

## NEWS

### IN BRIEF

**10** News at a glance

### IN DEPTH

**12 SMALL GULF NATION AIMS FOR BIG SPLASH ON MARS**

UAE mission to Red Planet in 2020 would probe mysteries of martian atmosphere *By S. El-Showk*

**13 GERMANY TO PROBE NAZI-ERA MEDICAL SCIENCE**

Overlooked brain tissue slides prompt another look at “euthanasia” victims *By M. Gannon*

► PODCAST

**14 FOSSIL LEAVES BEAR WITNESS TO ANCIENT CARBON DIOXIDE LEVELS**

Relics warn that climate may be more sensitive to atmospheric CO<sub>2</sub> than models predict *By E. Hand*

**16 SCIENTISTS FEAR PENDING ATTACK ON FEDERAL STATISTICS COLLECTION**

Census Bureau and its programs could be in the crosshairs of the Trump administration and Congress

*By J. Mervis*

**17 GERMAN RESEARCHERS START 2017 WITHOUT ELSEVIER JOURNALS**

More than 60 institutions lose online subscriptions after negotiations over price and open access stall *By G. Vogel*

### FEATURE

**18 THE BURNING QUESTION**

Moves to designate wood as a carbon-neutral fuel have alarmed environmentalists and divided scientists

*By W. Cornwall*

## INSIGHTS

### LETTERS

**22 NEXTGEN VOICES: PREJUDGMENT CALL**

### PERSPECTIVES

**24 STAYING CONDUCTIVE IN THE STRETCH**

A nanoconfined polymer retained its conductivity even when highly strained

*By S. Napolitano*

► REPORT P. 59

**25 PERCEPTION DRIVES THE EVOLUTION OF OBSERVABLE TRAITS**

Bats choose flowers on the basis of nectar volume and concentration, affecting how the flowers evolve

*By H. Farris*

► REPORT P. 75

**26 THE FRAGILITY OF DISTANT COOPER PAIRS**

The discovery of superconductivity in bismuth is a challenge to standard theory *By K. Behnia*

► REPORT P. 52

**28 A CONUNDRUM FOR DENSITY FUNCTIONAL THEORY**

DFT studies may sometimes get the right results for the wrong reasons

*By S. Hammes-Schiffer*

► REPORT P. 49

**29 REPROGRAMMING TO RESIST**

Prostate cancer cells alter identity to resist therapy *By K. Kelly and S. P. Balk*

► REPORTS PP. 78 & 84

### POLICY FORUM

**31 A PLAN FOR U.K. SCIENCE AFTER THE EUROPEAN UNION REFERENDUM**

Funding, regulation, immigration, and investment should be points of focus

*By M. Galsworthy and M. McKee*

### BOOKS ET AL.

**33 MYSTERIES OF THE MUNDANE**

A physicist reveals the science behind familiar phenomena *By M. Engel*

**34 INSIDE CUBA**

An immersive exhibition introduces visitors to the country’s rich culture and biodiversity *By A. Rademacher*



34

### DEPARTMENTS

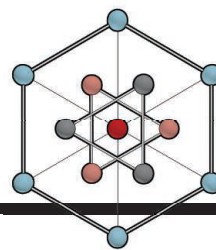
**9 EDITORIAL**

A family analysis *By Jeremy Berg*

**102 WORKING LIFE**

Paper writing gone Hollywood *By Jeffrey J. McDonnell*

Science Staff .....	8
New Products .....	96
Science Careers .....	97



## RESEARCH

### IN BRIEF

**35** From *Science* and other journals

### REVIEW

#### 38 BIOENGINEERING

Industrial biomanufacturing: The future of chemical production  
*J. M. Clomburg et al.*

REVIEW SUMMARY; FOR FULL TEXT:  
[dx.doi.org/10.1126/science.aag0804](http://dx.doi.org/10.1126/science.aag0804)

### RESEARCH ARTICLES

#### 39 NONCODING RNA

CRISPRi-based genome-scale identification of functional long noncoding RNA loci in human cells  
*S. J. Liu et al.*

RESEARCH ARTICLE SUMMARY; FOR FULL TEXT:  
[dx.doi.org/10.1126/science.aah7111](http://dx.doi.org/10.1126/science.aah7111)

#### 40 CELL DIVISION

A global view of meiotic double-strand break end resection  
*E. P. Mimitou et al.*



### REPORTS

#### 45 VOLCANOLOGY

Volcanic tremor and plume height hysteresis from Pavlof Volcano, Alaska  
*D. Fee et al.*

#### 49 THEORETICAL CHEMISTRY

Density functional theory is straying from the path toward the exact functional  
*M. G. Medvedev et al.*

► PERSPECTIVE P. 28

#### 52 SUPERCONDUCTIVITY

Evidence for bulk superconductivity in pure bismuth single crystals at ambient pressure  
*O. Prakash et al.*

► PERSPECTIVE P. 26

#### 55 PLANETARY SCIENCE

Extensive water ice within Ceres' aqueously altered regolith: Evidence from nuclear spectroscopy  
*T. H. Prettyman et al.*

#### 59 FLEXIBLE ELECTRONICS

Highly stretchable polymer semiconductor films through the nanoconfinement effect  
*J. Xu et al.*

► PERSPECTIVE P. 24

#### 64 ARCHAEOLOGY

Permanent human occupation of the central Tibetan Plateau in the early Holocene  
*M. C. Meyer et al.*

#### 68 BRAIN DEVELOPMENT

Microstructural proliferation in human cortex is coupled with the development of face processing  
*J. Gomez et al.*

#### 71 PLANT EVOLUTION

Eocene lantern fruits from Gondwanan Patagonia and the early origins of Solanaceae  
*P. Wilf et al.*

► VIDEO

#### 75 EVOLUTIONARY BIOLOGY

Cognition-mediated evolution of low-quality floral nectars  
*V. Nachev et al.*

► PERSPECTIVE P. 25

### CANCER THERAPY

**78** *Rb1* and *Trp53* cooperate to suppress prostate cancer lineage plasticity, metastasis, and antiandrogen resistance  
*S. Y. Ku et al.*

**84** *SOX2* promotes lineage plasticity and antiandrogen resistance in *TP53*- and *RBI*-deficient prostate cancer  
*P. Mu et al.*

► PERSPECTIVE P. 29

### STRUCTURAL BIOLOGY

**89** Cryo-EM structures and atomic model of the HIV-1 strand transfer complex intasome  
*D. O. Passos et al.*

**93** A supramolecular assembly mediates lentiviral DNA integration  
*A. Ballandras-Colas et al.*



### ON THE COVER



The 3960-megawatt Drax power station, the largest in the United Kingdom, is expected to burn 7.5 million metric tons of biomass in 2017, mainly wood pellets from U.S. forests. Many countries classify wood as a carbon-neutral fuel and encourage its use to produce electricity. But any climate benefits may take decades to materialize. See page 18. Photo: © Michael Rothwell/Alamy Stock Photo

# Science

**355 (6320)**

*Science* **355** (6320), 9-102.

**ARTICLE TOOLS**

<http://science.sciencemag.org/content/355/6320>

**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.