



FEATURES

398 MALARIA WARS

Can malaria be eliminated from the Mekong region before multiple-drug resistance makes it untreatable? *By L. Roberts*

403 Skirmishing over the scope of the threat

By L. Roberts

404 Rubber workers on the front lines

By L. Roberts

405 THE UNLIKELY DIPLOMAT

Myaing Myaing Nyunt fled Myanmar in 1988; now she is back, forging alliances against malaria *By L. Roberts*

407 THE VILLAGE RECRUITER

In tests of a controversial strategy, advance liaison to often-skeptical villagers is crucial *By L. Roberts*

ON THE COVER



Migrant workers such as this man, one of nearly 50 workers employed at a farm in Palin, Cambodia, near the border with

Thailand, are at especially high risk of contracting malaria. Reaching them is one of many challenges facing an ambitious new effort to wipe out all malaria from the Greater Mekong subregion by 2030. See page 398. *Photo: Jeffrey Lau*

NEWS

IN BRIEF

388 News at a glance

IN DEPTH

391 REFUGEE CRISIS BRINGS NEW HEALTH CHALLENGES

Imported pathogens are a much bigger threat to migrants than they are to Europeans *By K. Kupferschmidt*

392 HOW SIGN LANGUAGES EVOLVE

Young sign languages develop in predictable ways, offering clues to language evolution *By C. Maticic*

393 NO DEADLINE, FEWER REQUESTS

National Science Foundation trial spurs drop in proposals *By E. Hand*

394 TEMPLETON GRANT FUNDS EVOLUTION RETHINK

\$8.7 million to test controversial ideas about how organisms influence their evolution *By E. Pennisi*

395 THE TININIEST TITAN

Fossil shows that even the youngest titanosaurs were ready to take on the world *By P. Monahan*

► REPORT P. 450

396 DATA CHECK: WHEN THE PAYOFF FOR ACADEMICS DROPS, COMMERCIALIZATION SUFFERS

A change in Norway's laws leads to sharp drop in the number of patents and startups by academics *By J. Mervis*

397 CADAVER STUDY CHALLENGES BRAIN STIMULATION METHODS

Unusual test of transcranial stimulation shows that little electrical current penetrates the skull *By E. Underwood*

INSIGHTS

PERSPECTIVES

408 WASTE NOT, WANT NOT, EMIT LESS

Reducing food waste in the supply chain and at home can help to reduce carbon emissions *By J. Aschemann-Witzel*

410 ELECTRONS CATCH A TERAHERTZ WAVE

Far-infrared fields control ultrashort electron pulses *By C. Ropers*

► RESEARCH ARTICLE P. 429

411 MINERAL CLUES TO PAST VOLCANISM

A study of zircon minerals from around the world shows that volcanism is a key driver of long-term climate change *By L. Kump*

► REPORT P. 444

413 RISK LITERACY IN MEDICAL DECISION-MAKING

How can we better represent the statistical structure of risk?

By J. T. Operskalski and A. K. Barbey

415 PAINTING MAGNETISM ON A CANVAS OF GRAPHENE

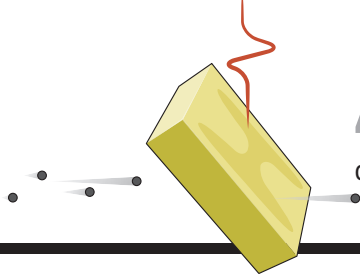
Hydrogen adatoms can give long-range magnetic order to graphene

By S. M. Hollen and J. A. Gupta

► REPORT P. 437



411 & 444



410 & 429

Controlling electron bursts



427

How immune cells remember

416 FILLING IN BIODIVERSITY THREAT GAPS

Only 5% of global threat data sets meet a “gold standard” *By L. N. Joppa et al.*

BOOKS ET AL.

