

SPECIAL SECTION

## Working with Waste

### INTRODUCTION

662 More Treasure Than Trash

### NEWS

664 World of Waste

668 Garbology 101: Getting a Grip on Waste  
Modern-Day Waste Pickers  
>> *Science Podcast*

673 Finding a New Way to Go

674 Water Reclamation Going Green  
A Better Way to Denitrify Wastewater

676 Save Pave the World!

679 Getting Minds Out of the Sewer  
>> *Science Podcast*

### REVIEWS

681 Taking the "Waste" Out of "Wastewater"  
for Human Water Security and Ecosystem  
Sustainability  
S. B. Grant et al.

686 Conversion of Wastes into Bioelectricity  
and Chemicals by Using Microbial  
Electrochemical Technologies  
B. E. Logan and K. Rabaey

690 Challenges in Metal Recycling  
B. K. Reck and T. E. Graedel  
>> *Science Podcast*

695 Valorization of Biomass:  
Deriving More Value from Waste  
C. O. Tuck et al.

### PERSPECTIVES

700 Recycling of the #5 Polymer  
M. Xanthos

702 The Challenges of Reusing Mining  
and Mineral-Processing Wastes  
Z. Bian et al.

>> *Editorial p. 623 and videos at  
www.sciencemag.org/special/waste*

### EDITORIAL

623 An End to Waste?  
Janet G. Hering  
>> *Working with Waste section p. 662;  
Science Podcast*

### NEWS OF THE WEEK

628 A roundup of the week's top stories

### NEWS & ANALYSIS

631 Congress Ready to Extend Budget  
at Current Levels

632 Scientists Sue to Halt Financial  
Disclosure Rule

633 Are World Oil's Prospects  
Not Declining All That Fast?

634 With Eye to Innovation, China  
Revamps Its Universities

635 A New Face Reveals Multiple Lineages  
Alive at the Dawn of Our Genus *Homo*

### NEWS FOCUS

636 Attack of the Clones

639 Can Afghan Universities Recover  
From War, Taliban, and Neglect?

642 Neandertal Champion Defends the  
Reputation of Our Closest Cousins

### LETTERS

644 Predicting the Next Influenza Virus  
S. Krauss and R. G. Webster

Steps Forward for Greece  
N. M. Stavrakakis et al.

Mainstreaming Systems Science  
P. Dargusch and C. Smith

644 NextGenVOICES

646 CORRECTIONS AND CLARIFICATIONS

646 TECHNICAL COMMENT ABSTRACTS



page 636

### BOOKS ET AL.

647 The Viral Storm  
N. Wolfe, reviewed by B. A. Han et al.

648 Breaking into the Lab  
S. V. Rosser, reviewed by K. Andersen

### POLICY FORUM

649 Water Sustainability for China and Beyond  
J. Liu and W. Yang

### PERSPECTIVES

651 A Henipavirus Vaccine in Sight  
V. von Messling and R. Cattaneo  
>> *Sci. Transl. Med. Research Article by  
K. N. Bossart et al.*

652 Uncovering the Uranium-Nitrogen  
Triple Bond  
A. P. Sattelberger and M. J. A. Johnson  
>> *Report p. 717*

653 Precursor or Charge Supplier?  
G. D. Fairn and S. Grinstein  
>> *Report p. 727*

655 A Different Angle on Light Communications  
A. E. Willner et al.

656 Ice Sheets in Transition  
P. U. Clark  
>> *Research Article p. 704*

658 Leveraging Shear Stress to Bust Clots  
with Nanoparticles  
E. Lavik and J. Ustin  
>> *Report p. 738*

CONTENTS continued >>



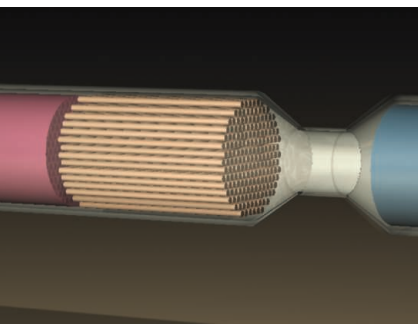
### COVER

Recycling aluminum cans (shown here in bales at a facility in Philadelphia, PA) is just one of the many approaches directed toward doing something productive with the world's ever-expanding stream of waste. In the special section Working with Waste (page 662), we survey multifaceted efforts to tackle this global challenge. For the story behind the cover, go to <http://scim.ag/cov6095>.

