CONTENTS

28 March 2019 / Vol 567 / Issue No 7749

THIS WEEK

EDITORIALS

433 PUBLIC HEALTH

Build trust to combat Ebola

Researchers must push for support and forge links with affected communities

433 NEURODEGENERATION

Brain storm

Reduced neuron birth in diseased brains offers hope for Alzheimer's treatments

WORLD VIEW

435 Plagiarism detectors are a crutch, and a problem

Debora Weber-Wulff
Software won't keep science honest —
work by academics and editors will

RESEARCH HIGHLIGHTS

436 SELECTIONS FROM THE SCIENTIFIC LITERATURE

Shocking storms / A cherished ancient pet / Rewards of recycled poo / Huge haul of squishy fossils

SEVEN DAYS

438 THE NEWS IN BRIEF

Scientists join Brexit march / Alzheimer's drug fails / Bump in asteroid mission / Ethics pioneer Mary Warnock dies

TECHNOLOGY

555 CANCER

Cellular censuses to guide cancer care

The latest tools for tracking the interplay between tumours and immune cells

CAREERS

559 MOBILITY

Should I stay or should I go?

The pros and cons of research opportunities at home and abroad

561 TURNING POINT

Community builder

CAREER GUIDE

Germany as a destination: an introduction to its research scene

NEWS IN FOCUS



441 PLANETARY SCIENCE

Apollo-era Moon rocks yield insights about Solar System history

442 CLIMATE

Antarctic team to drill for 1.5-millionyear-old ice

443 FUNDING

Canadian budget overlooks basic science but supports scholarships

444 BIOTECHNOLOGY

WHO panel weighs in on human genome editing

445 POLITICS

Trump orders universities to protect free speech or risk losing federal funds

FEATURE



NEUROSCIENCE

The pain gap

Why different pathways in the sexes can produce the same 'ouch' PAGE 448

SPOTLIGHT

S27 CANCER

Offbeat approaches to cancer research

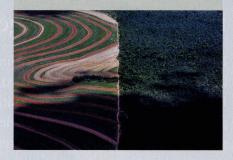
Five cancer scientists explain how creative thinking can pay dividends

COMMENT

ENVIRONMENT

Trade-war risks

Act fast to prevent soya spike sparking huge deforestation in the Amazon, say Richard Fuchs *et al.* PAGE 451



BOOKS & ARTS

456 SUSTAINABILITY

Globe to gut: inside Big Food Felicity Lawrence

458 STATISTICS

The joy of stats
Evelyn Lamb

459 BOOKS IN BRIEF

CORRESPONDENCE

461 Brexit threatens biosecurity / Make polluters pay for chemical clean-ups / Readers' responses to a call to retire statistical significance

OBITUARY

462 Bill Carter Jenkins (1945–2019)Susan M Reverby

FUTURES

564 The librarianRobert Dawson



CONTENTS

28 March 2019 / Vol 567 / Issue No 7749

RESEARCH

NEW ONLINE

463 Papers published this week at nature.com

NEWS & VIEWS

464 EPIGENETICS

Serotonin goes nuclear

Serotonylation of histones discovered Marlene Cervantes & Paolo Sassone-Corsi SEE LETTER P.535

465 MATERIALS SCIENCE

Improved charge carrying for solar cells

Efficient solar cells made using a low-cost hole-transport material Liyuan Han SEE LETTER P.511

467 VIROLOGY

Crosstalk between dengue and Zika

Risk of Zika after exposure to dengue Stephen S Whitehead & Theodore C Pierson

468 QUANTUM PHYSICS

The next step in making arrays of single atoms

Cooling and confinement of individual strontium and ytterbium atoms Mark Saffman

470 MATERIALS SCIENCE

Refrigeration based on plastic crystals

Large temperature changes associated with order–disorder phase transitions Claudio Cazorla SEE LETTER P.506

471 STRUCTURAL BIOLOGY

Lipopolysaccharide transport ratcheted up

The molecular processes that move glycolipids between bacterial membranes

Russell E Bishop

SEE ARTICLE P.486 & LETTER P.550

ANALYSIS

473 CANCER GENETICS The expanding landscape of 'oncohistone' mutations in human cancers

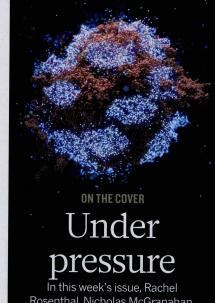
BA Nacev et al.

ARTICLES

479 LUNG CANCER Neoantigen-directed immune escape in lung cancer evolution

R Rosenthal et al.

486 STRUCTURAL BIOLOGY Structural basis of lipopolysaccharide extraction by the



Rosenthal, Nicholas McGranahan, Charles Swanton and the TRACERx consortium explore the relationship between tumour evolution and the body's immune system. The cover shows a lung tumour with widespread infiltrating CD8 T lymphocytes in the tumour microenvironment. PAGE 479

LptB₂FGC complex

Y Li, B J Orlando & M Liao SEE N&V P.471

LETTERS

491 QUANTUM PHYSICS Error mitigation extends the computational reach of a noisy quantum processor A Kandala et al.

496 CONDENSED-MATTER PHYSICS

Observation of unconventional chiral fermions with long Fermi arcs in CoSi Z Rao et al.

500 CONDENSED-MATTER PHYSICS Topological chiral crystals with helicoid-arc quantum states

DS Sanchez et al.

506 MATERIALS SCIENCE Colossal barocaloric effects in plastic crystals B Li et al. SEE N&V P.470

511 SOLAR ENERGY Efficient, stable and scalable perovskite solar cells using poly(3-hexylthiophene)

EH Jung et al. SEE N&V P.465

- 516 BIOGEOCHEMISTRY Managing nitrogen to restore water quality in China CQ Yu et al.
- 521 CANCER THERAPY Efficacy of MEK inhibition in patients with histiocytic neoplasms

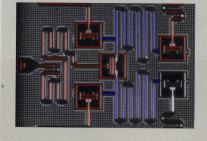
 E L Diamond et al.
- 525 IMMUNOLOGY Genome-wide analysis identifies NR4A1 as a key mediator of T cell dysfunction X Liu et al.
- 530 IMMUNOLOGY NR4A transcription factors limit CAR T cell function in solid tumours

 J Chen et al.
- is a permissive modification that enhances TFIID binding to H3K4me3 L A Farrelly et al. SEE N&V P.464
- 540 BREAST CANCER Glucocorticoids promote breast cancer metastasis M M S Obradović et al.
- 545 MOLECULAR BIOLOGY Recruitment of BRCA1 limits MYCN-driven accumulation of stalled RNA polymerase S Herold et al.
- basis of unidirectional export of lipopolysaccharide to the cell surface TWOwens et al. SEE N&V P.471

QUANTUM PHYSICS

Noisy gates

Extrapolating results improves the accuracy of quantum computations. **PAGE 491**



COVER IMAGE: JEROEN CLAUS/PHOSPHO BIOMEDICAL ANIMA