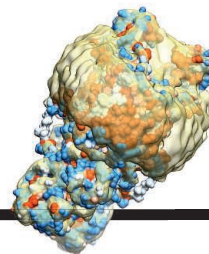


CONTENTS

26 AUGUST 2016 • VOLUME 353 • ISSUE 6302



887

A receptor
for retinol



853

NEWS

IN BRIEF

850 News at a glance

IN DEPTH

852 ANTHROPOCENE PINNED TO POSTWAR PERIOD

Geologists vote to seek a “golden spike,” but push for formal acceptance faces skepticism *By P. Voosen*

853 NASA FLIES INTO NAMIBIA'S CLOUD LABORATORY

Commingling smoke and fog pose thorny climate puzzles *By E. Hand*

855 CHOLESTEROL SCREENING FOR KIDS SPARKS DEBATE (AGAIN)

Evidence for universal testing is insufficient, task force says *By J. Couzin-Frankel*

856 RESEARCH WATCHDOG'S NEW LEADER FACES STAFF REVOLT

ORI head tries to chart future course, but staff warn of “tensions and conflict” in letters to her superiors *By J. Kaiser*

857 THE EXOPLANET NEXT DOOR

Earth-like planet found 4 light-years away around Proxima Centauri, the closest star *By D. Clery*

FEATURES

858 THE CARBON ACCOUNTANT

Richard Heede pins much of the responsibility for climate change on just 90 companies. Others say that's a cop-out *By D. Starr*

862 EUROPE'S NEW HEPATITIS PROBLEM

Many get infected with hepatitis E, and a few get very sick. How can the virus be stopped? *By K. Kupferschmidt*

INSIGHTS

PERSPECTIVES

864 HASSLES VERSUS PRICES

How can subsidized health products best target those who value them? *By B. A. Olken*

► RESEARCH ARTICLE P. 889

866 BUILDING MOLECULAR COMPLEXITY FROM SCRATCH

The Pauson-Khand cycloaddition reaction builds the tetracyclic core of (+)-ryanodol *By X. Verdaguer*
► REPORT P. 912

867 DO YOU SPEAK LION?

To be effective, conservation decisions must be transparent and based on diverse views *By W. M. Adams*

869 “WEATHER BOMB” INDUCED SEISMIC SIGNALS

Seismic waves generated by intense storms can reveal details of Earth's interior *By P. Gerstoft and P. D. Bromirski*
► REPORT P. 919

870 PROLINE HYDROXYLATION LINKED TO AKT ACTIVATION

Oxygen-sensing enzymes regulate the Akt kinase *By M. Voulgarelis and P. N. Tsichlis*
► REPORT P. 929

872 A PATH TOWARD UNDERSTANDING NEURODEGENERATION

A focus on cell biology may accelerate progress in disease prevention and cures *By K. S. Kosik et al.*

POLICY FORUM

874 ACHIEVING GLOBAL TARGETS FOR ANTIMICROBIAL RESISTANCE

The UN should promote targets, funding, and governance *By R. Laxminarayan et al.*

BOOKS ET AL.

876 THE FUTURE OF THREE-DIMENSIONAL THINKING

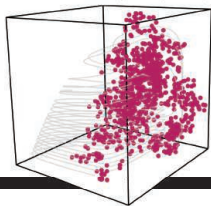
A new holographic platform holds promise for enhancing education, research, and collaboration *By M. A. Hoffman*

877 NAVIGATING TODAY'S JOB MARKET

A step-by-step guide offers practical science career advice *By T. A. Dellibovi-Ragheb*

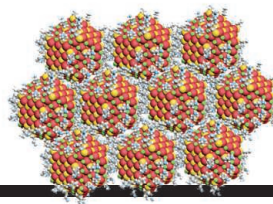
877 BUILDING STAR TREK

By B. Jasny



922

Forecasting for complex ecosystems



885

Wiring up colloidal devices

LETTERS

878 REDUCING THE RISK OF ANOTHER ALISO CANYON

By B. R. Knudsen

878 NSF VALUES MID-SCALE INFRASTRUCTURE

By F. Crim and J. Kurose

879 ERRATA

879 ONLINE BUZZ: SIX-WORD STORIES

RESEARCH

IN BRIEF

882 From Science and other journals

REVIEW

885 MATERIALS SCIENCE

Building devices from colloidal quantum dots C. R. Kagan et al.