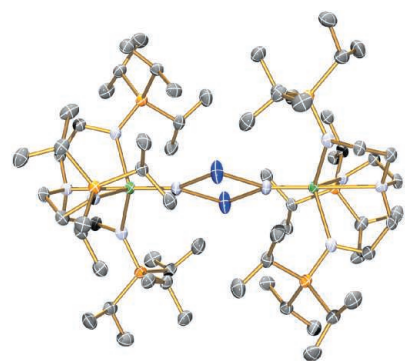
Photo: Huguette Roe, [www.hroepphoto.com](http://www.hroepphoto.com)

### DEPARTMENTS

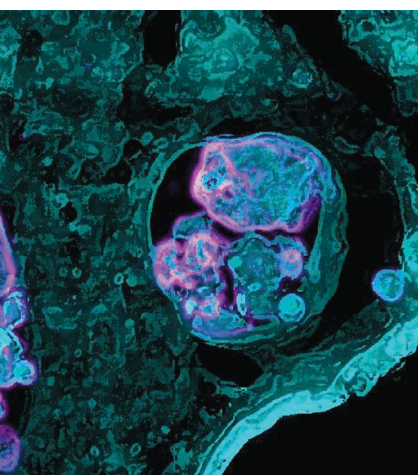
620 This Week in *Science*  
624 Editors' Choice  
626 *Science* Staff  
757 New Products  
758 *Science* Careers



pages 659 &amp; 713



pages 652 &amp; 717



pages 658 &amp; 738

- 659 Low-Temperature Oxidation of Methane  
*R. J. Farrauto*  
>> Report p. 713
- 661 Retrospective: Elinor Ostrom (1933–2012)  
*R. K. Wilson*

## RESEARCH ARTICLE

- 704 Evolution of Ocean Temperature and Ice Volume Through the Mid-Pleistocene Climate Transition  
*H. Elderfield et al.*  
The effects of changes in ice volume and ocean temperature during the mid-Pleistocene transition have now been resolved.  
>> Perspective p. 656

## REPORTS

- 710 Divergent Nematic Susceptibility in an Iron Arsenide Superconductor  
*J.-H. Chu et al.*  
Electrons are shown to drive a structural transition in a pnictide superconductor.
- 713 Exceptional Activity for Methane Combustion over Modular Pd@CeO<sub>2</sub> Subunits on Functionalized Al<sub>2</sub>O<sub>3</sub>  
*M. Cargnello et al.*  
A catalyst allows complete combustion of methane, a more powerful greenhouse gas than carbon dioxide, to occur at lower temperatures.  
>> Perspective p. 659
- 717 Synthesis and Structure of a Terminal Uranium Nitride Complex  
*D. M. King et al.*  
A uranium triple bond to nitrogen makes use of the heavy element's f orbitals.  
>> Perspective p. 652
- 721 The Provenances of Asteroids, and Their Contributions to the Volatile Inventories of the Terrestrial Planets  
*C. M. O'D. Alexander et al.*  
Hydrogen isotopic analysis of primitive meteorites implicates asteroids as early sources of Earth's water.
- 724 Earthquake in a Maze: Compressional Rupture Branching During the 2012 *M<sub>w</sub>* 8.6 Sumatra Earthquake  
*L. Meng et al.*  
The mechanics of the largest strike-slip earthquake ever recorded give clues about how intraplate earthquakes rupture.

- 727 PI4P and PI(4,5)P<sub>2</sub> Are Essential But Independent Lipid Determinants of Membrane Identity  
*G. R. V. Hammond et al.*  
The phospholipid phosphatidylinositol 4-phosphate defines important physical properties of the cell membrane.  
>> Perspective p. 653
- 730 Lineage Tracing Reveals Lgr5<sup>+</sup> Stem Cell Activity in Mouse Intestinal Adenomas  
*A. G. Schepers et al.*  
Multicolor reporter genes signal the fate of stem cells that fuel the growth of intestinal tumors in mice.
- 735 Closed-Loop Control of Epilepsy by Transcranial Electrical Stimulation  
*A. Berényi et al.*  
In a rodent model of petit mal epilepsy, the onset of a seizure triggers an electrical pulse that cuts short the seizure.
- 738 Shear-Activated Nanotherapeutics for Drug Targeting to Obstructed Blood Vessels  
*N. Korin et al.*  
Nanoparticles carrying a drug that dissolves blood clots disintegrate at sites of stenosis.  
>> Perspective p. 658
- 742 *Drosophila* Dosage Compensation Involves Enhanced Pol II Recruitment to Male X-Linked Promoters  
*T. Conrad et al.*  
Boosting gene expression from the entire X chromosome in males happens mainly at the level of transcription initiation.
- 746 Fate-Restricted Neural Progenitors in the Mammalian Cerebral Cortex  
*S. J. Franco et al.*  
Where cortical neurons end up is determined before they begin to move.
- 749 Bergmann Glial AMPA Receptors Are Required for Fine Motor Coordination  
*A. S. Saab et al.*  
Signaling by glial cells helps to preserve cerebellar neurons that control movements.
- 753 The Pulvinar Regulates Information Transmission Between Cortical Areas Based on Attention Demands  
*Y. B. Saalman et al.*  
A region of the thalamus synchronizes neuronal firing in two cortical areas and thus allocates attention.

