1292 Roundup of the week’s news

IN BRIEF

1295 The Return of Philae
Revived after hibernation, comet lander awaits orders By E. Hand and D. Clery

1296 Research Chimps Will Soon Be Listed as ‘Endangered’
Ruling could disrupt biomedical research By D. Grimm

1297 Designer Proteins Produce Potent HIV Defense
AIDS vaccine developers mimic natural route to powerful immune responses By J. Cohen

1298 Republicans Split on Climate, Social Science Spending
House calls for cuts, Senate favors status quo By J. Mervis

1299 Pumped Up to Rumble
Massive studies of wastewater injection wells show fast pumping raises earthquake risk By J. Rosen

FEATURES

1300 Last Dance?
An urgent effort to save the West’s iconic lesser prairie chicken could point the way to a truce in other endangered-species battles By M. Lavelle

1304 Sage grouse war tests limits of partnership in West
By M. Lavelle

1305 Pumped up to Rumble
Massive studies of wastewater injection wells show fast pumping raises earthquake risk By J. Rosen

NEWS

1314 Sealing the nuclear envelope

INSIGHTS

BOOKS ET AL.

1306 Summer Reading
Eight book reviews from postdocs and grad students

PERSPECTIVES

1312 When the Hunter Becomes the Hunted
Effective predator management relies on social acceptability as well as scientific evidence By R. Woodroffe and S. M. Redpath

1314 An ESCRT to Seal the Envelope
Cellular machinery that remodels different lipid bilayers also closes the nuclear membrane By W. I. Sundquist and K. S. Ullman

1316 It’s About Time for Neural Crest
The unusual pluripotency of neural crest cells is inherited from embryonic stem cells By S. Happler and G. N. Wheeler

1317 Outperforming Nature’s Membranes
Ultrathin synthetic membranes that reach a record permeability can clean up organic solutions By V. Freger

1319 Are You Watering Your Lawn?
High-resolution data may help to devise effective water conservation strategies in urban areas around the world By T. S. Hogue and S. Pincetl

1320 After the Iran Deal: Multinational Enrichment
World powers should buy a stake in Iran’s enrichment capacity and accept the same rules By A. Glaser et al.

1322 A Chlamydia Vaccine on the Horizon
Results of a new Chlamydia vaccine in mice should spur human clinical trials By R. C. Brunham

1322 & 1331

1288 19 JUNE 2015 • VOL 348 ISSUE 6241

Published by AAAS
Neural crest cells retain their origins

A distinguished mathematician and Nobel laureate dies tragically
By M. Shubik

Letters

Germline Gene Therapy: We’re Ready
By H. I. Miller

Research Ethics and Health Care Reform
By J. G. Kahn and P. Hofmann

Spitzer’s Stellar Work
By M. W. Werner et al.

Technical Comment Abstracts

Reports

Induced Seismicity
High-rate injection is associated with the increase in U.S. mid-continent seismicity M. Weingarten et al.
NEWS STORY P. 1299; SCIENCE ADVANCES RESEARCH ARTICLE BY F. R. WALSH III ET AL.

Polaron Dynamics
Long-lived photoinduced polaron formation in conjugated polyelectrolyte-fullerene assemblies R. C. Huber et al.

Batteries
Topological defect dynamics in operando battery nanoparticles A. Ulvestad et al.

Membrane Filtration
Sub-10 nm polyamide nanofilms with ultrafast solvent transport for molecular separation S. Karan et al.
PERSPECTIVE P. 1317

Brain Processing
Cortical information flow during flexible sensorimotor decisions M. Siegel et al.

Cometary Nuclei
The shape and structure of cometary nuclei as a result of low-velocity accretion M. Jutzi and E. Asphaug

Group Decisions
Shared decision-making drives collective movement in wild baboons A. Strandburg-Peshkin et al.

Signal Transduction
Structural basis for nucleotide exchange in heterotrimeric G proteins R. O. Dror et al.

Protein Design
Design of ordered two-dimensional arrays mediated by noncovalent protein-protein interfaces S. Gonen et al.

Endocytosis
Endocytic sites mature by continuous bending and remodeling of the clathrin coat O. Arvinoan et al.

Transcription
Recruitment of RNA polymerase II by the pioneer transcription factor PHA-4 H.-T. Hsu et al.

Drug Development
Phthalimide conjugation as a strategy for in vivo target protein degradation G. E. Winter et al.

In Brief

From Science and other journals

Ocean Circulation
Observing the Atlantic Meridional Overturining Circulation yields a decade of inevitable surprises M. A. Srokosz and H. L. Bryden

Review Summary: For Full Text:
dx.doi.org/10.1126/science.1255575

Research Articles

Vaccines
A mucosal vaccine against Chlamydia trachomatis generates two waves of protective memory T cells G. Stary et al.
RESEARCH ARTICLE SUMMARY: FOR FULL TEXT:
dx.doi.org/10.1126/science.aaa2055
PERSPECTIVE P. 1322

Neurodevelopment
Shared regulatory programs suggest retention of blastula-stage potential in neural crest cells E. Buitrago-Delgado et al.
PERSPECTIVE P. 1316

1324 JOHN FORBES NASH JR. (1928–2015)
A distinguished mathematician and Nobel laureate dies tragically
By M. Shubik

1325 GERMLINE GENE THERAPY: WE’RE READY
By H. I. Miller

1326 RESEARCH ETHICS AND HEALTH CARE REFORM
By J. G. Kahn and P. Hofmann

1327 SPITZER’S STELLAR WORK
By M. W. Werner et al.

1328 TECHNICAL COMMENT ABSTRACTS

1329 OCEAN CIRCULATION
Observing the Atlantic Meridional Overturining Circulation yields a decade of inevitable surprises M. A. Srokosz and H. L. Bryden

