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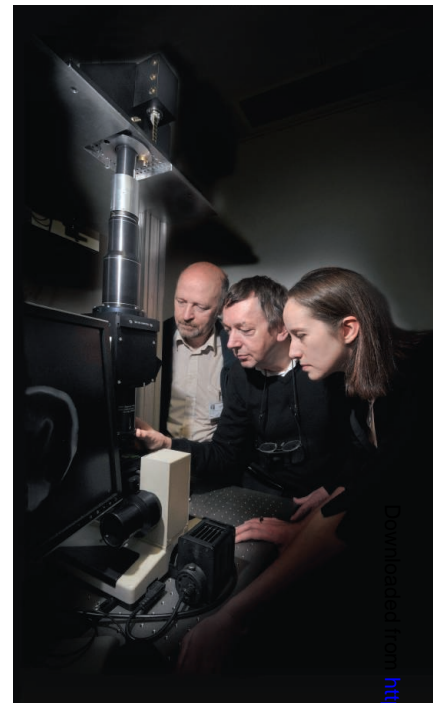
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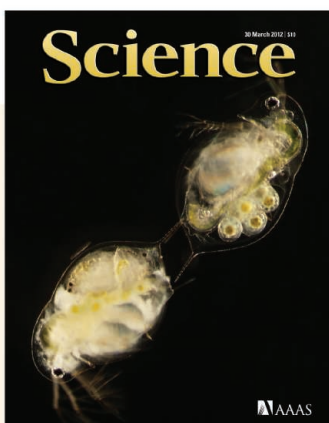


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COVER

Two *Daphnia dentifera*, each ~2 millimeters long. The organism at bottom left is infected with a virulent yeast parasite, causing her bright white appearance. The food web in which the host-parasite interaction is embedded determines the size of the epidemic, which, in turn, determines whether the *Daphnia* population becomes more resistant or more susceptible during the epidemic. See page 1636.

Credit: Meghan A. Duffy

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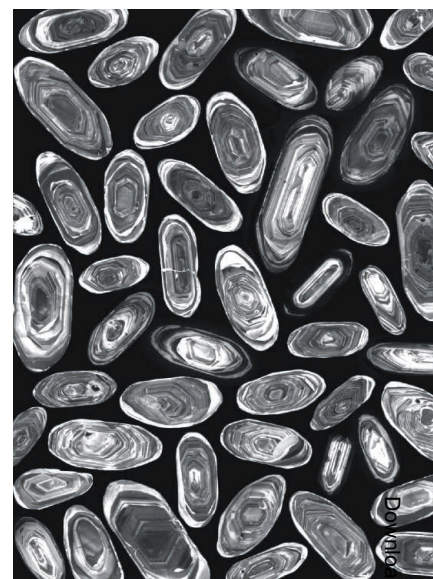
- 1596** Integrated Electromicrobial Conversion of CO₂ to Higher Alcohols
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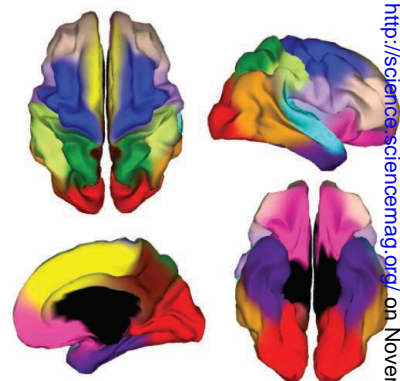
- 1597** Emerging Chirality in Artificial Spin Ice
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A nanomagnetic honeycomb structure exhibits an asymmetric response to a magnetic field sweep and an electric current.
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- 1610** ²³⁸U/²³⁵U Systematics in Terrestrial Uranium-Bearing Minerals
J. Hiess et al.
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>> *Perspective p. 1585; Science Podcast*
- 1614** A Shorter ¹⁴⁶Sm Half-Life Measured and Implications for ¹⁴⁶Sm-¹⁴²Nd Chronology in the Solar System
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Synaptic charge spreads into the dendrites of neighboring interneurons via dendritic gap junctions.
- 1628** The Geometric Structure of the Brain Fiber Pathways
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The macroscopic pathways of human brain nerve fibers are organized according to a single, highly curved three-dimensional grid.
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- 1634** Hierarchical Genetic Organization of Human Cortical Surface Area
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Human brain structure is genetically controlled in a hierarchical, modular, and symmetric fashion.
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- 1636** Ecological Context Influences Epidemic Size and Parasite-Driven Evolution
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When the physiological cost of host resistance to a disease damages reproductive output, disease susceptibility can evolve.
- 1638** Rapamycin-Induced Insulin Resistance Is Mediated by mTORC2 Loss and Uncoupled from Longevity
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The effect of the drug rapamycin on life span can be separated from its effects on metabolism.
>> *Perspective p. 1578*
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SCIENCEEXPRESS

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Neonicotinoid Pesticide Reduces Bumble Bee Colony Growth and Queen Production

P. R. Whitehorn et al.

Bumble bee colonies produce many fewer queens after exposure to a widely used insecticide.
10.1126/science.1215025

