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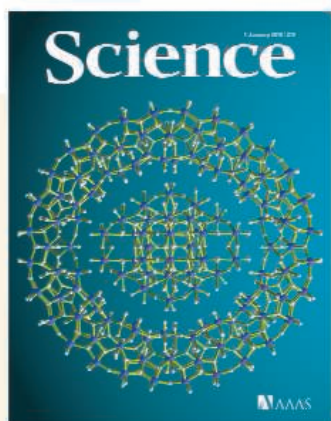
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## COVER

Crystal structure of a molybdenum oxide nanowheel, 2.6 nanometers in diameter, around a smaller molybdenum oxide cluster. *Miras et al.* (page 72; related Perspective page 38) used a controlled-flow reactor to show that the central core serves as a transient template for the self-assembly of the nanowheel and is ultimately ejected to yield a hollow finished product.

Image: *Leroy Cronin, Ryo Tsunashima, Haralampos Miras/University of Glasgow*

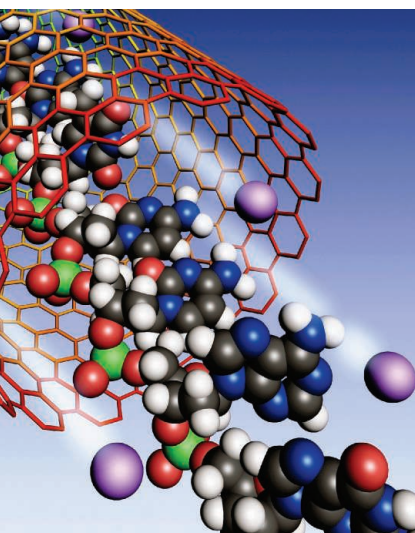
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- 72 **Unveiling the Transient Template in the Self-Assembly of a Molecular Oxide Nanowheel**  
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 Use of a flow reactor reveals a key intermediate in the formation of a molybdenum oxide nanostructure.  
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 Analysis of functional magnetic resonance imaging data reveals that neural activation patterns are more reproducible for seen versus unseen objects.  
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## SCIENCEONLINE

## SCIENCEEXPRESS

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

**Detection of Gamma-Ray Emission from the Vela Pulsar Wind Nebula with AGILE**

*A. Pellizzoni et al.*

Pulsar wind nebulae could account for some of the yet unidentified Galactic gamma-ray sources.  
10.1126/science.1183844

**$^{238}\text{U}/^{235}\text{U}$  Variations in Meteorites: Extant  $^{247}\text{Cm}$  and Implications for Pb-Pb Dating**

*G. A. Brennecka et al.*

Variable abundances of meteorite isotopes may require correcting the lead-based age of the solar system by 5 million years.  
10.1126/science.1180871

**Darwinian Evolution of Prions in Cell Culture**

*J. Li et al.*

When propagated in vitro, prion strains demonstrate adaptability and selection.  
10.1126/science.1183218

**Protein PRDM9 Is a Major Determinant of Meiotic Recombination Hotspots in Humans and Mice**

*F. Baudat et al.*

10.1126/science.1183439

**Drive Against Hotspot Motifs in Primates Implicates the PRDM9 Gene in Meiotic Recombination**

*S. Myers et al.*

10.1126/science.1182363

**Prdm9 Controls Activation of Mammalian Recombination Hotspots**

*E. D. Parvanov et al.*

A chromatin-modifying enzyme functions in the determination of recombination loci within the genome.

10.1126/science.1181495

## SCIENCE NOW

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Highlights From Our Daily News Coverage

**When Fire Approaches, Chimps Keep Their Cool**

Primates clear an important hurdle in humanlike mastery of fire.

**Seasick? Try Controlling Your Breathing**

Changing your breathing pattern may delay the onset of nausea at sea.

**Hand Size—Not Sex—Determines Sense of Touch**

Women's fingers are more sensitive, but that's just because they are smaller than men's are.

## SCIENCE SIGNALING

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The Signal Transduction Knowledge Environment

**RESEARCH ARTICLE: Regulation of Epidermal Growth Factor Receptor Trafficking by Lysine Deacetylase HDAC6**

*Y. Lissanu Deribe et al.*

HDAC6 sets a brake that slows down the delivery of activated epidermal growth factor receptors to the degradative compartment.

**RESEARCH ARTICLE: Tumor Suppression by PTEN Requires the Activation of the PKR-eIF2 $\alpha$  Phosphorylation Pathway**

*Z. Mounir et al.*

PTEN provides a link between tumor suppression and the inhibition of protein synthesis independently of its regulation of PI3K signaling.

**RESEARCH ARTICLE: Cbl Controls EGFR Fate by Regulating Early Endosome Fusion**

*G. D. Visser Smit et al.*

The E3 ubiquitin ligase Cbl mediates the fusion of early endosomes necessary to target EGFR for lysosomal degradation.

**PERSPECTIVE: Channeling Calcium—A Shared Mechanism for Exocytosis-Endocytosis Coupling**

*S. S. Vogel*

Exocytotic insertion of calcium channels can couple exocytosis with endocytosis.

## SCIENCE CAREERS

[www.sciencereers.org/career\\_magazine](http://www.sciencereers.org/career_magazine)

Free Career Resources for Scientists

**A Scientist's Infectious Enthusiasm**

*S. Webb*

Benjamin tenOver is an unconventional virologist who is working to make his discoveries clinically relevant.

**Coming to America: Doing a Postdoc in the U.S.**

*L. Laursen*

The logistics can be intimidating, but a postdoc in the United States is rewarding.

## SCIENCE TRANSLATIONAL MEDICINE

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

Integrating Medicine and Science

**PERSPECTIVE: PPAR $\gamma$  Activation—A Potential Treatment for Pulmonary Hypertension**

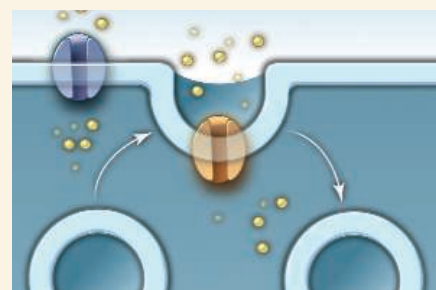
*G. Hansmann and R. T. Zamanian*

A new target is identified to thwart heart failure.

**PERSPECTIVE:  $\alpha_{2A}$ -Adrenergic Receptors in the Genetics, Pathogenesis, and Treatment of Type 2 Diabetes**

*S. B. Liggitt*

Results originating from rat genetics make a compelling case for the ADRA2A locus and type 2 diabetes in humans.



## SCIENCE SIGNALING

Coupling exocytosis with endocytosis.

**RESEARCH ARTICLE: Measurement and Clinical Monitoring of Human Lymphocyte Clonality by Massively Parallel V-D-J Pyrosequencing**

*S. D. Boyd et al.*

Rapid sequencing of immune receptor loci can provide direct detection and tracking of immune diversity.

**REPORT: Seasonal Influenza Vaccine Provides Priming for A/H1N1 Influenza Immunization**

*G. Del Giudice et al.*

A vaccine currently used to protect against H1N1 is more effective when co-injected with an adjuvant and seasonal flu vaccine.

## SCIENCE PODCAST

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Download the 1 January *Science* Podcast to hear about caterpillars masquerading as twigs, the chief scientist of Russia's Space Research Institute, and clues to cancer in Tasmanian devils.

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A History of Beginnings

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Science Policy News and Analysis

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