1330 REVIEW SUMMARY: FOR FULL TEXT:
dx.doi.org/10.1126/science.1255575
PERSPECTIVE P. 1322

1331 VACCINES
A mucosal vaccine against Chlamydia trachomatis generates two waves of protective memory T cells G. Stary et al.
RESEARCH ARTICLE SUMMARY: FOR FULL TEXT:
dx.doi.org/10.1126/science.aaa2055
PERSPECTIVE P. 1322

1332 NEURODEVELOPMENT
Shared regulatory programs suggest retention of blastula-stage potential in neural crest cells E. Buitrago-Delgado et al.
PERSPECTIVE P. 1316

1333 SIGNAL TRANSDUCTION
Structural basis for nucleotide exchange in heterotrimeric G proteins R. O. Dror et al.

1334 INDUCED SEISMICITY
High-rate injection is associated with the increase in U.S. mid-continent seismicity M. Weingarten et al.
NEWS STORY P. 1299; SCIENCE ADVANCES RESEARCH ARTICLE BY F. R. WALSH III ET AL.

1335 COMETARY NUCLEI
The shape and structure of cometary nuclei as a result of low-velocity accretion M. Jutzi and E. Asphaug

1336 GROUP DECISIONS
Shared decision-making drives collective movement in wild baboons A. Strandburg-Peshkin et al.

1337 TRANSCRIPTION
Recruitment of RNA polymerase II by the pioneer transcription factor PHA-4 H.-T. Hsu et al.

1338 PROTEIN DESIGN
Design of ordered two-dimensional arrays mediated by noncovalent protein-protein interfaces S. Gonen et al.

1339 ENDOCYTOSIS
Endocytic sites mature by continuous bending and remodeling of the clathrin coat O. Arvinoan et al.

1340 BATTERY DESIGN
Topological defect dynamics in operando battery nanoparticles A. Ulvestad et al.

1341 MEMBRANE FILTRATION
Sub-10 nm polyamide nanofilms with ultrafast solvent transport for molecular separation S. Karan et al.
PERSPECTIVE P. 1317

1342 BRAIN PROCESSING
Cortical information flow during flexible sensorimotor decisions M. Siegel et al.

1343 COMETARY NUCLEI
The shape and structure of cometary nuclei as a result of low-velocity accretion M. Jutzi and E. Asphaug

1344 BATTERIES
Topological defect dynamics in operando battery nanoparticles A. Ulvestad et al.

1345 SIGNAL TRANSDUCTION
Structural basis for nucleotide exchange in heterotrimeric G proteins R. O. Dror et al.

1346 PROTEIN DESIGN
Design of ordered two-dimensional arrays mediated by noncovalent protein-protein interfaces S. Gonen et al.

1347 NEURODEVELOPMENT
Shared regulatory programs suggest retention of blastula-stage potential in neural crest cells E. Buitrago-Delgado et al.
PERSPECTIVE P. 1316

1348 GROUP DECISIONS
Shared decision-making drives collective movement in wild baboons A. Strandburg-Peshkin et al.

1349 ENDOCYTOSIS
Endocytic sites mature by continuous bending and remodeling of the clathrin coat O. Arvinoan et al.

1350 BRAIN PROCESSING
Cortical information flow during flexible sensorimotor decisions M. Siegel et al.

1351 COMETARY NUCLEI
The shape and structure of cometary nuclei as a result of low-velocity accretion M. Jutzi and E. Asphaug

1352 GROUP DECISIONS
Shared decision-making drives collective movement in wild baboons A. Strandburg-Peshkin et al.

1353 SIGNAL TRANSDUCTION
Structural basis for nucleotide exchange in heterotrimeric G proteins R. O. Dror et al.

1354 PROTEIN DESIGN
Design of ordered two-dimensional arrays mediated by noncovalent protein-protein interfaces S. Gonen et al.

1355 COMETARY NUCLEI
The shape and structure of cometary nuclei as a result of low-velocity accretion M. Jutzi and E. Asphaug

1356 ENDOCYTOSIS
Endocytic sites mature by continuous bending and remodeling of the clathrin coat O. Arvinoan et al.

SCIENCE (ISSN 0036-8075) is published weekly on Friday, except the last week in December, by the American Association for the Advancement of Science, 1200 New York Avenue, NW, Washington, DC 20005. Periodicals postage (publication No. 484-446) paid at Washington, DC, and additional mailing offices. Copyright © 2015 by the American Association for the Advancement of Science. The title SCIENCE is a registered trademark of the AAAS. Domestic individual membership and subscription (51 issues): $153 ($74 allocated to subscription). Domestic institutional subscription (51 issues): $1282. Foreign postage extra: Mexico, Caribbean (surface mail) $55; other countries (air assist delivery) $85. First class, airmail, student, and emeritus rates on request. Canadian rates with GST available upon request, GST #1254 88122. Publications Mail Agreement Number 4069624. Printed in the U.S.A.

Change of address: Allow 4 weeks, giving old and new addresses and 8-digit account number. Postmaster: Send change of address to AAAS, P.O. Box 96178, Washington, DC 20090–6178. Single-copy sales: $10.00 current issue, $15.00 back issue prepaid includes surface postage. Bulk rates on request. Authorization to photocopy material for internal or personal use, or the internal or personal use of specific clients, is granted by AAAS to libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that $30.00 per article is paid directly to CCC, 222 Rosewood Drive, Danvers, MA 01923. The identification code for Science is 0036-8075. Science is indexed in the Reader’s Guide to Periodical Literature and in several specialized indexes.