SPECIAL SECTION

Exoplanets

INTRODUCTION
565 Alien Worlds Galore

NEWS
566 Gallery of Planet Hunters
570 ... And a Glossary of Their Quarry
>> Science Podcast

EDITORIAL
525 Is Any Science Safe?
Kenneth Prewitt

NEWS OF THE WEEK
530 A roundup of the week’s top stories

NEWS & ANALYSIS
534 Bill Would Set New Rules for Choosing NSF Grants
535 Research in Limbo as Harvard Moves to Close Center
536 Bill and Melinda Gates Talk Science
539 Scientists Clash Swords Over Future of GM Food Crops in India
540 Hansen’s Retirement From NASA Spurs Look at His Legacy

NEWS FOCUS
542 Mr. Borucki’s Lonely Road to the Light
>> Exoplanets section p. 565; Report p. 587
546 Taking the Pulse of a Ravaged Ocean
The Pacific Swallows Fukushima’s Fallout

LETTERS
548 Geoengineering: Guidance Exists
P. S. Corden
Geoengineering: Perilous Particles
B. Fadel et al.
549 Life in Science: The Legend of Owen

REVIEWS
572 Observed Properties of Extrasolar Planets
A. W. Howard
577 Exoplanet Habitability
S. Seager
>> Science Podcast

>> News story p. 542; Report p. 587;
Planet Hunters slideshow; and more at
www.sciencemag.org/special/exoplanets

BOOKS ET AL.
550 Surfaces and Essences
D. Hofstadter and E. Sander,
reviewed by K. J. Holyoak
551 Faking It
M. Fineman, curator;
Faking It
M. Fineman

POLICY FORUM
552 Global Research Integrity Training
N. H. Steneck

ON THE WEB THIS WEEK
>> Special Issue Slideshow
Check out a gallery of planet hunters.

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

COVER
Stylized comparison of the inner solar system (top) and Kepler-62 (bottom), a five-planet system about 1200 light-years away. Like our solar system, Kepler-62 hosts two planets in its habitable zone (depicted in green), the region around a star where a planet could conceivably maintain liquid water on its surface. The special section beginning on page 565 summarizes what we currently know about extrasolar planets.

Illustration: NASA/Jet Propulsion Laboratory–Caltech/T. Pyle

DEPARTMENTS
523 This Week in Science
526 Editors’ Choice
528 Science Staff
643 New Products
644 Science Careers
PERSPECTIVES

554  Recombinatorial Logic
Y. Benenson
>> Report p. 599

555  Seeing Gravitational Waves
M. M. Kasiwal

556  Tracking Marine Pollution
J. E. Elliott and K. H. Elliott

558  Silencing a Metabolic Oncogene
J. Kim and R. J. DeBerardinis
>> Reports pp. 622 and 626

559  Unconventional Secretion, Unconventional Solutions
M. Zhang and R. Schekman

561  Obey the Peptide Assembly Rules
M. S. Ardejani and B. P. Orner
>> Report p. 595

562  As Good as Chocolate
K. Palczewski and P. D. Riser
>> Reports pp. 610 and 615

554  Amplifying Genetic Logic Gates
J. Bonnet et al.
A genetic circuit architecture resembling a transistor can be engineered into individual live cells.
>> Perspective p. 554

560  Controlled Flight of a Biologically Inspired, Insect-Scale Robot
K. Y. Ma et al.
A fly-scale, flapping-wing robot has been fabricated and can be controlled to perform unconstrained flight maneuvers.

561  3D Reconstruction of the Source and Scale of Buried Young Flood Channels on Mars
G. A. Morgan et al.
Radar data taken from orbit reveal the complex morphology of buried flood channels in a young region of Mars.

562  Structural Basis for Molecular Recognition at Serotonin Receptors
C. Wang et al.

563  Structural Features for Functional Selectivity at Serotonin Receptors
D. Wacker et al.
Structures of serotonin receptor family members in complex with the fungal alkaloid ergot offer clues for drug designers.
>> Perspective p. 562

565  R-Loop Stabilization Represses Antisense Transcription at the Arabidopsis FLC Locus
Q. Sun et al.
A homeodomain protein limits expression of antisense transcripts involved in flowering time control.