REVIEW SUMMARY; FOR FULL TEXT:

dx.doi.org/10.1126/science.aac5523

▶ PODCAST

RESEARCH ARTICLES

886 PHOTOSYNTHESIS

Light-dependent chlorophyll f synthase is a highly divergent paralog of PsbA of photosystem II M.-Y. Ho et al.

RESEARCH ARTICLE SUMMARY; FOR FULL TEXT:

dx.doi.org/10.1126/science.aaf9178



864 & 889

887 STRUCTURAL BIOLOGY

Structure of the STRA6 receptor for retinol uptake Y. Chen et al.

RESEARCH ARTICLE SUMMARY; FOR FULL TEXT:

dx.doi.org/10.1126/science.aad8266

888 ACTINIDE CHEMISTRY

Characterization of berkelium(III) dipicolinate and borate compounds in solution and the solid state

M. A. Silver et al.

RESEARCH ARTICLE SUMMARY; FOR FULL TEXT:

dx.doi.org/10.1126/science.aaf3762

889 HEALTH ECONOMICS

Targeting health subsidies through a nonprice mechanism: A randomized controlled trial in Kenya P. Dupas et al.

▶ PERSPECTIVE P. 864

STRUCTURAL BIOLOGY

895 Structure of a yeast catalytic step I spliceosome at 3.4 Å resolution

R. Wan et al.

904 Structure of a yeast activated spliceosome at 3.5 Å resolution

C. Yan et al.

▶ RESEARCH ARTICLE BY R. RAUHUT ET AL.

10.1126/science.aag1906

REPORTS

912 ORGANIC SYNTHESIS

A 15-step synthesis of (+)-ryanodol K. V. Chuang et al.

▶ PERSPECTIVE P. 866

916 ULTRAFAST DYNAMICS

Attosecond dynamical Franz-Keldysh effect in polycrystalline diamond

M. Lucchini et al.

919 GEOPHYSICS

Teleseismic S wave microseisms

K. Nishida and R. Takagi

▶ PERSPECTIVE P. 869

922 TIME SERIES ANALYSIS

Information leverage in interconnected ecosystems: Overcoming the curse of dimensionality H. Ye and G. Sugihara

925 SINGLE-CELL GENOMICS

Div-Seq: Single-nucleus RNA-Seq reveals dynamics of rare adult newborn neurons N. Habib et al.

929 SIGNAL TRANSDUCTION

pVHL suppresses kinase activity of Akt in a proline-hydroxylation-dependent manner J. Guo et al.

▶ PERSPECTIVE P. 870

933 VIROLOGY

Discovery of a proteinaceous cellular receptor for a norovirus R. C. Orchard et al.

▶ RESEARCH ARTICLE BY K. ETAYEYI ET AL.

10.1126/science.aaf5211

DEPARTMENTS

849 EDITORIAL

Benefits of steady growth

By Jeremy Berg

954 WORKING LIFE

Adaptability in life and work

By Amit Kumar

ON THE COVER



A low-pressure system swirls off the coast of Greenland. A seismic array in Japan is now being used to detect seismic waves generated by ocean swell from a more powerful system known

as a "weather bomb" in North Atlantic waters. The ability to collect precise seismic source locations of distant storms may provide a new approach for exploring Earth's interior. See pages 869 and 919.

Photo: Jacques Desclotres, MODIS Rapid Response Team, NASA/GSFC

Science Staff	846
AAAS News & Notes	880
New Products	937
Science Careers	938

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 mail postage (publication No. 484460) paid at Washington, DC, and additional mailing offices. Copyright © 2016 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): \$165 (\$74 allocated to subscription). Domestic institutional subscription (51 issues): \$1522; foreign postage extra: Mexico, Caribbean (surface mail) \$55; other countries (air assist delivery) \$89. First class, airmail, student, and emeritus rates on request. Canadian rates with GST available upon request. GST #R1254 88122. Publications Mail Agreement Number 1069624. 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: \$15.00 current issue, \$20.00 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 \$35.00 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.

Science

353 (6302)

Science **353** (6302), 849-954.

ARTICLE TOOLS

<http://science.sciencemag.org/content/353/6302>

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.