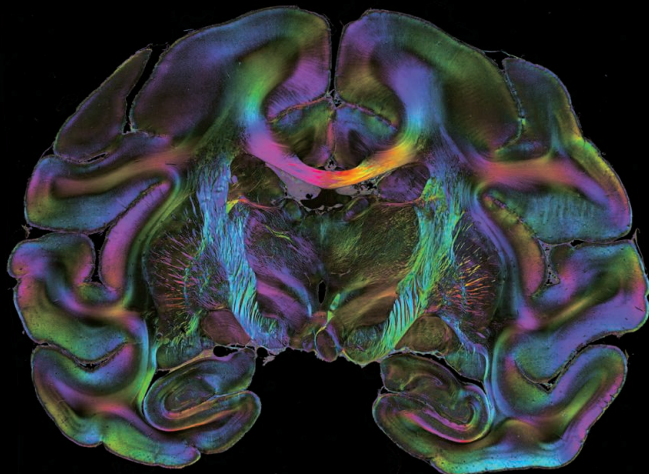


277



NEWS

IN BRIEF

274 News at a glance

IN DEPTH

277 INTERNATIONAL BRAIN PROJECTS PROPOSED

Meeting attendees debate big science ideas, including need for global data hub *By E. Underwood*

278 ARCTIC NATIONS EYE FISHING BAN

As ice recedes in central Arctic Ocean, officials meet to discuss catch moratorium until stocks can be studied *By E. Kintisch*

279 DUTCH PUSH FOR A QUANTUM LEAP IN OPEN ACCESS

E.U. urged to free all papers by 2020 *By M. Enserink*

280 MEGAPROJECT ASKS: WHAT DROVE THE VIKINGS?

Researchers suggest that the nature of pre-Viking society spurred a drive for slaves *By A. Lawler*

281 OBSOLESCENCE LOOMS FOR BALLOON DATA

United States falls behind Europe in adopting modern data format *By E. Hand*

283 RURAL CHINA IS NO COUNTRY FOR OLD PEOPLE

Erosion of families sparks an epidemic of suicides among the elderly *By K. McLaughlin*

FEATURE

284 THE SAVIOR CELLS?

After a painstaking journey, researchers are preparing to test stem cell therapy in ailing fetuses *By J. Couzin-Frankel*

286 Gene therapy gets a high-stakes test

By J. Couzin-Frankel

INSIGHTS

PERSPECTIVES

288 TACKLING MINE WASTES

Global collaboration is needed to mitigate the environmental impacts of mine wastes *By K. Hudson-Edwards*

290 UNDERGROUND NETWORKING

Fungal networks transfer carbon between forest trees *By M. G. A. van der Heijden*
▶ REPORT P. 342

292 OPPORTUNITIES FOR ADVANCES IN CLIMATE CHANGE ECONOMICS

Target carbon's costs, policy designs, and developing countries *By M. Burke et al.*

294 THE STRAIGHT DOPE ON THE SCOPE OF CHEMICAL REACTIONS

Complementary strategies are needed for the analysis and reporting of synthetic methods *By T. Gensch and F. Glorius*

295 WHEN CELLS PUSH THE ENVELOPE

Nuclear integrity is temporarily compromised to accommodate cell migration *By B. Burke*

▶ REPORTS PP. 353 & 359

296 TOWARD SINGLE-ATOM MEMORY

Single holmium atoms can be used as a stable magnetic memory *By A. A. Khajetoorians and A. J. Heinrich*

▶ REPORT P. 318

298 A SCAFFOLD IMMUNE MICROENVIRONMENT

Local immune cells create conditions that support tissue regeneration *By S. F. Badylak*

▶ REPORT P. 366

BOOKS ET AL.

299 FINDING TIME

By H. Boushey; reviewed by J. Gornick

300 BLACK HOLE BLUES

By J. Levin; reviewed by A. Cho

LETTERS

301 FINANCIAL COMPLEXITY: REGULATING REGULATION

By J. B. Ruhl

301 FINANCIAL COMPLEXITY: ACCOUNTING FOR FRAUD

By D. Witzling

302 RESPONSE

By S. Battiston et al.

DEPARTMENTS

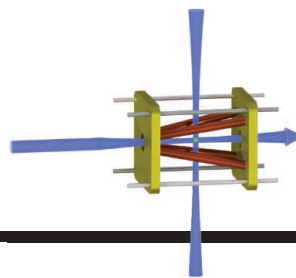
273 EDITORIAL

The UK: Thinking big or small? *By Dame Anne Glover*

378 WORKING LIFE

Orchestrating a powerful group *By Jeffrey J. McDonnell*

Science Staff	270
New Products	371
Science Careers	372



RESEARCH

IN BRIEF

304 From *Science* and other journals

REVIEW

307 PHOTOVOLTAICS

Photovoltaic materials: Present efficiencies and future challenges
A. Polman et al.

