A jumble of icebergs forms in front of the heavily crevassed calving front of Jakobshavn Isbrae, one of the fastest outlet glaciers draining the Greenland Ice Sheet. The ~5-kilometer-wide ice front rises ~80 meters out of the water and extends more than 600 meters underwater. Recent research shows that the speeds of Greenland glaciers are increasing. See page 576.

Photo: Ian Joughin
RESEARCH ARTICLE
555  Spin-Torque Switching with the Giant Spin Hall Effect of Tantalum
L. Liu et al.
Tantalum is found to generate strong spin currents that can induce switching of ferromagnets efficiently and reliably.

REPORTS
559  Spin-Orbital Short-Range Order on a Honeycomb-Based Lattice
S. Nakatsuji et al.
Magnetic measurements indicate that a material remains disordered to millikelvin temperatures, thanks to its unusual lattice structure.
>> Perspective p. 547

563  Anisotropic Energy Gaps of Iron-Based Superconductivity from Intradiband Quasiparticle Interference in LiFeAs
M. P. Allan et al.
The energy needed to break up electron pairs in a pnictide superconductor depends on position on the Fermi surface.

567  Magnetic Reconnection in the Near Venusian Magnetotail
T. L. Zhang et al.
Venus Express observations show that magnetic reconnection occurs in the magnetotail of an unmagnetized planet.
>> Perspective p. 548

570  Ancient Impact and Aqueous Processes at Endeavour Crater, Mars
S. W. Squyres et al.
Analysis of data from the Mars Exploration Rover Opportunity provides evidence for past water flow near an ancient crater.
>> Science Podcast

576  21st-Century Evolution of Greenland Outlet Glacier Velocities
T. Moon et al.
A decade-long compilation of velocity data for Greenland’s outlet glaciers shows complex spatial and temporal variability.

579  Imaginal Discs Secrete Insulin-Like Peptide B to Mediate Plasticity of Growth and Maturation
A. Garelli et al.
An insulin/relaxin-like peptide coordinates final organ size in response to fly injury and tumors.

582  Secreted Peptide Dilp8 Coordinates Drosophila Tissue Growth with Developmental Timing
J. Colombani et al.
In fruit flies, growing tissues send signals to the endocrine system to coordinate growth and metamorphosis.

585  Function, Developmental Genetics, and Fitness Consequences of a Sexually Antagonistic Trait
A. Khila et al.
Sex-specific modifications of male water strider antennae that are important for mating require distal-less gene expression.

589  Impacts of Biodiversity Loss Escalate Through Time as Redundancy Fades
P. B. Reich et al.
Long-term grassland experiments show that high-diversity species combinations become more functionally diverse with time.
>> Perspective p. 552

593  Removal of Shelterin Reveals the Telomere End-Protection Problem
A. Sfeir and T. de Lange
"Naked" chromosome ends are mistakenly targeted by six different DNA repair–related systems in the cell.

597  Elementary Ca** Signals Through Endothelial TRPV4 Channels Regulate Vascular Function
S. K. Sankusare et al.
Imaging reveals single-channel openings of cation channels at the heart of endothelial cell–mediated blood pressure control.
>> Perspective p. 546

601  Multidimensional Optimality of Microbial Metabolism
R. Schuetz et al.
A key design principle of bacterial metabolic networks is optimal performance, but not at the expense of adaptability.

604  Radio-Wave Heating of Iron Oxide Nanoparticles Can Regulate Plasma Glucose in Mice
S. A. Stanley et al.
Gene expression in mice can be activated remotely and noninvasively by radio-wave heating of nanoparticles.
>> Science Podcast

612  Seasonal diatom growth in the North Sea results in a temporal succession of metabolically specialized bacteria.

Don’t Look Back in Anger! Responsiveness to Missed Chances in Successful and Nonsuccessful Aging
S. Brassen et al.
Emotionally healthy older adults show a reduced responsiveness to regret when performing a sequential decision task.