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Cover by Viktor Koen

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## RESEARCH

### NEW ONLINE

619 Papers published this week at nature.com

### NEWS & VIEWS

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##### Sources of inspiration

Uses of synchrotrons and free-electron lasers for structural biology  
Sean McSweeney; Petra Fromme

#### 621 MOLECULAR BIOLOGY

##### A second layer of information in RNA

Transcriptome-wide analysis of secondary structures in eukaryotic RNA  
Silvia B V Ramos & Alain Laederach  
SEE LETTERS P.696, P.701 & P.706

#### 622 CELL BIOLOGY

##### Potency unchained

Physical stimuli can reprogram cells to an unexpected state of potency  
Austin Smith  
SEE ARTICLE P.641 & LETTER P.676

#### 625 ASTROPHYSICS

##### Portrait of a dynamic neighbour

Spatially resolved maps of the visible surface of a nearby brown dwarf  
Adam P Showman SEE LETTER P.654

#### 626 EVOLUTIONARY BIOLOGY

##### Brotherly love benefits females

Male relatedness reduces sexual harm to female fruit flies  
Scott Pitnick & David W Pfennig  
SEE LETTER P.672

#### 627 ATOMIC PHYSICS

##### Polar exploration

Magnetic monopoles created in a Bose-Einstein condensate  
Lindsay J LeBlanc SEE LETTER P.657

### REVIEW

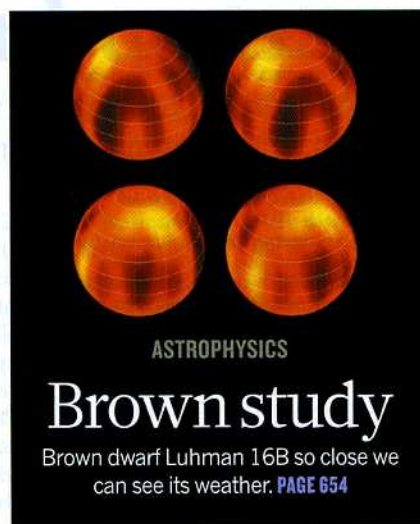
#### 629 ASTRONOMY Solar System evolution

from compositional mapping of the asteroid belt  
F E DeMeo & B Carry

### ARTICLES

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A Necsulea et al.

641 **STEM CELLS** Stimulus-triggered fate conversion of somatic cells into pluripotency  
H Obokata et al. SEE N&V P.622



648 **CELL BIOLOGY** ANP32E is a histone chaperone that removes H2A.Z from chromatin  
A Obri et al.

### LETTERS

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I J M Crossfield et al. SEE N&V P.625

657 **ATOMIC PHYSICS** Observation of Dirac monopoles in a synthetic magnetic field  
M W Ray, E Ruokokoski, S Kandel, M Möttönen & D S Hall SEE N&V P.627

661 **CHEMISTRY** Site- and energy-selective slow-electron production through intermolecular Coulombic decay  
K Gokhberg, P Kolorenč, A I Kuleff & L S Cederbaum

664 **CHEMISTRY** Resonant Auger decay driving intermolecular Coulombic decay in molecular dimers  
F Trinter et al.

667 **CLIMATE SCIENCE** Australian tropical cyclone activity lower than at any time over the past 550–1,500 years  
J Haig, J Nott & G-J Reichert

672 **EVOLUTION** Within-group male relatedness reduces harm to females in *Drosophila*  
B Carazo, C K W Tan, F Allen, S Wigby & T Pizzari SEE N&V P.626

676 **STEM CELLS** Bidirectional developmental potential in

reprogrammed cells with acquired pluripotency

H Obokata et al. SEE N&V P.622

681 **MICROBIOLOGY** Genome-wide dissection of the quorum sensing signalling pathway in *Trypanosoma brucei*  
B M Mony et al.

686 **VIRAL EVOLUTION** Mutational and fitness landscapes of an RNA virus revealed through population sequencing  
A Acevedo, L Brodsky & R Andino

691 **IMMUNOLOGY** Pan-viral specificity of IFN-induced genes reveals new roles for cGAS in innate immunity  
J W Schoggins et al.

696 **MOLECULAR BIOLOGY** *In vivo* genome-wide profiling of RNA secondary structure reveals novel regulatory features  
Y Ding et al. SEE N&V P.621

701 **MOLECULAR BIOLOGY** Genome-wide probing of RNA structure reveals active unfolding of mRNA structures *in vivo*  
S Rouskin, M Zubradt, S Washietl, M Kellis & J S Weissman SEE N&V P.621

706 **MOLECULAR BIOLOGY** Landscape and variation of RNA secondary structure across the human transcriptome  
Y Wan et al. SEE N&V P.621

710 **CORRIGENDUM** Primary forests are irreplaceable for sustaining tropical biodiversity  
L Gibson et al.

710 **ERRATUM** Exciting Andreev pairs in a superconducting atomic contact  
L Brethau et al.

### CLIMATE SCIENCE

## Wind-down

Fewer cyclones but it's not all plain sailing in Australia. PAGE 667