A Common Pesticide Decreases Foraging Success and Survival in Honey Bees

M. Henry et al.

Honey bees cannot find their way home after exposure to sublethal doses of a widely used insecticide.
10.1126/science.1215039

>> *News story p. 1555*

GBP5 Promotes NLRP3 Inflammasome Assembly and Immunity in Mammals

A. R. Shenoy et al.

A human protein activates the assembly of a cellular complex that detects signs of infection.
10.1126/science.1217141

Organic Synthesis via Irradiation and Warming of Ice Grains in the Solar Nebula

F. J. Ciesla and S. A. Sandford

A mechanism for production of carbon compounds in the interstellar medium could also operate in protoplanetary disks.
10.1126/science.1217291

Complex Protostellar Chemistry

J. A. Nuth III and N. M. Johnson

10.1126/science.1219709

Carbon Isotope Constraints on the Deglacial CO₂ Rise from Ice Cores

J. Schmitt et al.

The stable isotopic composition of the carbon in carbon dioxide over the last 24,000 years illuminates past carbon cycle behavior.
10.1126/science.1217161

The Ice Age Carbon Puzzle

E. Brook

10.1126/science.1219710

TECHNICAL COMMENTS

Comments and Response on "Disentangling the Drivers of β Diversity Along Latitudinal and Elevational Gradients"

Comment: *H. Qian et al.*

Full text at www.sciencemag.org/cgi/content/ful/335/6076/1573-b

Comment: *H. Tuomisto and K. Ruokolainen*

Full text at www.sciencemag.org/cgi/content/ful/335/6076/1573-c

Response: *N. J. B. Kraft et al.*

Full text at www.sciencemag.org/cgi/content/ful/335/6076/1573-d

SCIENCE NOW

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Highlights From Our Daily News Coverage

Oil Spill's 'Frothy Gunk' Harming Corals

A 2010 disaster coated deep-sea corals with oil more than 11 kilometers from the well site.
http://scim.ag/Frothy_Gunk

Findings Cast Doubt on Moon Origins

The giant impact hypothesis struggles to explain the similarity between Earth and the Moon's composition.
http://scim.ag/Moon_Origins

Earth Warming Faster Than Expected
Global temperatures could be 3°C hotter by mid-century.
http://scim.ag/Global_Temperatures

SCIENCE SIGNALING

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The Signal Transduction Knowledge Environment

27 March issue: <http://scim.ag/ss032712>

EDITORIAL GUIDE: Focus Issue—TOR Signaling, A Tale of Two Complexes

N. R. Gough

This issue highlights developments in the signaling network associated with the kinase TOR.

RESEARCH ARTICLE: Chronic Activation of mTOR Complex 1 Is Sufficient to Cause Hepatocellular Carcinoma in Mice

S. Menon et al.

Aberrant activation of mTORC1 disrupts tissue homeostasis, leading to carcinogenesis.

RESEARCH ARTICLE: A Dynamic Network Model of mTOR Signaling Reveals TSC-Independent mTORC2 Regulation

P. Dalle Pezze et al.

PERSPECTIVE: Deconvolution of mTORC2

"in Silico"

D. C. Fingar and K. Inoki

Modeling and testing network structures reveals a distinct mechanism of mTORC2 activation by insulin.

RESEARCH RESOURCE: Hyperplexing—A Method for Higher-Order Multiplexed Quantitative Proteomics Provides a Map of the Dynamic Response to Rapamycin in Yeast

N. Dephoure and S. P. Gygi

A dual-labeling strategy enables high-throughput analysis of multiple samples by mass spectrometry.

PERSPECTIVE: Phospholipase D and mTORC1—Nutrients Are What Bring Them Together

B. M. Wiczler and G. Thomas

Activation of PLD1 by amino acids enables mTORC1 to respond to nutrient abundance.

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Integrating Medicine and Science

28 March issue: <http://scim.ag/stm032812>

SPECIAL ISSUE: CONQUERING CANCER, CLOSING THE TRANSLATIONAL GAP

EDITORIAL: *Winning the War—Science Parkour*

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Experts pinpoint blocks to conquering cancer and highlight state-of-the-art science and strategies to sidestep these obstacles.

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PERSPECTIVE: Pluripotent Stem Cell–Based Cancer Therapy—Promise and Challenges

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REVIEW: Beyond PSA—The Next Generation of Prostate Cancer Biomarkers

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REVIEW: Applying What We Know to Accelerate Cancer Prevention

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RESEARCH ARTICLE: Colocalization of Inflammatory Response with B7-H1 Expression in Human Melanocytic Lesions Supports an Adaptive Resistance Mechanism of Immune Escape

J. M. Taube et al.

RESEARCH ARTICLE: Targeting of AML1-ETO in t(8;21) Leukemia by Oridonin Generates a Tumor Suppressor–Like Protein

T. Zhen et al.

SCIENCE CAREERS

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S. Carpenter

Data on PSM graduates' employment outcomes are scarce, but anecdotal evidence of success abounds.

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Plant Hunters

E. Pain

Plant collecting offers excitement for adventurous scientists—at some cost in comfort and security.

<http://scim.ag/PlantHunters>

NPA Founders Find Success

M. Price

The founders the National Postdoctoral Association say that the experience helped their careers.

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