EDITORIAL
6  No Windfall for U.S. Science
Marcia McNutt

NEWS OF THE WEEK
10  A look ahead for 2014

NEWS & ANALYSIS
12  Leading U.S. X-ray Source Goes After Bigger Upgrade
13  U.S. Tax Credit: Boondoggle or Boon for Research?
14  Google Scholar Wins Raves—But Can It Be Trusted?
15  EPA Science Report Signals Start of Wetlands Battle
16  For Mexican Antivenom Maker, U.S. Market Is a Snake Pit
17  Global Research Network Raises $1 Billion for Its Centers

NEWS FOCUS
18  Monumental Roots
Life and Death at Stonehenge
>> Science Podcast; Slideshow

LETTERS
24  NextGenVOICES

BOOKS ET AL.
28  How Reason Almost Lost Its Mind
P. Erickson et al., reviewed by M. S. Morgan
29  Foreign Bodies, Common Ground
D. Olsen, curator

POLICY FORUM
30  Promoting Transparency in Social Science Research
E. Miguel et al.

PERPECTIVES
32  The Minimalist Y
B. Capel
>> Report p. 69
33  A Simpler Route for Making Nitrogen-Alkene Rings
Y. E. Türkmen and V. K. Aggarwal
>> Report p. 61
34  An Exceptionally Bright Gamma-Ray Burst
J. P. U. Fynbo
>> Research Articles pp. 38 & 42; Reports pp. 48 & 51
35  On Tropical Forests and Their Pests
P. D. Coley and T. A. Kursar

REVIEW
37  Emerging Principles for the Therapeutic Exploitation of Glycosylation
M. Dalziel et al.
Review Summary; for full text:
http://dx.doi.org/10.1126/science.1235681

RESEARCH ARTICLES
38  The Bright Optical Flash and Afterglow from the Gamma-Ray Burst GRB 130427A
W. T. Vestrand et al.
42  Fermi-LAT Observations of the Gamma-Ray Burst GRB 130427A
M. Ackermann et al.
Multimwavelength data from an extremely bright stellar explosion provide details of the physics of these violent events.
>> Perspective p. 34; Reports pp. 48 and 51

CONTENTS continued >>

ON THE WEB THIS WEEK
>> Science Podcast
This week’s show features the great stone monuments of prehistoric Britain and a roundup of shorts from our daily news site.

>> Find More Online
Check out Science Express, our podcast, videos, daily news, our research journals, and Science Careers at www.sciencemag.org.
REPORTS

48  GRB 130427A: A Nearby Ordinary Monster
A. Maselli et al.

51  The First Pulse of the Extremely Bright
GRB 130427A: A Test Lab for Synchrotron
Shocks
R. Precee et al.

55  Exciton Liquid in Coupled Quantum Wells
M. Stern et al.
Photoluminescence and transport
measurements indicate the formation of a
classically correlated phase of excitons.

58  First-Photon Imaging
A. Kirmani et al.
A computational imaging method based on
photon timing enables 3D imaging under
low light flux conditions.

61  Direct Stereospecific Synthesis of
Unprotected N-H and N-Me Aziridines
from Olefins
J. L. Jat et al.
A route to triangular carbon-nitrogen rings
avoids placement of a hard-to-remove
protecting group on the nitrogen precursor.

65  Tunable Electrical Conductivity in
Metal-Organic Framework Thin-Film
Devices
A. A. Talin et al.
Infiltrating a metal-organic framework with
a conjugated organic molecule creates
an air-stable conducting film.

69  Two Y Genes Can Replace the Entire
Y Chromosome for Assisted Reproduction
in the Mouse
Y. Yamauchi et al.
Live offspring can be obtained from male
mice in which the Y chromosome contribution
is limited to only two genes.

72  Targeted Therapy Resistance Mediated by
Dynamic Regulation of Extrachromosomal
Mutant EGFR DNA
D. A. Nathanson et al.
Tumor cells become resistant to targeted
therapies by eliminating the gene encoding
the drug target from extrachromosomal DNA.

77  A Cascade of Histone Modifications
Induces Chromatin Condensation
in Mitosis
B. J. Wilkins et al.
In vivo cross-linking of histones reveals the
phosphorylation and deacetylation events
required for chromatin condensation.

80  Genome-Scale CRISPR-Cas9 Knockout
Screening in Human Cells
T. Wang et al.
A type of DNA repair protects replication-
stressed cancer cells, leading to signatures
of cancer genomic instability.

84  Break-Induced Replication Repair
of Damaged Forks Induces Genomic
Duplications in Human Cells
L. Costantino et al.
A particular class of neurons regulates female
fish mating preference based on social
familiarity.

88  Pregnenolone Can Protect the Brain
from Cannabis Intoxication
M. Vallée et al.
The universal precursor of steroid hormones
acts as a negative allosteric modulator
of cannabinoid receptors.

89  A Neural Mechanism Underlying Mating
Preferences for Familiar Individuals
in Medaka Fish
T. Okuyama et al.
A particular class of neurons regulates female
fish mating preference based on social
familiarity.

91  A Cascade of Histone Modifi cations
Induces Chromatin Condensation
in Mitosis
B. J. Wilkins et al.
In vivo cross-linking of histones reveals the
phosphorylation and deacetylation events
required for chromatin condensation.

94  Dynamic Regulation of Extrachromosomal
Mutant EGFR DNA
D. A. Nathanson et al.
Tumor cells become resistant to targeted
therapies by eliminating the gene encoding
the drug target from extrachromosomal DNA.

98  Genome-Scale CRISPR-Cas9 Knockout
Screening in Human Cells
T. Wang et al.
A type of DNA repair protects replication-
stressed cancer cells, leading to signatures
of cancer genomic instability.

101  A Neural Mechanism Underlying Mating
Preferences for Familiar Individuals
in Medaka Fish
T. Okuyama et al.
A particular class of neurons regulates female
fish mating preference based on social
familiarity.

104  Pregnenolone Can Protect the Brain
from Cannabis Intoxication
M. Vallée et al.
The universal precursor of steroid hormones
acts as a negative allosteric modulator
of cannabinoid receptors.
Science

343 (6166)

Science 343 (6166), 5-99.

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.