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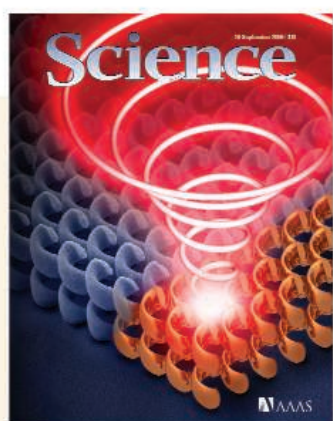
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Scheme of a photonic metamaterial composed of three-dimensional gold helices, each about 1.4 micrometers in diameter, fading to an oblique-view electron micrograph of the helices as fabricated (blue). The illuminated spiral symbolizes circularly polarized light impinging on the chiral metamaterial. The structure works as a circular polarizer for a frequency range exceeding one octave. See page 1513.

Illustration: Michael S. Rill (structure fabrication by Justyna K. Gansel and Michael Thiel)

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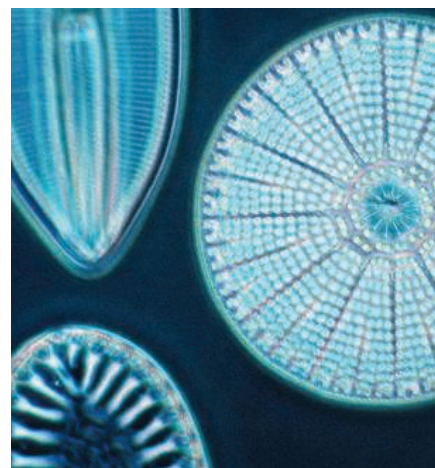
- 1512 **Macroevolution of Complex Retroviruses**
A. Katzourakis et al.
A sloth foamy virus sequence indicates that mammals have been infected since the Cretaceous.

REPORTS

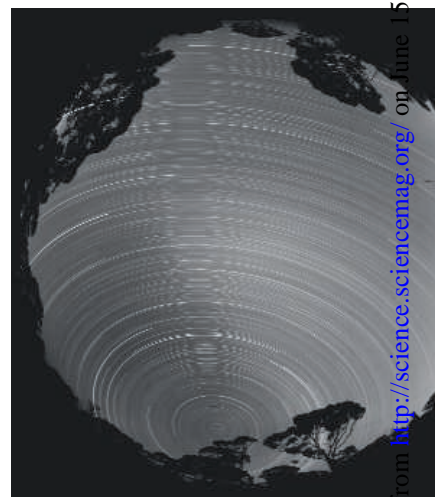
- 1513 **Gold Helix Photonic Metamaterial as Broadband Circular Polarizer**
J. K. Gansel et al.
A three-dimensional array of gold nano-helices can polarize light over a wide range of wavelengths.
- 1515 **Control of Spin Precession in a Spin-Injected Field Effect Transistor**
H. C. Koo et al.
A field-effect transistor in which the spin current is controlled by a gate voltage is demonstrated.
- 1518 **Memory Metamaterials**
T. Driscoll et al.
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- 1521 **Itinerant Ferromagnetism in a Fermi Gas of Ultracold Atoms**
G.-B. Jo et al.
Ferromagnetic ordering forms spontaneously in an ensemble of ultracold fermionic atoms.
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- 1525 **An Anomalous Basaltic Meteorite from the Innermost Main Belt**
P. A. Bland et al.
This meteorite's composition and orbital properties are such that it cannot be traced to the parent asteroid.
- 1527 **Evidence for Obliquity Forcing of Glacial Termination II**
R. N. Drysdale et al.
Marine records suggest that the early onset of the penultimate deglaciation was due to changes in Earth's obliquity.
- 1531 **Cellular Basis of Itch Sensation**
Y.-G. Sun et al.
Itch, but not pain sensation, is abolished by selective ablation of a small subpopulation of spinal neurons.
- 1534 **Attitudes and Action: Public Opinion and the Occurrence of International Terrorism**
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- 1536 **Highly Variable Spread Rates in Replicated Biological Invasions: Fundamental Limits to Predictability**
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- 1539 **Controls on Diatom Biogeography in the Ocean**
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Fossil records show that the dispersal of diatoms from ocean plankton has not been constrained by geographical barriers.
- 1541 **A Constant Flux of Diverse Thermophilic Bacteria into the Cold Arctic Seabed**
C. Hubert et al.
Spore-forming bacteria adapted to the hot subsurface biosphere are continually deposited in polar marine sediments.
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Y. Zhang et al.
Protein structure and biochemical data generate a three-dimensional view of the metabolic network of a bacterial cell.
- 1549 **Details of Insect Wing Design and Deformation Enhance Aerodynamic Function and Flight Efficiency**
J. Young et al.
Measurements of locust wing kinematics validate a fluid dynamics model of the aerodynamic effects of wing deformation.
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- 1552 **D-Amino Acids Govern Stationary Phase Cell Wall Remodeling in Bacteria**
H. Lam et al.
Bacteria produce D-amino acids to regulate their cell wall composition, structure, amount, and strength.
>> *Perspective p. 1505*
- 1555 **Glucose Deprivation Contributes to the Development of *KRAS* Pathway Mutations in Tumor Cells**
J. Yun et al.
Glucose deprivation can drive the acquisition of certain oncogenic mutations in human cancer cells.

