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COVER
NASA’s Mars Science Laboratory rover, Curiosity, at its Rocknest sample-collection site, Gale crater, Mars, on 31 October 2012. This is a mosaic of 59 images acquired by the Mars Hand Lens Imager, a camera mounted at the end of Curiosity’s robotic arm (both partly not visible during imaging and cropped out during processing). Four scoop troughs are shown; a fifth was created after the mosaic was obtained. The width of each rover wheel is 40 cm. See page 1475.

Image: NASA/JPL-Caltech/Malin Space Science Systems

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Students Propose Genetic Solutions to Societal Problems
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Electromagnetic Energy Conversion at Reconnection Fronts
V. Angelopoulos et al.
Data from various satellites in Earth’s magnetotail clarify where and how electromagnetic energy conversion occurs.

Circadian Gene Bmal1 Regulates Diurnal Oscillations of Ly6C^hi Inflammatory Monocytes
K. D. Nguyen et al.
The clock protein Bmal1 regulates daily changes in white blood cell trafficking and susceptibility to inflammation in mice.

In Situ Observations of Interstellar Plasma with Voyager 1
D. A. Garnett et al.
Electron densities detected by Voyager 1 show that the spacecraft is in the interstellar plasma.

Distances, Luminosities, and Temperatures of the Coldest Known Substellar Objects
T. J. Dupuy and A. L. Kraus
Observations with the Spitzer Space Telescope strengthen the link between the coolest brown dwarfs and gas-giant exoplanets.

Observation of Dirac Node Formation and Mass Acquisition in a Topological Crystalline Insulator
Y. Okada et al.
Scanning tunneling spectroscopy of Pb1–xSn3Se in a magnetic field reveals two types of Dirac fermions.

Abnormal Grain Growth Induced by Cyclic Heat Treatment
T. Omori et al.
Thermal cycling of a copper-based shape-memory alloy leads to abnormal grain growth and very large grains.

Cation Intercalation and High Volumetric Capacitance of Two-Dimensional Titanium Carbide
M. R. Lukatskaya et al.
The layered material Ti3C2 can intercalate much larger cations than Li^+, allowing for energy storage applications.

Shape Memory and Superalastic Ceramics at Small Scales
A. Lai et al.
Fine-scale shape memory ceramics are capable of many actuation cycles to strains up to 7%.

Near-Complete Extinction of Native Small Mammal Fauna 25 Years After Forest Fragmentation
L. Gibson et al.
The rapid loss of native mammals from isolated Thai forests suggests that forest fragments cannot maintain biodiversity.

Safeguards for Cell Cooperation in Mouse Embryogenesis Shown by Genome-Wide Cheater Screen
M. Depoz et al.
During embryogenesis, a network of genes centered on p53, topoisomerase 1, and olfactory receptors helps to ensure cell cooperation.

Distinguishable Epidemics of Multidrug-Resistant Salmonella Typhimurium DT104 in Different Hosts
A. E. Mather et al.
Antibiotic resistance travels in independent epidemics in humans and their livestock.

The Inhibitory Circuit Architecture of the Lateral Hypothalamic Orchestrate Feeding
J. H. Jennings et al.
A specific brain circuit drives the consumption of highly palatable food, even when energy needs are satisfied.

Cocaine Disinhibits Dopamine Neurons by Potentiation of GABA Transmission in the Ventral Tegmental Area
C. Bocklisch et al.
Changes in specific neuronal circuits suggest that drug-evoked synaptic plasticity facilitates drug-adaptive behavior.

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Editor's Summary