REVIEW SUMMARY; FOR FULL TEXT:
dx.doi.org/10.1126/science.aad4424

RESEARCH ARTICLES

308 STRUCTURAL BIOLOGY

Architecture of the symmetric core of the nuclear pore
D. H. Lin et al.

RESEARCH ARTICLE SUMMARY; FOR FULL TEXT:
dx.doi.org/10.1126/science.aaf1015
▶ REPORT P. 363

309 STRUCTURAL BIOLOGY

Crystallographic capture of a radical *S*-adenosylmethionine enzyme in the act of modifying tRNA
E. L. Schwalm et al.

312 INTERSTELLAR DUST

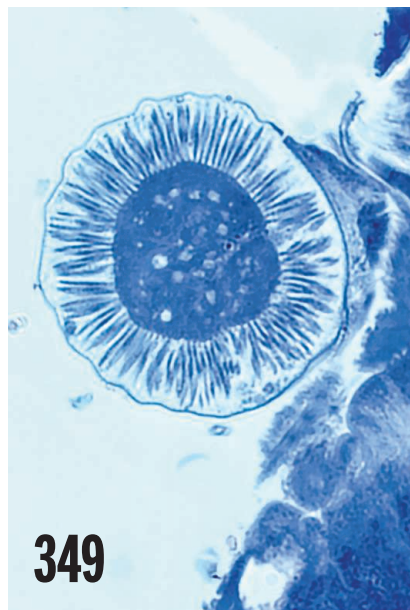
Flux and composition of interstellar dust at Saturn from Cassini's Cosmic Dust Analyzer
N. Altobelli et al.

REPORTS

318 MOLECULAR MAGNETISM

Magnetic remanence in single atoms
F. Donati et al.

▶ PERSPECTIVE P. 296



321 HYDROGEN BONDING

Nuclear quantum effects of hydrogen bonds probed by tip-enhanced inelastic electron tunneling
J. Guo et al.

325 THERMODYNAMICS

A single-atom heat engine
J. Roßnagel et al.

329 ORGANOMETALLICS

Pre-transmetalation intermediates in the Suzuki-Miyaura reaction revealed: The missing link
A. A. Thomas and S. E. Denmark

333 ELECTROCHEMISTRY

Homogeneously dispersed multimetal oxygen-evolving catalysts
B. Zhang et al.

338 CORAL REEFS

Climate change disables coral bleaching protection on the Great Barrier Reef
T. D. Ainsworth et al.

342 FOREST ECOLOGY

Belowground carbon trade among tall trees in a temperate forest
T. Klein et al.

▶ PERSPECTIVE P. 290

345 ZIKA VIRUS OUTBREAK

Zika virus in the Americas: Early epidemiological and genetic findings
N. R. Faria et al.

▶ PODCAST

349 MALARIA DRUGS

Parasites resistant to the antimalarial atovaquone fail to transmit by mosquitoes
C. D. Goodman et al.

CELL BIOLOGY

353 Nuclear envelope rupture and repair during cancer cell migration
C. M. Denais et al.

359 ESCRT III repairs nuclear envelope ruptures during cell migration to limit DNA damage and cell death
M. Raab et al.

▶ PERSPECTIVE P. 295

363 STRUCTURAL BIOLOGY

Molecular architecture of the inner ring scaffold of the human nuclear pore complex
J. Kosinski et al.

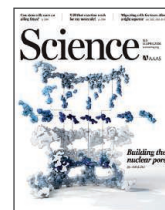
▶ RESEARCH ARTICLE P. 308

366 BIOMATERIALS

Developing a pro-regenerative biomaterial scaffold microenvironment requires T helper 2 cells
K. Sadtler et al.

▶ PERSPECTIVE P. 298

ON THE COVER



The nuclear pore complex is the sole gateway for macromolecules to enter or exit the nucleus and is one of the largest assemblies in eukaryotic cells. This illustration depicts the integrative approach used to determine structures of the individual protein components (blue), their connectivity (dashed lines), and their arrangement in the intact assembly (inside the transparent nuclear envelope). See pages 308 and 363. *Illustration: Valerie Altounian/Science; Crystallography data: André Hoelz; Electron density map: Martin Beck*

Science

352 (6283)

Science **352** (6283), 273-378.

ARTICLE TOOLS

<http://science.sciencemag.org/content/352/6283>

PERMISSIONS

<http://www.sciencemag.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of Service](#)

Science (print ISSN 0036-8075; online ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. 2017 © The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works. The title *Science* is a registered trademark of AAAS.