## SCIENCEONLINE

## SCIENCEEXPRESS

[www.scienceexpress.org](http://www.scienceexpress.org)

### Direct Mapping of Nuclear Shell Effects in the Heaviest Elements

*E. Minaya Ramirez et al.*

Highly precise mass measurements of nobelium and lawrencium isotopes provide insight into superheavy element stability.

10.1126/science.1225636

### Adaptive Sleep Loss in Polygynous Pectoral Sandpipers

*J. A. Lesku et al.*

Male sandpipers spend their Arctic days mating instead of sleeping.

10.1126/science.1220939

### Loss of the Tumor Suppressor BAP1 Causes Myeloid Transformation

*A. Dey et al.*

The deubiquitinating enzyme BAP1 is implicated in myelodysplastic syndrome.

10.1126/science.1221711

### Highly Conserved Protective Epitopes on Influenza B Viruses

*C. Dreyfus et al.*

Three broadly neutralizing human monoclonal antibodies protect mice against influenza B.

10.1126/science.1222908

### Conformational Control of the Ste5 Scaffold Protein Insulates Against MAP Kinase Misactivation

*J. G. Zalatan et al.*

A scaffold protein controls signal transmission by using an auto-inhibitory domain as a gate.

10.1126/science.1220683

## TECHNICALCOMMENTS

#### Comment on "Impaired Respiratory and Body Temperature Control Upon Acute Serotonergic Neuron Inhibition"

*S. Löffler et al.*

Full text at [www.sciencemag.org/cgi/content/ful/337/6095/646-b](http://www.sciencemag.org/cgi/content/ful/337/6095/646-b)

#### Response to Comment on "Impaired Respiratory and Body Temperature Control Upon Acute Serotonergic Neuron Inhibition"

*S. M. Dymecki et al.*

Full text at [www.sciencemag.org/cgi/content/ful/337/6095/646-c](http://www.sciencemag.org/cgi/content/ful/337/6095/646-c)

## SCIENCENOW

[www.sciencenow.org](http://www.sciencenow.org)

Highlights From Our Daily News Coverage

#### Starbucks of Ancient America?

Native peoples traded a highly caffeinated 'black drink' at least 700 years ago.

<http://scim.ag/Black-Drink>

#### The Roots of Jewishness

A study fills in the genetic map of Jewish history.

<http://scim.ag/Jewish-History>

#### Mars Rover Already Doing Science

New observations roll in just minutes after Curiosity's touchdown.

<http://scim.ag/Mars-Rover>

## SCIENCE SIGNALING

[www.sciencesignaling.org](http://www.sciencesignaling.org)

The Signal Transduction Knowledge Environment

7 August issue: <http://scim.ag/ss080712>

#### RESEARCH ARTICLE: Microtubules Underlie Dysfunction in Duchenne Muscular Dystrophy

*R. J. Khairallah et al.*

## PODCAST

*C. W. Ward et al.*

Decreasing microtubule density reduces contraction-induced muscle injury.

#### RESEARCH ARTICLE: Nucleolar Localization of a Netrin-1 Isoform Enhances Tumor Cell Proliferation

*C. Delloye-Bourgeois et al.*

A nuclear-localized isoform of netrin may enhance ribosome biogenesis to promote cancer growth.

#### REVIEW: The Abluminal Endothelial Membrane in Neurovascular Remodeling in Health and Disease

*D. M. Hermann and A. ElAli*

Understanding brain vascular remodeling may allow effective intervention in cases of injury or disease that disrupt the blood-brain barrier.