420 CLEOPATRA'S NEEDLES

By B. Brier, reviewed by A. Robinson

421 LYSENKO'S GHOST

By L. Graham, reviewed by M. Meloni

LETTERS

422 INSTITUTING RECRUITING MERITOCRACY IN ITALY

By J. Assad

422 INVASIVE SPECIES SHAPE EVOLUTION

By P. E. Hulme and J. J. Le Roux

422 RESPONSE

By F. Sarrazin and J. Lecomte

423 TECHNICAL COMMENT ABSTRACTS

RESEARCH

IN BRIEF

424 From *Science* and other journals

REVIEW

427 INNATE IMMUNITY

Trained immunity: A program of innate immune memory in health and disease *M. G. Netea et al.*

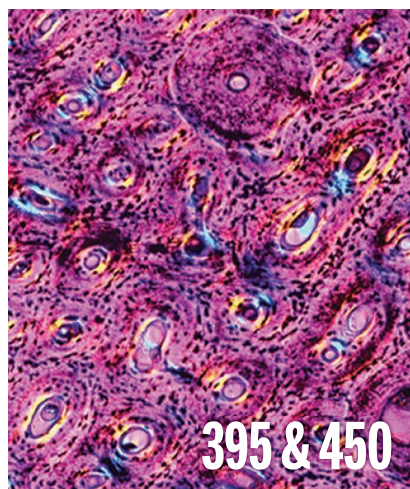
REVIEW SUMMARY; FOR FULL TEXT: [dx.doi.org/10.1126/science.aaf1098](https://doi.org/10.1126/science.aaf1098)

RESEARCH ARTICLES

428 MICROTUBULES

Detyrosinated microtubules buckle and bear load in contracting cardiomyocytes *P. Robison et al.*

RESEARCH ARTICLE SUMMARY; FOR FULL TEXT: [dx.doi.org/10.1126/science.aaf0659](https://doi.org/10.1126/science.aaf0659)



429 ULTRAFAST OPTICS

All-optical control and metrology of electron pulses *C. Kealhofer et al.*

► PERSPECTIVE P. 410

REPORTS

433 ORGANIC CHEMISTRY

Catalytic asymmetric addition of Grignard reagents to alkenyl-substituted aromatic *N*-heterocycles *R. P. Jumde et al.*

437 MAGNETISM

Atomic-scale control of graphene magnetism by using hydrogen atoms *H. González-Herrero et al.*

► PERSPECTIVE P. 415

441 QUANTUM OPTICS

Bell correlations in a Bose-Einstein condensate *R. Schmied et al.*

444 GEOLOGY

Continental arc volcanism as the principal driver of icehouse-greenhouse variability *N. R. McKenzie et al.*

► PERSPECTIVE P. 411

448 BIOINORGANIC CHEMISTRY

Light-driven dinitrogen reduction catalyzed by a CdS:nitrogenase MoFe protein biohybrid *K. A. Brown et al.*

450 PALEONTOLOGY

Precocity in a tiny titanosaur from the Cretaceous of Madagascar *K. C. Rogers et al.*

► NEWS STORY P. 395; PODCAST

453 CELL QUIESCENCE

RNA-binding proteins ZFP36L1 and ZFP36L2 promote cell quiescence *A. Galloway et al.*

459 IMMUNOLOGY

Hobit and Blimp1 instruct a universal transcriptional program of tissue residency in lymphocytes *L. K. Mackay et al.*

463 INNATE IMMUNITY

Mx1 reveals innate pathways to antiviral resistance and lethal influenza disease *P. S. Pillai et al.*

467 STRUCTURAL BIOLOGY

The 3.8 Å resolution cryo-EM structure of Zika virus *D. Sirohi et al.*

470 EVOLUTIONARY GENETICS

A beak size locus in Darwin's finches facilitated character displacement during a drought *S. Lamichhane et al.*

474 HUMAN GENOMICS

Health and population effects of rare gene knockouts in adult humans with related parents *V. M. Narasimhan et al.*

DEPARTMENTS

387 EDITORIAL

Due process in the Twitter age *By Marcia McNutt*

486 WORKING LIFE

Growth can come in phases *By He Fu*

Science Staff	386
New Products	478
Science Careers	480

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 #R125488122. 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

352 (6284)

Science **352** (6284), 387-486.

ARTICLE TOOLS

<http://science.sciencemag.org/content/352/6284>

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.