Cover image description:
Composite image from NASA’s Hubble Space Telescope of the spiral galaxy M83 (diameter ~70% that of the Milky Way). Embedded near the center of this image is a stellar-mass black hole that bombards its surroundings with kinetic energy through hugely powerful jets. See pages 1318 and 1330.

Image: NASA, ESA, and the Hubble Heritage Team (STScI/AURA); W. P. Blair (STScI/JHU)
RESEARCH ARTICLE

1329 Nucleocytoplasmic Shuttling of a GATA Transcription Factor Functions as a Development Timer
H. Cai et al.
The link between chemoattractant gradients, developmental signals, and gene expression in social amoebae is elucidated.
Research Article Summary; for full text: http://dx.doi.org/10.1126/science.1249531
**>> Perspective p. 1326**

REPORTS

1330 Super-Eddington Mechanical Power of an Accreting Black Hole in M83
R. Soria et al.
A stellar-mass black hole shocks its surroundings with kinetic energy in excess of its predicted radiative output.
**>> Perspective p. 1318**

1333 Large-Amplitude Spin Dynamics Driven by a THz Pulse in Resonance with an Electromagnon
T. Kubacka et al.
The electric field of an electromagnetic pulse exerts ultrafast control on the spin dynamics of the multiferroic ThMnO

1336 Angular Fluctuations of a Multicomponent Order Describe the Pseudogap of YBaCuO
L. E. Hayward et al.
A model reproduces the temperature dependence of charge-order fluctuations in a cuprate superconductor.

1339 Highly Crystalline Multimetallic Nanoframes with Three-Dimensional Electrocatalytic Surfaces
C. Chen et al.
Highly active electrocatalysts are created by eroding away all but the edges of platinum-nickel nanocrystals.
**>> Perspective p. 1319**

1343 The Source Crater of Martian Shergottite Meteorites
S. C. Werner et al.
 Martian meteorites originated from the 3- to 5-million-year-old Mojave impact crater.

1347 Iron Fertilization of the Subantarctic Ocean During the Last Ice Age
A. Martínez-García et al.
Nitrogen isotopes in foraminifera show the role of iron fertilization on atmospheric carbon dioxide during the last ice age.

1350 From Parasitism to Mutualism: Unexpected Interactions Between a Cuckoo and Its Host
D. Canestrari et al.
The carrion crow Corvus corone corone can benefit from parasitism by the great spotted cuckoo Clamator glandarius.

1353 β-Catenin Activation Regulates Tissue Growth Non–Cell Autonomously in the Hair Stem Cell Niche
E. R. Deschene et al.
Signals generated by mouse hair follicle stem cells generate new hair growth.

1357 Activity of Protein Kinase RIPK3 Determines Whether Cells Die by Necroptosis or Apoptosis
K. Newton et al.
A particular protein kinase functions at a critical control point that determines whether—and how—cells die.
**>> Perspective p. 1322**

1360 Highly Multiplexed Subcellular RNA Sequencing in Situ
J. H. Lee et al.
Reads of cellular RNA transcripts demonstrate spatial expression differences during simulated wound healing.

1363 Structure of the Mitochondrial Translocator Protein in Complex with a Diagnostic Ligand
L. Jaremko et al.
A ligand stabilizes a mammalian mitochondrial cholesterol transporter, allowing high-resolution structural analysis.

1366 Epistasis and Allele Specificity in the Emergence of a Stable Polymorphism in Escherichia coli
J. Plucain et al.
The emergence of a stable polymorphism in bacteria involved a multistep process including three specific mutations.

1370 Humans Can Discriminate More than 1 Trillion Olfactory Stimuli
C. Bushdid et al.
The number of different odor mixtures people can distinguish is several orders of magnitude larger than anticipated.
**>> Science Podcast**

1373 Control Profiles of Complex Networks
J. Ruths and D. Ruths
The control profile is a network statistic that may prove useful in approaching the control of complex networks.
**>> Perspective p. 1325**

1376 Fossilized Nuclei and Chromosomes Reveal 180 Million Years of Genomic Stasis in Royal Ferns
B. Bonfleur et al.
Fern fossils provide evidence that nuclear shape, size, and chromosomal content have changed little since the Jurassic.