOGY
Automatic Mental Associations Predict Future Choices of Undecided Decision-Makers
S. Galdi, L. Arcuri, B. Gawronski
Unexpectedly, consciously expressed voting choices predict later unconscious preferences, showing that unconscious and conscious cognition is a two-way street.

>> Perspective p. 1046; Science Podcast
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PROTOCOL: Application of Fluorescence Resonance Energy Transfer and Magnetic Twisting Cytometry to Quantify Mechano-Chemical Signaling Activities in a Living Cell
S. Na and N. Wang
Get detailed instructions for delivering biologically relevant mechanical stress to individual cells and observing the intracellular signaling activities that ensue.

PRESENTATION: Defining Drug Targets in Yeast Haploinsufficiency Screens—Application to Human Translational Pharmacology
M. Roberge
Identifying targets of drugs in yeast using genome-wide drug-induced haploinsufficiency is a viable approach to predicting drug targets in humans.

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