Cover

Mexican free-tailed bats roost at Bracken Cave near San Antonio, Texas. Streicker et al. (p. 676) describe how the spread of new forms of rabies virus is restricted between bat species; Frick et al. (p. 679) explain how a fungal disease of bats, white-nose syndrome, is likely to lead to local extinctions of once-common bat species.

RESEARCH ARTICLES

643 High-Resolution Analysis of Parent-of-Origin Allelic Expression in the Mouse Brain
C. Gregg et al.
A large repertoire of genes shows preferential expression of the paternally or maternally inherited allele.
>> Perspective p. 636; Report p. 682

649 Role of Secondary Sensory Cortices in Emotional Memory Storage and Retrieval in Rats
T. Sacco and B. Sacchetti
An emotional memory gradually becomes widely distributed throughout the cortex.

REPORTS

656 Normal Modes and Density of States of Disordered Colloidal Solids
D. Kaya et al.
The motion of colloidal gel particles is used to determine the mechanical and thermal properties of a disordered system.

659 Massive Dirac Fermion on the Surface of a Magnetically Doped Topological Insulator
Y. L. Chen et al.
Adding magnetic atoms to a topological insulator breaks its time-reversal symmetry.
>> Perspective p. 639

662 Quantum Correlations in Optical Angle–Orbital Angular Momentum Variables
J. Leach et al.
Strong quantum correlations are induced between the angular position and angular momentum of two photons.

665 MESSENGER Observations of Extreme Loading and Unloading of Mercury’s Magnetic Tail
J. A. Slavin et al.
Relative to Earth, Mercury’s magnetospheric substorms are more intense and occur on shorter time scales.

668 Evidence for Young Volcanism on Mercury from the Third MESSENGER Flyby
L. M. Prockter et al.
Volcanism and associated deformation on Mercury may have lasted well into the last half of the history of the solar system.

672 Mercury’s Complex Exosphere: Results from MESSENGER’s Third Flyby
R. J. Vervack Jr. et al.
Mercury’s exosphere is more varied and more intertwined with its magnetospheric environment than previously thought.

676 Host Phylogeny Constrains Cross-Species Emergence and Establishment of Rabies Virus in Bats
D. G. Streicker et al.
Rabies virus’ innate capacity to replicate and adapt cannot overcome host genetic barriers to cross-species transfer.

679 An Emerging Disease Causes Regional Population Collapse of a Common North American Bat Species
W. F. Frick et al.
Like the passenger pigeon, millions of little brown bats face the possibility of rapid extinction, this time from disease.
>> Perspective p. 634; Science Podcast

682 Sex-Specific Parent-of-Origin Allelic Expression in the Mouse Brain
C. Gregg et al.
The relative contributions of the paternal and maternal genomes differ in distinct brain regions and also in males and females.
>> Perspective p. 636; Research Article p. 643

686 Nonlinear Elasticity and an 8-nm Working Stroke of Single Myosin Molecules in Myofilaments
M. Kaya and H. Higuchi
Single-molecule measurements refine our understanding of how muscle myosin works.

689 Long Noncoding RNA as Modular Scaffold of Histone Modification Complexes
M.-C. Tsai et al.
The long noncoding RNA HOTAIR binds two distinct protein complexes that modify chromatin and repress transcription.

693 FAN1 Acts with FANCI-FANCD2 to Promote DNA Interstrand Cross-Link Repair
T. Liu et al.
The nuclease FAN1 acts with Fanconi anemia proteins to help repair damaged DNA.
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Strange Metal Transport Realized by Gauge/Gravity Duality
T. Faulkner et al.
Black hole theory is used to develop a mathematical description of a class of metals with unusual electronic properties.
10.1126/science.1189134

The Chlorine Isotope Composition of the Moon and Implications for an Anhydrous Mantle
Z. D. Sharp et al.
The range of chlorine isotope values of the Moon is distinct from those of Earth and meteorites, indicating that the Moon is dry.
10.1126/science.1192606

>> Science Podcast

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A. EBoitano et al.
The identification of a mechanism for ex vivo amplification may facilitate clinical application of hematopoietic stem cell therapies.
10.1126/science.1191536

Structural Basis for Activation of Class Ib Ribonucleotide Reductase
A. K. Bood et al.
A single protein activates two different metallofactors by distinct chemistries.
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E. Slinger et al.
A viral G protein–coupled receptor may initiate a positive feedback loop to promote tumor proliferation and vascularization.
10.1126/science.1190187

RESEARCH ARTICLE: The Nonphagocytic NADPH Oxidase Duox1 Mediates a Positive Feedback Loop During T Cell Receptor Signaling
J. Kwon et al.
Reactive oxygen species enhance T cell receptor signaling by promoting the phosphorylation of a proximal kinase.
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