## SCIENCE TRANSLATIONAL MEDICINE

[www.sciencetranslationalmedicine.org](http://www.sciencetranslationalmedicine.org)

Integrating Medicine and Science

8 August issue: <http://scim.ag/stm080812>

#### RESEARCH ARTICLE: A Hendra Virus G Glycoprotein Subunit Vaccine Protects African Green Monkeys from Nipah Virus Challenge

*K. N. Bossart et al.*

The Hendra virus attachment G glycoprotein fully protects nonhuman primates from lethal Nipah virus challenge.

>> *Perspective p. 651*

#### RESEARCH ARTICLE: Selective Activation of Adenosine A<sub>2A</sub> Receptors on Immune Cells by a CD73-Dependent Pro-Drug Suppresses Joint Inflammation in Experimental Rheumatoid Arthritis

*U. Flögel et al.*

#### PERSPECTIVE: The Outsiders—Emerging Roles of Ectonucleotidases in Inflammation

*C. Szabo and P. Pacher*

Phosphorylated adenosine A<sub>2A</sub> receptor agonists suppressed inflammation in a model of arthritis without A<sub>2A</sub>-mediated vasodilatory side effects.

#### RESEARCH ARTICLE: Instructive Nanofiber Scaffolds with VEGF Create a Microenvironment for Arteriogenesis and Cardiac Repair

*Y.-D. Lin et al.*

## FOCUS: Treating the Leading Killer

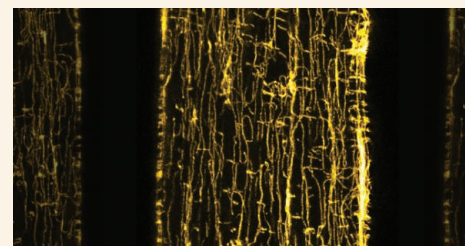
*K. L. Christman*

An intramyocardial microenvironment was created using nanofibers and VEGF for endogenous cardiac repair after infarction.

#### RESEARCH ARTICLE: A Combination of Buprenorphine and Naltrexone Blocks Compulsive Cocaine Intake in Rodents Without Producing Dependence

*S. Wee et al.*

An opioid agonist and antagonist, given together, decrease cocaine abuse in rodents without causing dependence and provide a potential treatment for cocaine addiction.



SCIENCE SIGNALING  
Muscle microtubule network.

## SCIENCE CAREERS

[www.sciencereers.org/career\\_magazine](http://www.sciencereers.org/career_magazine)  
Free Career Resources for Scientists

#### Taken for Granted: Crossing the Rubicon

*B. L. Benderly*

By admitting responsibility for the conditions that caused Sheri Sangji's death, the University of California takes a step toward better lab safety.  
[http://scim.ag/TFG\\_Rubicon](http://scim.ag/TFG_Rubicon)

#### Perspective: Science Training and Mental Health

*M. P. DeWhyse*

In the wake of the Colorado shootings, the scientific community should pay more attention to the psychological well-being of emerging scientists.  
[http://scim.ag/Training\\_MentalHealth](http://scim.ag/Training_MentalHealth)

#### Gambling on Transformative Research

*E. Pain*

Scientists with the right skills and attitude find limited but increasing opportunities to pursue high-risk, high-reward research.  
<http://scim.ag/GamblingTransformative>

## SCIENCE PODCAST

[www.sciencemag.org/multimedia/podcast](http://www.sciencemag.org/multimedia/podcast)  
Free Weekly Show

On the 10 August Science Podcast: Garbology 101, challenges in metal recycling, the "yuck factor," and an end to waste.

SCIENCE (ISSN 0036-8075) is published weekly on Friday, except the last week in December, by the American Association for the Advancement of Science, 1200 New York Avenue, NW, Washington, DC 20005. Periodicals Mail postage (publication No. 484460) paid at Washington, DC, and additional mailing offices. Copyright © 2012 by the American Association for the Advancement of Science. The title SCIENCE is a registered trademark of the AAAS. Domestic individual membership and subscription (51 issues): \$149 (\$74 allocated to subscription). Domestic institutional subscription (51 issues): \$990; Foreign postage extra: Mexico, Caribbean (surface mail) \$55; other countries (air assist delivery) \$85. First class, airmail, student, and emeritus rates on request. Canadian rates with GST available upon request, GST #1254 88122. Publications Mail Agreement Number 1069624. Printed in the U.S.A.

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**337 (6095)**

*Science* **337** (6095), 613-757.

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