COVER
Pseudocolored scanning electron micrograph (magnification ~34,000x) of the surface of mouse airway epithelia showing cilia protruding from epithelial cells; short protrusions in the foreground are microvilli from a nonciliated cell. In human airway epithelia, these motile cilia bear receptors that detect bitter compounds and signal the cilia to increase their rhythmic beat frequency to help clear noxious substances from the lungs. See page 1131.

Image: Tom Moninger (epithelia generated by Phil Karp)
Gene-for-Gene Resistance in Striga-Cowpea Associations
J. Li and M. P. Timko
A gene thought to defend plants against infectious bacterial pathogens also supplies defense against a parasitic plant.

On the Origin and Spread of an Adaptive Allele in Deer Mice
C. R. Linnen et al.
The light coat-color variant in deer mice is a mutation selected for its adaptive value for living in sand hills.

Spectroscopic Fingerprint of Phase-Incoherent Superconductivity in the Underdoped Bi$_2$Sr$_2$CaCu$_2$O$_{8+\delta}$
J. Lee et al.
Scanning tunnelling spectroscopy reveals the pseudogap regime of the cuprates to be an incoherent d-wave superconductor.

Strong Coupling Between Single-Electron Tunneling and Nanomechanical Motion
G. A. Steele et al.

Coupling Mechanics to Charge Transport in Carbon Nanotube Mechanical Resonators
B. Lassagne et al.
Individual electrons tunneling onto and out of a carbon nanotube can be used to tune its oscillatory motion.

The Chemical Structure of a Molecule Resolved by Atomic Force Microscopy
L. Gross et al.
Derivitization of atomic force microscope tips with carbon monoxide molecules allows atoms to be resolved within adsorbed molecules.

Amplifying the Pacific Climate System Response to a Small 11-Year Solar Cycle Forcing
G. A. Meehl
A combination of mechanisms explains the large response of sea surface temperatures caused by the 11-year solar cycle.

Good Genes and Good Luck: Ammonoid Diversity and the End-Permian Mass Extinction
A. Brayard et al.
In contrast to other groups, ammonoid diversity recovered within 1 million years of the end-Permian extinction to levels higher than before.

Enhancement of Biodiversity and Ecosystem Services by Ecological Restoration: A Meta-Analysis
J. M. Rey Benayas et al.
Restoration, biodiversity, and ecosystem services are positively linked in a wide range of ecosystem types across the globe.

Unprecedented Restoration of a Native Oyster Metapopulation
D. M. Schulte et al.
The height of oyster reefs above the river bed promotes their restoration in the Chesapeake Bay, USA.

SDH5, a Gene Required for Flavination of Succinate Dehydrogenase, Is Mutated in Paraganglioma
H.-X. Hao et al.
Analysis of a yeast mitochondrial protein reveals a human tumor susceptibility gene.

Eos Mediates Foxp3-Dependent Gene Silencing in CD4$^+$ Regulatory T Cells
F. Pan et al.
A transcription factor required for gene suppression in regulatory T cells is identified.

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Some powerful bolts reach from cloud tops to the edge of space.

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Confirming a common belief, researchers find that people really do walk in circles when lost.

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D. Ren et al.
The relative abundance of an anion channel and a proapoptotic protein determines thymocyte responses to death signals.

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M. L. Mikolaj
Bmp4 distribution in the mouse jaw is restricted to prevent the induction of supernumerary teeth.

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S. A. Hinke
Epac2 is an intracellular receptor for a commonly used class of antidiabetic medications.

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N. Grillet et al.
Studying genes linked to deafness identifies components of the ear’s mechanotransduction apparatus.

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