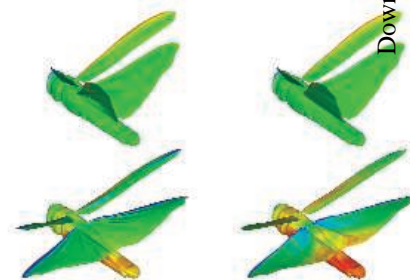
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SCIENCEONLINE

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Tyrannosaurid Skeletal Design First Evolved at Small Body Size

P. C. Sereno et al.

The distinct features of *Tyrannosaurs*, such as their large skull and tiny arms, appear in an earlier small-bodied species.

10.1126/science.1177428

Three-Color Entanglement

A. S. Coelho et al.

Three bright light beams of different colors can be entangled.

10.1126/science.1178683

Control of Iron Homeostasis by an Iron-Regulated Ubiquitin Ligase

A. A. Vashisht et al.

10.1126/science.1176333

An E3 Ligase Possessing an Iron-Responsive Hemerythrin Domain Is a Regulator of Iron Homeostasis

A. A. Salahudeen et al.

A vertebrate hemerythrin domain in an E3 ubiquitin ligase complex senses and regulates cellular iron levels.

10.1126/science.1176326

TECHNICALCOMMENTS

Comment on "The Dynamic Control of Kiss-And-Run and Vesicular Reuse Probed with Single Nanoparticles"

B. Granseth et al.

full text at www.sciencemag.org/cgi/content/full/325/5947/1499-b

Response to Comment on "The Dynamic Control of Kiss-And-Run and Vesicular Reuse Probed with Single Nanoparticles"

Q. Zhang et al.

full text at www.sciencemag.org/cgi/content/full/325/5947/1499-c

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Highlights From Our Daily News Coverage

Forest a Desert, Cool the World

Simulations argue that turning the Sahara into a forest could help fight climate change.

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Four disfigured skulls are traced back to an ancient killer.

Birth Control for Stars

Study reveals that magnetic fields play an essential role in star formation.

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RESEARCH ARTICLE: Differential Interactions of FGFs with Heparan Sulfate Control Gradient Formation and Branching Morphogenesis

H. P. Makarenkova et al.

Manipulation of the interaction of a morphogen with the extracellular matrix changes its biological activities by altering its diffusion.

RESEARCH ARTICLE: Tks5-Dependent, Nox-Mediated Generation of Reactive Oxygen Species Is Necessary for Invadopodia Formation

B. Diaz et al.

RESEARCH ARTICLE: Novel p47^{phox}-Related Organizers Regulate Localized NADPH Oxidase 1 (Nox1) Activity

D. Gianni et al.

PERSPECTIVE: Regulation of Cancer Invasion by Reactive Oxygen Species and Tks Family Scaffold Proteins

A. M. Weaver

Tks proteins organize NADPH oxidase activity and localized production of reactive oxygen species in invasive cells.

PERSPECTIVE: Endocannabinoids Can Open the Pain Gate

M. J. Christie and C. Mallet

Endocannabinoids generated in the spinal cord can enhance pain responses instead of relieving pain.

NETWATCH: PhosphoPep

Access phosphoproteomic data from yeast, worm, fly, and human; in Protein Databases.

NETWATCH: ProtParam

Calculate commonly used physical and chemical parameters for a protein of interest; in Technical Information.

SCIENCE CAREERS

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Free Career Resources for Scientists

A Physicist Finds a Rewarding Career in Charity

V. Raper

Physicist Lucy Heady now pursues a career solving social problems.

Tooling Up: The Regulatory Affairs Career Track

D. Jensen

Regulatory affairs specialists play a key role in getting drugs to market.

Pushing the Regulatory Agenda on Adult Stem Cells

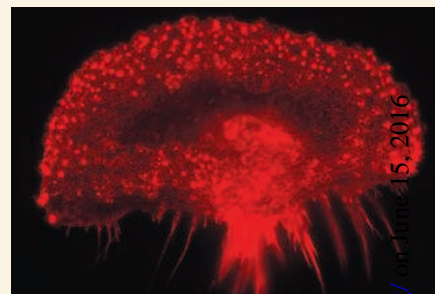
E. Pain

María Pascual has influenced European policy on adult stem cell drug development.



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Editor's Summary

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