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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.hroephoto.com
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.

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.