CONTENTS

24 September 2015 / Vol 525 / Issue No 7570

THIS WEEK

EDITORIALS

425 ENVIRONMENT

In the name of beauty

It is past time to phase out plastic microbeads in personal-care products

425 ETHICS

Power play

UK draft guidelines on mitochondrial replacement are a sensible step forward

426 STEM CELLS

STAP revisited

The self-correcting nature of science is exemplified by reanalysis of STAP work



WORLD VIEW

427 Make academic job advertisements fair to all Mathias Wullum Nielsen Too many men secure university posts without proper competition

RESEARCH HIGHLIGHTS

428 SELECTIONS FROM THE SCIENTIFIC LITERATURE

Spongy architecture / Enceladus all at sea / Spinal cord repair / Data deluge / Misleading orchid / At home in Greenland / Benign exoplanets

SEVEN DAYS

430 THE NEWS IN BRIEF

Arctic sea ice hits another low / NASA approves next step towards Mars mission / Volkswagen falls foul of emissions rules / Gender imbalance in biomedical funding

CAREERS

553 CREATIVE WRITING

A world of pure imagination

Fiction writing may not bring in much money but it can be rewarding in other ways

555 TRADE TALK

lore

Medical liaison

Don't settle for 'bench science' for the sake of it, says virologist and one-time LinkedIn addict David Crosby

NEWS IN FOCUS



433 MIDDLE EAST

Chances missed to keep refugees in higher education

434 SUSTAINABLE AID

UN unveils next set of development goals

436 NEUROSCIENCE

Young minds prove fertile grounds for brain stimulation

437 POLITICS

Researchers pin hopes on Canadian election to rekindle science support

438 BIOMEDICINE

Finances form the focus for Scripps' new leadership team

438 ASTRONOMY

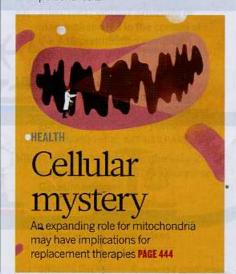
India's ASTROSAT telescope set to boost country's research

FEATURES

440 PRIVACY

The big peek

Researchers seek safe ways to access personal data



COMMENT

447 ENERGY

Reimagine fuel cells

John P Lemmon

Energy storage and generation must be combined to aid renewable resources



CLIMATE POLICY

Don't wish it away

Governmental inertia is no reason to abandon the democratic process, argues Nico Stehr PAGE 449

BOOKS & ARTS

451 MILITARY SCIENCE

Inventions of war Ann Finkbeiner

452 SPACE TRAVEL

When Soviets ruled the great beyond Tim Radford

454 THEATRE

Lab's labour's lost Philip Ball

CORRESPONDENCE

455 The people's science / China's carbon / Making hazardous chemicals safe / Hidden costs of artificial snow

FUTURES

558 Coin-operated dancer James Reinebold

CONTENTS

24 September 2015 / Vol 525 / Issue No 7570

NEW ONLINE

457 Papers published this week at nature.com

NEWS & VIEWS

458 FORUM

Parkinson's disease:

Crystals of a toxic core

MicroED structures of a segment of α-synuclein

Michel Goedert; Yifan Cheng

SEE ARTICLE P.486

460 MARINE SCIENCE

Storms bring ocean nutrients to light Pulses of nutrients at the ocean surface during and after storms Jaime Palter

461 CARDIAC BIOLOGY

A protein for healing infarcted hearts

The epicardial protein Fstl1 can induce cardiomyocyte proliferation Gordana Vunjak-Novakovic

SEE ARTICLE P.479

462 NUCLEAR PHYSICS

Neutrons with a twist

How neutrons can acquire orbital angular momentum

Robert W Boyd SEE LETTER P.504

464 EVOLUTIONARY BIOLOGY

Infection elevates diversity Infected fruit-fly mothers bear more recombinant offspring

Aneil F Agrawal

465 COMPUTATIONAL ASTROPHYSICS

Monstrous galaxies unmasked A simulated submillimetre galaxy is

powered by smooth accretion
Romeel Davé SEE LETTER P.496

466 EPIGENETICS

The karma of oil palm

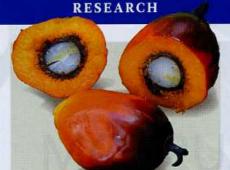
Methylation of the Karma transposon controls the development of oil palms Jerzy Paszkowski SEE LETTER P.533

REVIEW

469 STEM CELLS Hallmarks of pluripotency A De Los Angeles et al.

ARTICLES

479 CARDIAC BIOLOGY Epicardial FSTL1
reconstitution regenerates the adult
mammalian heart
K Wei et al. SEE N&V P.461



ON THE COVER

Weed out Bad Karma

A fruit abnormality called 'mantled' can develop in agricultural oil palm cultivars derived from tissue culture, and the resulting palms are unproductive. Genome-wide DNA methylation analysis shows that hypomethylation of a single Karma retrotransposon is common to all mantled clones. The discovery of this feature — dubbed Bad Karma — should enable screening for higher-performing clones at the plantlet stage. PAGES 533 & 466

- 486 STRUCTURAL BIOLOGY Structure of the toxic core of α-synuclein from invisible crystals
 - J A Rodriguez et al. SEE N&V P.458
- 491 STRUCTURAL BIOLOGY Structure of mammalian eIF3 in the context of the 43S preinitiation complex A des Georges et al.

LETTERS

- 496 ASTROPHYSICS The formation of submillimetre-bright galaxies from gas infall over a billion years D Narayanan et al. SEE N&V P.465
- 500 PLANETARY SCIENCE The diurnal cycle of water ice on comet 67P/ Churyumov–Gerasimenko

 M C De Sanctis et al.
- 504 QUANTUM PHYSICS Controlling neutron orbital angular momentum C W Clark et al. SEE N&V P.462
- 507 ORGANIC CHEMISTRY A concise synthesis

- of (+)-batzelladine B from simple pyrrole-based starting materials B T Parr, C Economou & S B Herzon
- 511 GEODYNAMICS Lithospheric controls on magma composition along Earth's longest continental hotspot track D R Davies, N Rawlinson, G laffaldano & I H Campbell
- 515 ECOLOGY Novel competitors shape species' responses to climate change J M Alexander, J M Diez & J M Levine
- 519 NEUROSCIENCE A sexually dimorphic hypothalamic circuit controls maternal care and oxytocin secretion N Scott, M Prigge, O Yizhar & T Kimchi
- 523 DEVELOPMENTAL BIOLOGY Cell-fate determination by ubiquitindependent regulation of translation A Werner et al.
- 528 IMMUNOLOGY Neutrophil ageing is regulated by the microbiome D Zhang et al.
- 533 AGRICULTURAL GENETICS Loss of Karma transposon methylation underlies the mantled somaclonal variant of oil palm M Ong-Abdullah et al SEE N&V P.466
- 538 CANCER BET inhibitor resistance emerges from leukaemia stem cells C Y Fong et al.
- 543 CANCER Transcriptional plasticity promotes primary and acquired resistance to BET inhibition P Rathert et al.
- 548 STRUCTURAL BIOLOGY Crystal structures of a double-barrelled fluoride ion channel R B Stockbridge et al.
- 552 CORRIGENDUM Wild-type microglia do not reverse pathology in mouse models of Rett syndrome J Wang et al.
- 552 CORRIGENDUM Structure of the TRPA1 ion channel suggests regulatory mechanisms

 C E Paulsen, J-P Armache, Y Gao, Y Cheng & D Julius
- 552 CORRIGENDUM Eocene primates of South America and the African origins of New World monkeys M Bond et al.