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Individuals with autism, a neurodevelopmental disorder, show impairment in social communication and language. Genetic analysis of closely related people reveals clues to the neural deficits that may underlie the disorder. See page 218.

Image: Kenneth Xavier/Xavier Studio

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Regulation of CD45 Alternative Splicing by Heterogeneous Ribonucleoprotein, HnRNPLL
S. Oberdoerffer et al.
A ribonucleoprotein directs the splicing of the transcript for CD45, a transmembrane tyrosine phosphatase that initiates signaling through antigen receptors.
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ECOLOGY
One-Third of Reef-Building Corals Face Elevated Extinction Risk from Climate Change and Local Impacts
K. E. Carpenter et al.
The viability of the world’s major coral reefs is endangered both by direct human disturbance and by disease and bleaching events brought on by climate change.
10.1126/science.1159196

PHYSICS
Quantum Gas of Deeply Bound Ground State Molecules
J. G. Danzl et al.
A coherent Raman pumping scheme cools cesium molecules to a state with minimal rotational energy, needed for producing cold molecular Bose-Einstein condensates.
10.1126/science.1159909

TECHNICAL COMMENT ABSTRACTS
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M. Lucht and D. Rosskopf
full text at www.sciencemag.org/cgi/content/full/321/5886/200a
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Enzymes Without Borders: Mobilizing Substrates, Delivering Products
F. Forneris and A. Mattevi

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GEOPHYSICS
Source Analysis of the Crandall Canyon, Utah, Mine Collapse
D. S. Dreger, S. R. Ford, W. R. Walter
The anomalous seismic event in Utah on 6 August 2007 was produced by the collapse of a mine chamber 1 kilometer beneath the surface, which induced faulting of rocks above it.

RESEARCH ARTICLE
GENETICS
Identifying Autism Loci and Genes by Tracing Recent Shared Ancestry
E. M. Morrow et al.
A genetic analysis of autism in closely related individuals suggests that defects in proteins that control neural activity may produce this cognitive disorder.
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Supernova Shock Breakout from a Red Supergiant
K. Schawinski et al.
A burst of ultraviolet light reveals the initial expansion of a star leading to a supernova and identifies the star as a red supergiant.

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High-Efficiency Organic Solar Concentrators for Photovoltaics
M. J. Currie, J. K. Mapel, T. D. Heidel, S. Goffri, M. A. Baldo
Thin films with low concentrations of phosphorescent dyes that only weakly absorb their own emitted light concentrate sunlight, improving solar cell efficiency 10-fold.
BIOCHEMISTRY
Structural Basis for Specific Substrate Recognition by the Chloroplast Signal Recognition Particle Protein cpSRP43
K. F. Stengel et al.
A protein subunit of the signal recognition particle that directs chlorophyll binding proteins to the chloroplast replaces RNA and causes posttranslational function.

MICROBIOLOGY
Genetic Determinants of Self Identity and Social Recognition in Bacteria
K. A. Gibbs, M. L. Urbanowski, E. P. Greenberg
The ability of clones of a pathogenic bacterium to distinguish themselves from one another resides in a six-gene locus with interrelated recognition functions.

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Modulation of Gene Expression via Disruption of NF-κB Signaling by a Bacterial Small Molecule
V. V. Kravchenko et al.
A small molecule produced by common pathogenic bacterium inhibits the activity of a key immune transcription factor.

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Drug Target Identification Using Side-Effect Similarity
M. Campillos et al.
By finding drugs that share similar side effects, several new drug targets were predicted and experimentally confirmed, suggesting a route to identifying new therapeutic agents.
Ethanol stabilization of protein substate.

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REVIEW: Ethanol’s Molecular Targets
R. A. Harris, J. R. Trudell, S. J. Mihic
Ethanol affects the functions of specific proteins through its interaction with a select few amino acids in those proteins.

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J. F. Foley and A. M. VanHook
Inhibition of NF-κB activation in macrophages results in a proinflammatory outcome.

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