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1574 Flagellum Mediates Symbiosis
T. Shimoyama et al.
A bacterium uses its flagellum to grip its archaeal symbiotic partner and to stimulate hydrogen consumption.

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.

Photo illustration: Yoel Kats/Science; images: Per Petersson

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A. E. Aliev et al.
Applying a high voltage to very low density sheets of carbon nanotubes causes rapid expansion in one direction.
>> Perspective p. 1571

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.

REPORTS

1582 Alfvén Waves in the Lower Solar Atmosphere
D. B. Jess et al.
A special type of plasma wave has been observed that can heat the solar atmosphere to millions of degrees Celsius.
>> News story p. 1551; Science Podcast

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Y. Takabayashi et al.
A well-ordered body-centered cubic phase of Cs$_3$C$_{60}$ reveals a pressure-driven transition from an insulator to a superconductor.
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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 Amination
R. J. Phipps and M. J. Gaunt
A copper catalyst functionalizes benzene derivatives at ring positions complementary to those accessed by standard methods.
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1597 The Burgess Shale Anomalocaridid Hurdia and Its Significance for Early Euarthropod Evolution
A. C. Daley et al.
Hurdia, a Cambrian fossil, clarifies the morphology and evolution of early arthropod limbs and head.

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.
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1605 Genetic Incompatibility Drives Sex Allocation and Maternal Investment in a Polymorphic Finch
S. R. Pyke and S. C. Griffith
Female Gouldian finches bias the sex of their offspring on the basis of their partner’s color phenotype.

1607 The Domestication Process and Domestication Rate in Rice: Spikelet Bases from the Lower Yangtze
D. Q. Fuller et al.
Remains of domestic and wild rice trace the process of rice domestication in China to between 6900 and 6600 years ago.
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1610 Variants of the Antibody Herceptin That Interact with HER2 and VEGF at the Antigen Binding Site
J. Bostrom et al.
The antigen binding site of a therapeutic antibody for cancer simultaneously binds two proteins required for tumor growth.
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1614 Ankyrin-G Promotes Cyclic Nucleotide–Gated Channel Transport to Rod Photoreceptor Sensory Cilia
K. Kizhatil et al.
The assembly and function of key photoreceptor proteins in neonatal mouse retinas is mediated by the protein ankyrin-G.

1617 The Surprising Power of Neighborly Advice
D. T. Gilbert et al.
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
Dimmer future?

Careers for science librarians.

SCIENCECAREERS
www.sciencemag.org/career_magazine
Free Career Resources for Scientists

Bringing Community Into Translational Research
S. Webb
Translational social scientists carry the lessons they learn in the community back to the lab.

Looking Up Your Career at the Library
L. Laursen
The work of a science librarian offers a mix of research, teaching, and interacting with people.

Tooing Up: The Informational Interview
D. Jensen
Landing an informational interview takes networking; making it pay off takes preparation.

Laboratory with ALPHAscreen Technology
Kinase 1 and 2 in an Undergraduate Teaching Environment
D. L. Hay
Students use a high-throughput assay to monitor cellular responses to receptor activation.

Infection with cardiovascular disease.
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 Environment with ALPHAscreen Technology
D. L. Hay
Students use a high-throughput assay to monitor cellular responses to receptor activation.

Benzothiazinones Kill Mycobacterium tuberculosis by Blocking Arabian Synthesis
V. Makarov et al.
An enzyme required for cell-wall synthesis is a target for a possible alternative drug for tuberculosis treatment.

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

γ-Secretase Heterogeneity in the Aph1 Subunit: Relevance for Alzheimer’s Disease
L. Serneels et al.

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.

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.

The Discovery of Beginnings
A History of Beginnings
blogs.sciencemag.org/origins

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

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