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AMPylation of Rho GTPases by *Vibrio* VopS Disrupts Effector Binding and Downstream Signaling
M. L. Yarbrough, Y. Li, L. N. Kinch, N. V. Grishin, H. L. Ball, K. Orth
A GI-active pathogen destroys intestinal cells, in part by improperly modifying a host signaling protein, causing loss of cell shape and contributing to cell death.
10.1126/science.1166382

Universal Theory of Nonlinear Luttinger Liquids
A. Imambekov and L. I. Glazman
A theory of one-dimensional quantum liquids is generalized from linear interactions among particles to nonlinear ones, affecting, for example, predicted tunneling dynamics.
10.1126/science.1165403

Comment on “Climate-Driven Ecosystem Succession in the Sahara: The Past 6000 Years”
V. Brovkin and M. Claussen
full text at www.sciencemag.org/cgi/content/full/322/5906/1326b

Response to Comment on “Climate-Driven Ecosystem Succession in the Sahara: The Past 6000 Years”
S. Kröpelin, D. Verschuren, A.-M. Lézine
full text at www.sciencemag.org/cgi/content/full/322/5906/1326c

A Simple Law for Ice-Shelf Calving
R. B. Alley et al.
An empirical model of iceberg production as an ice shelf that buttresses a glacier spread may help to predict glacial flow and sea level rise as Earth’s climate warms.
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Optical Images of an Exosolar Planet 25 Light-Years from Earth
P. Kalas et al.
Images from the Hubble Space Telescope reveal a Jupiter-sized planet, perhaps with a surrounding dust disk, orbiting about 115 astronomical units from a nearby main sequence star.
>> Perspective p. 1335

Direct Imaging of Multiple Planets Orbiting the Star HR 8799
C. Marois et al.
Infrared images from the Keck and Gemini telescopes reveal three giant planets orbiting counterclockwise around a young star, in a scaled-up version of our solar system.
>> Perspective p. 1335

Detection of GTP-Tubulin Conformation in Vivo Reveals a Role for GTP Remnants in Microtubule Rescues
A. Dimitrov et al.
GTP-bound tubulin is found at microtubule ends in living cells and also within microtubules, where it may promote repolymerization and avert microtubule collapse.
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Resolving Vacuum Fluctuations in an Electrical Circuit by Measuring the Lamb Shift
A. Fragner et al.
A solid-state qubit in an electrical circuit connected to a vacuum field shows a shift in its transition energy level, a classic quantum effect typically seen in isolated atoms.
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**CHEMISTRY**
A Cryptand-Encapsulated Germanium(II) Dication
P. A. Rupar, V. N. Staroverov, K. M. Baines
A cage-like molecule typically used to sequester hard metal cations such as Ca^{2+} in solution proves capable of capturing the softer, elusive free germanium ion Ge^{2+}. [>> Perspective p. 1333]

**GEOCHEMISTRY**
Carbonatite Melts and Electrical Conductivity in the Asthenosphere
F. Gaillard et al.
The electrical conductivity of molten carbonates is higher than that of silicate minerals; thus, minor amounts of carbonate melt could explain electrical signals of Earth’s mantle.
[>> Perspective p. 1338]

**BIOCHEMISTRY**
Tight Regulation of Unstructured Proteins: From Transcript Synthesis to Protein Degradation
J. Gsponer et al.
Yeast proteins with unstructured regions tend to be highly regulated, consistent with the idea that these regions may mediate critical regulatory protein-protein interactions.
[>> Perspective p. 1340]

**ECOLOGY**
The Widespread Threat of Calcium Decline in Fresh Waters
A. Jeziorski et al.
As calcium levels decline in Canadian lakes, populations of a keystone prey crustacean are being depleted, with likely consequences for freshwater food webs.

**MEDICINE**
Genomic Analysis of the Clonal Origins of Relapsed Acute Lymphoblastic Leukemia
C. G. Mullighan et al.
The cells responsible for relapse of a particular type of leukemia are often not the same cells that gave rise to the original disease.
[>> Science Podcast]

**PLANT SCIENCE**
A Genetic Framework for the Control of Cell Division and Differentiation in the Root Meristem
R. Dello Ioio et al.
The number of stem cells in plant roots is controlled by an auxin-cytokine feedback loop in which a particular gene integrates signals from both hormones.

**MOLECULAR BIOLOGY**
Chromosome Alignment and Transvection Are Antagonized by Condensin II
T. A. Hartl, H. F. Smith, G. Bosco
A Drosophila protein required for dissolution of homologous chromosome bundles independently prevents long-distance effects of one allele on the transcription of its homolog.

**MOLECULAR BIOLOGY**
An Epigenetic Role for Maternally Inherited piRNAs in Transposon Silencing
J. Brennecke et al.
In Drosophila, small RNAs derived from transposons are inherited from the mother and directly inhibit activation of these potentially detrimental transposons in offspring.
[>> Science Podcast]

**MICROBIOLOGY**
PA-824 Kills Nonreplicating Mycobacterium tuberculosis by Intracellular NO Release
R. Singh et al.
An unusual drug candidate for resistant tuberculosis generates nitrous acid and thus acts as an intracellular nitric oxide donor, augmenting the innate immune system.

**CELL BIOLOGY**
Absence of the SRC-2 Coactivator Results in a Glycogenopathy Resembling Von Gierke’s Disease
A. R. Chopra et al.
In mice, a coactivator binds to a nuclear orphan receptor and regulates glucose-6-phosphatase transcription and thus glucose homeostasis.
Did Icebergs Warm the World? Errant ice might have driven ancient surges of carbon dioxide.

Scientists Untangle Woolly Mammoth Genome New data give clues to creature’s evolution and hardiness.

When a Flood Beats a Trickle Old-fashioned irrigation saves water.

Can your career spare 15 minutes?

Tooling Up: 15 Minutes to a Better Interview

D. Jensen

The basic rules of interview courtesy and etiquette are worth reviewing.

Young Italian Scientists Take to the Streets

E. Pain

Italian scientists on short-term contracts protest cuts in research funding and jobs.

From the Archives: Cheating, Betrayal, Denial, and Lies

M. P. DeWhyse

As Thanksgiving approached, our Educated Woman realized that grad school was not everything she had anticipated.