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.

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. Dariguch and C. Smith
644 NextGenVOICES
646 CORRECTIONS AND CLARIFICATIONS
646 TECHNICAL COMMENT ABSTRACTS

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

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

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/cover095.

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DEPARTMENTS
620 This Week in Science
624 Editors’ Choice
626 Science Staff
757 New Products
758 Science Careers
Low-Temperature Oxidation of Methane

R. J. Farrauto
>> Report p. 713

Retrospective: Elinor Ostrom (1933–2012)

R. K. Wilson

RESEARCH ARTICLE

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

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.

Exceptional Activity for Methane Combustion over Modular Pd@CeO$_2$ Subunits on Functionalized Al$_2$O$_3$
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

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

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.

Earthquake in a Maze: Compressional Rupture Branching During the 2012 $M_{w}$ 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.

PI4P and PI(4,5)P$_2$ 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

Lineage Tracing Reveals Lgr5$^+$ 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.

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.

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.

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.

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.

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.

The Pulvinar Regulates Information Transmission Between Cortical Areas Based on Attention Demands
Y. B. Saalmann et al.
A region of the thalamus synchronizes neuronal firing in two cortical areas and thus allocates attention.
SCIENCEONLINE

DIRECT MAPPING OF NUCLEAR SHELL EFFECTS IN THE HEAVIEST ELEMENTS
E. Minaya Ramírez 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 POLYGONYNS
Pectoral Sandpipers
J. A. Leslie 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.
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HIGHLY CONSERVED PROTECTIVE EPITOPES ON INFLUENZA B VIRUSES
C. Dreyfus et al.

Three broadly neutralizing human monoclonal antibodies protect mice against influenza B.
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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.
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TECHNICAL COMMENTS
Comment on “Impaired Respiratory and Body Temperature Control Upon Acute Serotonergic Neuron Inhibition”
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Full text at www.sciencemag.org/cgi/content/full/337/6095/646-b
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R. J. Khairallah et al.

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C. W. Ward et al.

Decreasing microtubule density reduces contraction-induced muscle injury.
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A nuclear-localized isoform of netrin may enhance ribosome biogenesis to promote cancer growth.
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Understanding brain vascular remodeling may allow effective intervention in cases of injury or disease that disrupt the blood-brain barrier.

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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 A2A 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 A2A receptor agonists suppressed inflammation in a model of arthritis without A2A-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.

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