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A bacterium uses its flagellum to grip its archaeal symbiotic partner and to stimulate hydrogen consumption.

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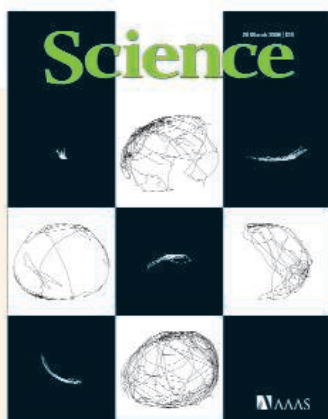


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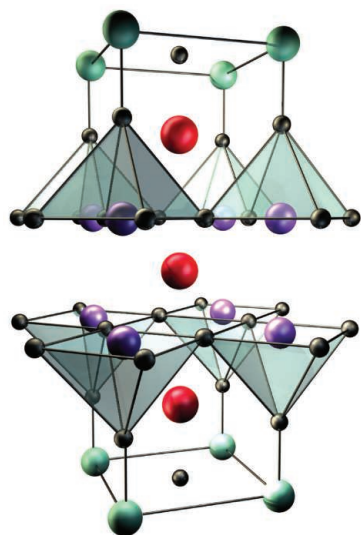
COVER

Movement trajectories, each recorded during a 1-hour time period, for rats with brain lesions that reduce dopamine signaling. These animals serve as a model of Parkinson's disease and display severe difficulty in initiating movements, as illustrated by the white trajectories (on black background) showing limited locomotion. Black trajectories (on white background) illustrate the recovery of locomotive activity induced by electrical stimulation of the dorsal columns of the spinal cord. See page 1578.

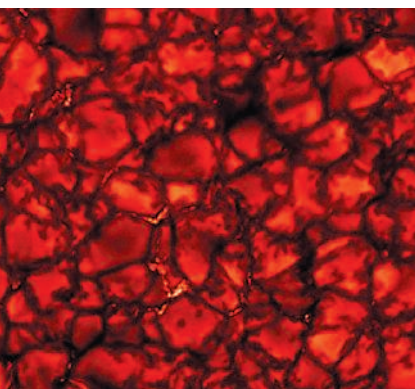
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1578 Spinal Cord Stimulation Restores Locomotion in Animal Models of Parkinson's Disease

R. Fuentes et al.

Epidural stimulation of spinal neural pathways produces specific shifts in activity in neural circuits affecting movement.

>> *News story p. 1554; Science Express Report by V. Gradinaru et al.*

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D. B. Jess et al.

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Y. Takabayashi et al.

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1590 Omnidirectional Printing of Flexible, Stretchable, and Spanning Silver Microelectrodes

B. Y. Ahn et al.

Colloidal silver particles can be formed into flexible electrodes of arbitrary shape in three dimensions.

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1593 A Meta-Selective Copper-Catalyzed C–H Bond Arylation

R. J. Phipps and M. J. Gaunt

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>> *Perspective p. 1572*1597 The Burgess Shale Anomalocaridid *Hurdia* and Its Significance for Early Euarthropod Evolution

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1600 A Role for RNAi in the Selective Correction of DNA Methylation Defects

F. K. Teixeira et al.

An RNA interference-dependent DNA methylation rescue system helps to preserve a subset of DNA methylation marks in *Arabidopsis*.

>> *Perspective p. 1568*

1605 Genetic Incompatibility Drives Sex Allocation and Maternal Investment in a Polymorphic Finch

S. R. Pryke and S. C. Griffith

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1607 The Domestication Process and Domestication Rate in Rice: Spikelet Bases from the Lower Yangtze

D. Q. Fuller et al.

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1610 Variants of the Antibody Herceptin That Interact with HER2 and VEGF at the Antigen Binding Site

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The antigen binding site of a therapeutic antibody for cancer simultaneously binds two proteins required for tumor growth.

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1617 The Surprising Power of Neighborly Advice

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A stranger's reaction to a social situation is a more accurate guide to our own reaction than is a written description of the situation.

>> *Science Podcast*

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The Disappearance of the Progenitors of Supernovae 1993J and 2003gd

J. R. Maund and S. J. Smartt

The presumed progenitor stars of supernovae are indeed absent in later images from these sites.
10.1126/science.1170198

Optical Deconstruction of Parkinsonian Neural Circuitry

V. Gradinaru et al.

The therapeutic effects of high-frequency stimulation of the subthalamic nucleus result from direct effects on afferent axons.
10.1126/science.1167093

>> *News story p. 1554; Research Article p. 1578*

Circadian Clock Feedback Cycle Through NAMPT-Mediated NAD⁺ Biosynthesis

K. M. Ramsey et al.

A transcriptional-enzymatic feedback loop controls interactions between metabolism and circadian rhythms in mouse cells.
10.1126/science.1171641

γ -Secretase Heterogeneity in the Aph1 Subunit: Relevance for Alzheimer's Disease

L. Serneels et al.

Targeted knockout of only part of the γ -secretase complex lessens toxicity and still improves disease phenotypes.
10.1126/science.1171176

Benzothiazinones Kill *Mycobacterium tuberculosis* by Blocking Arabinan Synthesis

V. Makarov et al.

An enzyme required for cell-wall synthesis is a target for a possible alternative drug for tuberculosis treatment.
10.1126/science.1171583

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Southpaw Solar System

Meteorites might have seeded early Earth with 'left-handed' amino acids.

Oxygenated Oceans Go Way, Way Back

Seabed mineral suggests a much earlier start for photosynthesis.

A Hitch in Plans for 'Sunshade Earth'

Dusting the skies could help with global warming but harm solar power.

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RESEARCH ARTICLE: Obesity Increases Vascular Senescence and Susceptibility to Ischemic Injury Through Chronic Activation of Akt and mTOR

C.-Y. Wang et al.

Chronic activation of Akt and mammalian target of rapamycin (mTOR) link diet-induced obesity with cardiovascular disease.

PERSPECTIVE: Bacterial FIC Proteins AMP Up Infection

C. R. Roy and S. Mukherjee

A bacterial protein posttranslationally modifies and inactivates Rho family GTPases in host cells.

TEACHING RESOURCE: Measurement of Phosphorylated Extracellular Signal-Regulated Kinase 1 and 2 in an Undergraduate Teaching Laboratory with ALPHAscreen Technology

D. L. Hay

Students use a high-throughput assay to monitor cellular responses to receptor activation.

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Translational social scientists carry the lessons they learn in the community back to the lab.

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L. Laursen

The work of a science librarian offers a mix of research, teaching, and interacting with people.

Tooling Up: The Informational Interview

D. Jensen

Landing an informational interview takes networking; making it pay off takes preparation.

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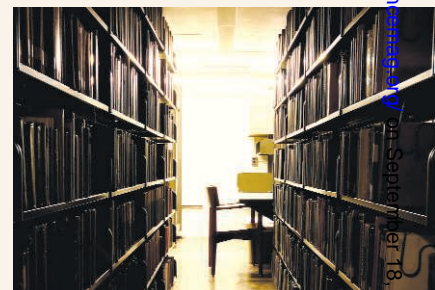
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Dimmer future?



SCIENCE SIGNALING

Obese mice have heart conditions.



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Science

323 (5921)

Science **323** (5921), 1535-1620.

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