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COVER
Human colon cancer (at lower center) identified by a colored barium x-ray shown overlaid with a representation of a genetic sequence. Genome sequence analysis of human tumors has uncovered an array of genetic alterations that help drive tumor growth—information that may lead to more effective cancer therapies. See the special section beginning on page 1539.

Image: Mehau Kulyk/Science Source

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Published by AAAS
Tuning Selectivity in Propylene
Ultrafast Tryptophan-to-Heme Electron
Multiple Instances of Ancient Balancing
Neural Stem Cells, Excited
The Global Plight of Pollinators
Reports pp. 1608 and 1611
Toward a Green Internet
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Neural Stem Cells, Excited
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SCIENCE PRIZE ESSAY
Integrating Inquiry-Based Teaching
with Faculty Research
T. Fukami
RESEARCH ARTICLES
Dust and Biological Aerosols
from the Sahara and Asia Influence
Precipitation in the Western U.S.
J. M. Crossman et al.
Dust and biological aerosols from the Sahara and Asia can act as ice nuclei for precipitation in California’s Sierra Nevada.

Multiple Instances of Ancient Balancing
Selection Shared Between Humans and Chimpanzees
E. M. Jeffreys et al.
Genome-wide shared genetic polymorphisms between humans and chimpanzees mostly affect host-pathogen interactions.

REPORTS
Topology-Driven Magnetic Quantum Phase Transition in Topological Insulators
J. Zhang et al.
Simultaneous topological and magnetic quantum phase transitions are observed in thin films of Bi$_2$(Se$_{1−x}$Te$_x$)$_3$ doped with chromium.

Ultrafast Tryptophan-to-Heme Electron Transfer in Myoglobins Revealed by UV 2D Spectroscopy
C. Consani et al.
Relaxation in a photoswitched protein by electron transfer may limit the generality of a common energy transfer–based probe.

Tuning Selectivity in Propylene
Epoxidation by Plasmon Mediated
Photo-Switching of Cu Oxidation State
A. Marimuthu et al.
In situ visible light irradiation reverses the oxidative degradation of a copper catalyst, thereby enhancing its viability.

Photoredox Activation for the Direct
β-Arylation of Ketones and Aldehydes
M. T. Pirnot et al.
Two catalysts working in tandem form carbon-carbon bonds at a conventionally unreactive site.

Direct Observations of the Evolution of
Polar Cap Ionization Patches
Q.-H. Zhang et al.
Observations of ionospheric perturbations after a solar burst hit Earth show how a patch of ionization formed and evolved.

Structure of the Integral Membrane
Protein CAAX Protease Ste24p
E. E. Pryor Jr. et al.

The Structural Basis of
ZMPSTE24-Dependent Laminopathies
A. Quigley et al.
Structures of two transmembrane zinc proteases reveal a barrel of seven helices surrounding a large cavity.

Wild Pollinators Enhance Fruit Set of
Crops Regardless of Honey Bee Abundance
L. A. Garibaldi et al.
Flower visits by wild insects enhanced fruit production in crops worldwide, well beyond the effect of bees.

Plant-Pollinator Interactions over
120 Years: Loss of Species, Co-Occurrence, and Function
L. A. Burk, et al.

Roots and Associated Fungi Drive
Long-Term Carbon Sequestration
in Boreal Forest
K. E. Clemmensen et al.
Reservoirs of carbon in boreal forest soils are revisited in an island chronosequence, using modeling and molecular approaches.

The Biological Underpinnings
of Namib Desert Fairy Circles
J. Lafaurie-Janvore et al.
Termites alter local soil conditions to facilitate the growth of grasses, generating patterns in the desert.

(R)-2-Hydroxylglutarate Is Sufficient to Promote Leukemogenesis and Its Effects Are Reversible
J.-A. Losman et al.
A metabolite specific to certain cancers, and of therapeutic interest, exists in two forms, only one of which is oncogenic.

ESCR-III Assembly and Cytokinin
Abscission Are Induced by Tension
Release in the Intercellular Bridge
J. Lafaurie-Janvore et al.
When a daughter cell lets go, the mother cell cuts it loose.
Science 339 (6127), 1487-1630.