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PSYCHOLOGY
BREVIA: Serotonin Modulates Behavioral Reactions to Unfairness
M. J. Crockett, L. Clark, G. Tabibnia, M. D. Lieberman, T. W. Robbins
Individuals with low levels of brain serotonin are less likely to accept an unfair offer of money from other players in a laboratory game.
10.1126/science.1155577

ECOLOGY
Animal Versus Wind Dispersal and the Robustness of Tree Species to Deforestation
D. Montoya, M. A. Zavala, M. A. Rodríguez, D. W. Purves
In Spanish forests, tree species with seeds that are dispersed by animals are more resilient in a fragmented forest than those with wind-dispersed seeds.
10.1126/science.1158404

CHEMISTRY
The Role of Interstitial Sites in the Ti3d Defect State in the Band Gap of Titania
S. Wendt et al.
Scanning tunneling microscope data and calculations show that near-surface titanium sites, not bridging oxygen vacancies, determine the useful electronic properties of TiO2.
10.1126/science.1159846

EVOLUTION
Natural Selection Shapes Genome-Wide Patterns of Copy-Number Polymorphism in Drosophila melanogaster
J. J. Emerson, M. Cardoso-Moreira, J. O. Borevitz, M. Long
A high-resolution analysis of gene copy number in Drosophila species shows that most variations are deleterious but a few for resistance to toxins are being positively selected.
10.1126/science.1158078

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An Eccentric Binary Millisecond Pulsar in the Galactic Plane
D. J. Champion et al.
A rapidly rotating pulsar has a highly eccentric orbit about its companion star, not the usual circular orbit, challenging ideas on how such binary systems form.
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MICROBIOLOGY
Predictive Behavior Within Microbial Genetic Networks
I. Tagkopoulos et al.
Predictable sequences of environmental signals can be exploited by bacteria so that they learn to anticipate future metabolic needs and thereby gain a competitive edge.
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A Transient Radio Jet in an Erupting Dwarf Nova
E. Körding et al.
Detection of a radio jet in a dwarf supernova shows that production of synchrotron radiation during accretion of a disk is a ubiquitous source of astrophysical jets.
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Identification of Non-Precious Metal Alloy Catalysts for Selective Hydrogenation of Acetylene
F. Stude et al.
Calculations of heats of adsorption of hydrocarbons on metals guide experiments and show that a nickel-zinc alloy can replace palladium in selectively oxidizing acetylene.

GEOPHYSICS
The Aftershock Signature of Supershear Earthquakes
M. Bouchon and H. Karabulut
Destructive earthquakes that ruptured faster than the speed of sound have aftershocks off the fault plane, but not on it, because of the high stresses generated by the shock wave.

PHYSICS
Multipartite Entanglement Among Single Spins in Diamond
P. Neumann et al.
Nitrogen vacancy centers in diamond are used to generate and detect 2-qubit and 3-qubit entangled states at room temperature.

PHYSICS
Strong Dissipation Inhibits Losses and Induces Correlations in Cold Molecular Gases
N. Syassen et al.
Inducing inelastic collisions in cold gas condensates confined in one-dimensional tubes extends the lifetime of the molecules by more than an order of magnitude. >> Perspective p. 1300

CELL BIOLOGY
Subdiffraction Multicolor Imaging of the Nuclear Periphery with 3D Structured Illumination Microscopy
L. Schermelleh et al.
Fluorescence tags illuminated through a diffraction grating reveal the structure of nuclear pores, surrounding channels, and chromatin at a resolution of about 100 nanometers.

MOLECULAR BIOLOGY
Intersection of the RNA Interference and X-Inactivation Pathways
Y. Ogawa, B. K. Sun, J. T. Lee
Two noncoding RNAs required for X-chromosome inactivation in female mice form a duplex that is cleaved by the RNA interference machine, indicating a link between X inactivation and RNA interference.

MOLECULAR BIOLOGY
Fission Yeast Pot1-Tpp1 Protects Telomeres and Regulates Telomere Length
T. Miyoshi, J. Kanoh, M. Saito, F. Ishikawa
Yeast chromosome ends are protected by a protein complex similar to that in mammals, which prevents end-to-end chromosome fusion and controls telomere length. >> Perspective p. 1301

MOLECULAR BIOLOGY
The Transcriptional Landscape of the Yeast Genome Defined by RNA Sequencing
U. Nagalakshmi et al.
A more complete catalog of transcribed DNA of yeast is assembled by shotgun sequencing of messenger RNA and reveals numerous previously unknown transcription regions.

DEVELOPMENTAL BIOLOGY
The Transcription/Migration Interface in Heart Precursors of Ciona intestinalis
L. Christiaen et al.
In embryonic cells destined to form the heart in a simple chordate, a genetic network activates modules of effector genes for proteins that control cellular migration.

NEUROSCIENCE
High Impulsivity Predicts the Switch to Compulsive Cocaine-Taking
D. Belin et al.
Rats that are more impulsive, but not those that seek novelty, tend to compulsively consume cocaine and become addicted.

NEUROSCIENCE
Patches with Links: A Unified System for Processing Faces in the Macaque Temporal Lobe
S. Moeller, W. A. Freiwald, D. Y. Tsao
The six regions of the macaque cortex that respond to faces are strongly and specifically interconnected, indicating hierarchical processing of face stimuli.
Dimeric GTPase domains of the kinase LRRK2.

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PERSPECTIVE: ROCO Kinase Activity Is Controlled by Internal GTPase Function
B. Weiss

The guanosine triphosphatase (GTPase) domain of leucine-rich repeat kinase 2 (LRRK2) mediates LRRK2 homodimerization and controls its protein kinase activity.

PERSPECTIVE: Dual Functions of the KNOTTED1 Homeodomain—Sequence-Specific DNA Binding and Regulation of Cell-to-Cell Transport
N. Bolduc, S. Hake, D. Jackson

A single domain confers different subcellular localizations of the homeodomain protein KN1.

TEACHING RESOURCE: Physiological and Pathological Actions of Calpains in Glutamatergic Neurons
J. Liu, M. C. Liu, K. K. W. Wang

A pair of animations illustrates how neuronal calpains contribute to synaptic plasticity or neuronal toxicity.