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## COVER

The Genesis Concentrator target (6 centimeters in diameter), bearing atoms from the solar wind, is disentangled from its support frame and wire mesh following the crash of the sample return capsule in the Utah desert in 2004. Analyses of an unbroken silicon carbide quadrant (top) reveal the initial oxygen and nitrogen isotopic compositions of the solar system, which are distinctly different from terrestrial isotopic compositions. See pages 1528 and 1533.

Image: NASA Genesis Team

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- 1524 **16-Month-Olds Rationally Infer Causes of Failed Actions**  
*H. Gweon and L. Schulz*  
Infants use statistical inference to decide what went wrong.  
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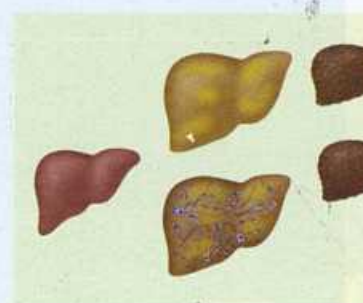
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*S. Gupta et al.*  
The temperature scale for the breakdown of protons and neutrons can be determined from high-energy ion collisions and calculations.  
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- 1528 **The Oxygen Isotopic Composition of the Sun Inferred from Captured Solar Wind**  
*K. D. McKeegan et al.*  
The Sun is highly enriched in the most abundant isotope of oxygen, oxygen-16, relative to most other planetary materials.
- 1533 **A  $^{15}\text{N}$ -Poor Isotopic Composition for the Solar System As Shown by Genesis Solar Wind Samples**  
*B. Marty et al.*  
The solar atmosphere is about 40% enriched in the heavy nitrogen-15 isotope compared with the Sun and Jupiter.  
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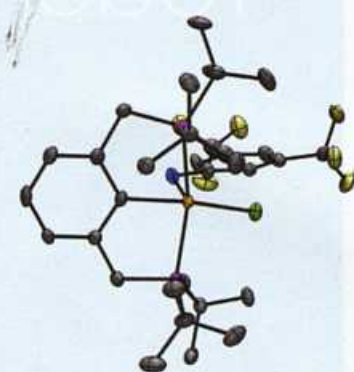
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*Y. Zhu et al.*  
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- 1541 **Disorder-Enhanced Transport in Photonic Quasicrystals**  
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- 1545 **Net Oxidative Addition of  $\text{C}(\text{sp}^3)\text{-F}$  Bonds to Iridium via Initial C-H Bond Activation**  
*J. Choi et al.*  
An unusual mechanism to cleave carbon-fluorine bonds may facilitate more efficient transformations of fluorocarbons.
- 1548 **Abiotic Pyrite Formation Produces a Large Fe Isotope Fractionation**  
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- 1551 **Lévy Walks Evolve Through Interaction Between Movement and Environmental Complexity**  
*M. de Jager et al.*  
Animals' movements may not only respond to the environment, but may also shape it, and thus affect fitness.  
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- 1554 **Gametogenesis Eliminates Age-Induced Cellular Damage and Resets Life Span in Yeast**  
*E. Únal et al.*  
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- 1557 **A Cell Cycle Phosphoproteome of the Yeast Centrosome**  
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Phosphorylation of the yeast centrosome reveals sites of regulation and predicts complex regulation of mammalian centrosomes.
- 1561 **Mutagenic Processing of Ribonucleotides in DNA by Yeast Topoisomerase I**  
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- 1571 **Inducing Sleep by Remote Control Facilitates Memory Consolidation in *Drosophila***  
*J. M. Donlea et al.*  
Inducing sleep in flies reverses deficits in long-term memory caused by social enrichment.
- 1576 **Sleep and Synaptic Homeostasis: Structural Evidence in *Drosophila***  
*D. Bushey et al.*  
Flies' need for sleep depends on how many synapses are formed while awake.

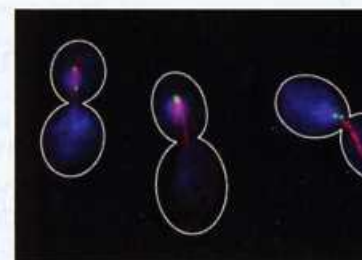
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