468 SETTING THE BAR
As the U.S. military opens ground combat roles to women, it’s looking to scientists to help define the standards
By K. Servick

469 COSMIC CONVERGENCE
Neutrinos from beyond our galaxy could be close kin to other mysterious visitors from space
By A. Cho

470 TINY BUILT-IN LASERS LIGHT UP LIVING CELLS
Technique could revolutionize tracking of individual cells
By A. Cho

471 RISK OF ‘LEAKY’ VACCINES DEBATED
Controversial finding suggests they can speed the spread of deadly pathogens
By K. Kupferschmidt

472 TWO LEAPS FORWARD FOR ROBOT LOCOMOTION
Biomimetic robots can jump on land and on water
By D. Vella
» REPORT P. 517

473 A LEAP AHEAD FOR ACTIVATING C-H BONDS
Boron-based catalysts add functional groups to normally unreactive carbon-hydrogen bonds
By S. K. Bose and T. B. Marder
» REPORT P. 513

475 ANCIENT PLANETARY DYNAMOS, TAKE TWO
Magnetic studies of Earth and Mercury constrain their ancient core dynamics
By J. Aubert
» REPORT P. 521

476 A p53-REGULATED IMMUNE CHECKPOINT RELEVANT TO CANCER
The tumor suppressor p53 may influence the ability of cancer cells to escape immune detection
By L. Zitvogel and G. Kroemer
» RESEARCH ARTICLE P. 499

WATER
478 Fresh water goes global
By C. J. Vörösmarty et al.

479 Local perspectives on water
By J. G. Hering et al.

480 AVERTING A NORTH AMERICAN BIODIVERSITY CRISIS
A newly described pathogen poses a major threat to salamanders via trade
By T. A. Yap et al.

BOOKS ET AL.
483 POSTGENOMICS
S. S. Richardson and H. Stevens, Eds., reviewed by P. W. Hughes

484 APPLIED MINDS
By G. Madhavan, reviewed by S. Derrible

LETTERS
486 SCIENCE IN CONGRESS: GOOD-FAITH DEBATE
By J. W. Conrad Jr.

486 SCIENCE IN CONGRESS: UNNECESSARY CONFLICT
By R. O. McClellan

487 SCIENCE IN CONGRESS: DECEPTIVE STATISTICS
By G. K. Evans

487 RESPONSE
By A. A. Rosenberg et al.

487 TECHNICAL COMMENT ABSTRACTS

RESEARCH
IN BRIEF
490 From Science and other journals

REVIEW
498 CRYSTAL GROWTH
Crystallization by particle attachment in synthetic, biogenic, and geologic environments
J. J. De Yoreo et al.
» REVIEW SUMMARY: FOR FULL TEXT: dx.doi.org/10.1126/science.aaa6760

476 & 499 p53 and autoimmunity
Philae’s first look

INTRODUCTION

493 Philae’s first days on the comet J.-P. Bibring et al.

RESEARCH ARTICLE ABSTRACTS

The landing(s) of Philae and inferences about comet surface mechanical properties J. Biele et al.

Properties of the 67P/Churyumov-Gerasimenko interior revealed by CONSERT radar W. Kofman et al.

REPORT ABSTRACTS

The nonmagnetic nucleus of comet 67P/Churyumov-Gerasimenko H.-U. Auster et al.

The structure of the regolith on 67P/Churyumov-Gerasimenko from ROLIS descent imaging S. Mottola et al.

67P/Churyumov-Gerasimenko surface properties as derived from CIVA panoramic images J.-P. Bibring et al.

CHO-bearing organic compounds at the surface of 67P/Churyumov-Gerasimenko revealed by Ptolemy I. P. Wright et al.

Organic compounds on comet 67P/Churyumov-Gerasimenko revealed by COSAC mass spectrometry F. Goesmann et al.

SEE ALSO

▷ NEWS STORY P. 459
▷ PODCAST
▷ news.sciencemag.org/tags/rosetta

RESEARCH ARTICLES

499 CELL DEATH
Control of signaling-mediated clearance of apoptotic cells by the tumor suppressor p53 K. W. Youn et al.

RESEARCH ARTICLE SUMMARY; FOR FULL TEXT: dx.doi.org/10.1126/science.1261669
▷ PERSPECTIVE P. 476

500 METABOLISM
S-Nitrosylation links obesity-associated inflammation to endoplasmic reticulum dysfunction L. Yang et al.

506 HEAVY FERMIONS
Strange metal without magnetic criticality T. Tomita et al.

510 REACTION DYNAMICS
Spectroscopic observation of resonances in the F + H₂ reaction J. B. Kim et al.

513 BORON CATALYSIS
Metal-free catalytic C-H bond activation and borylation of heteroarenes M.-A. Légare et al.
▷ PERSPECTIVE P. 473

517 BIOMECHANICS
Jumping on water: Surface tension-dominated jumping of water striders and robotic insects J.-S. Koh et al.
▷ PERSPECTIVE P. 472

521 PALEOMAGNETISM
A Hadean to Paleoarchean geodynamo recorded by single zircon crystals J. A. Tarduno et al.
▷ PERSPECTIVE P. 475

524 NANOELECTRONICS
Epitaxial growth of a monolayer WSe₂-MoS₂ lateral p-n junction with an atomically sharp interface M.-Y. Li et al.

528 FOREST ECOLOGY
Pervasive drought legacies in forest ecosystems and their implications for carbon cycle models W. R. L. Anderegg et al.

ON THE COVER

Artistic rendering of the Philae lander on the surface of comet 67P/Churyumov-Gerasimenko. On 12 November 2014, after descending from the Rosetta orbiter (background), Philae bounced upon touchdown, eventually coming to rest at the site known as Abydos. A set of eight papers describes the initial scientific results from Philae’s approach and first days on the comet. See pages 459 and 493 and news.sciencemag.org/tags/rosetta.


Science Staff ............................................. 454
AAAS News & Notes .................................. 488
New Products ......................................... 547
Science Careers ....................................... 548

Published by AAAS

31 JULY 2015 • VOL 349 ISSUE 6247 453
Science 349 (6247), 455-554.

ARTICLE TOOLS  http://science.sciencemag.org/content/349/6247

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.