567  Targeted Inhibition of Mutant IDH2 in Leukemia Cells Induces Cellular Differentiation
F. Wang et al.

569  An Inhibitor of Mutant IDH1 Delays Growth and Promotes Differentiation of Glioma Cells
D. Rohle et al.
A small molecule that inhibits a mutant enzyme in tumors slows malignant growth by inducing cancer cell differentiation.
>> Perspective p. 558

565  Disparate Individual Fates Compose Robust CDB+ T Cell Immunity
V. R. Buchholz et al.

567  Heterogeneous Differentiation Patterns of Individual CDB+ T Cells
C. Gerlach et al.
The single-cell dynamics as cytotoxic T cells respond to a bacterial infection are analyzed in mice.

569  Neural Decoding of Visual Imagery During Sleep
T. Horikawa et al.
Machine-learning models can predict specific visual contents from brain activity measurement alone.

571  Single-copy sales: 110.00 current issue. 150.00 back issue prepaid includes surface postage; bulk rates on request. Authorization to photocopy material for internal or personal use under circumstances not falling within the fair use provisions of the Copyright Act is granted by AAAS to libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that 5.00 per article is paid directly to CCC, 22 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.

www.sciencemag.org  SCIENCE  VOL 340  3 MAY 2013

599  Self-Assembling Cages from Coiled-Coil Peptide Modules
J. M. Fletcher et al.
Hexagonal networks form from heterodimeric and homotrimeric coiled coils and create ~100-nanometer-diameter cages.
>> Perspective p. 561

599  Amplifying Genetic Logic Gates
J. Bonnet et al.
A genetic circuit architecture resembling a transistor can be engineered into individual live cells.
>> Perspective p. 554

603  Controlled Flight of a Biologically Inspired, Insect-Scale Robot
K. Y. Ma et al.
A fly-scale, flapping-wing robot has been fabricated and can be controlled to perform unconstrained flight maneuvers.

607  3D Reconstruction of the Source and Scale of Buried Young Flood Channels on Mars
G. A. Morgan et al.
Radar data taken from orbit reveal the complex morphology of buried flood channels in a young region of Mars.

610  Structural Basis for Molecular Recognition at Serotonin Receptors
C. Wang et al.

615  Structural Features for Functional Selectivity at Serotonin Receptors
D. Wacker et al.
Structures of serotonin receptor family members in complex with the fungal alkaloid ergot offer clues for drug designers.
>> Perspective p. 562

619  R-Loop Stabilization Represses Antisense Transcription at the Arabidopsis FLC Locus
Q. Sun et al.
A homeodomain protein limits expression of antisense transcripts involved in flowering time control.

622  Targeted Inhibition of Mutant IDH2 in Leukemia Cells Induces Cellular Differentiation
F. Wang et al.

624  An Inhibitor of Mutant IDH1 Delays Growth and Promotes Differentiation of Glioma Cells
D. Rohle et al.
A small molecule that inhibits a mutant enzyme in tumors slows malignant growth by inducing cancer cell differentiation.
>> Perspective p. 558

629  Neural Decoding of Visual Imagery During Sleep
T. Horikawa et al.
Machine-learning models can predict specific visual contents from brain activity measurement alone.

630  Disparate Individual Fates Compose Robust CDB+ T Cell Immunity
V. R. Buchholz et al.

633  Heterogeneous Differentiation Patterns of Individual CDB+ T Cells
C. Gerlach et al.
The single-cell dynamics as cytotoxic T cells respond to a bacterial infection are analyzed in mice.

638  Neural Decoding of Visual Imagery During Sleep
T. Horikawa et al.
Machine-learning models can predict specific visual contents from brain activity measurement alone.

639  Neural Decoding of Visual Imagery During Sleep
T. Horikawa et al.
Machine-learning models can predict specific visual contents from brain activity measurement alone.