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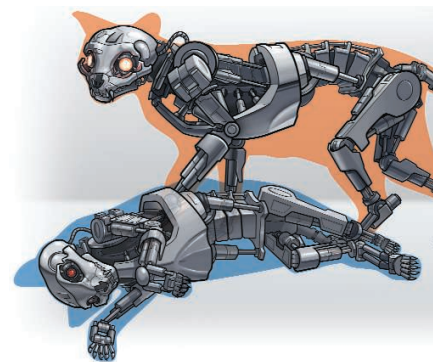
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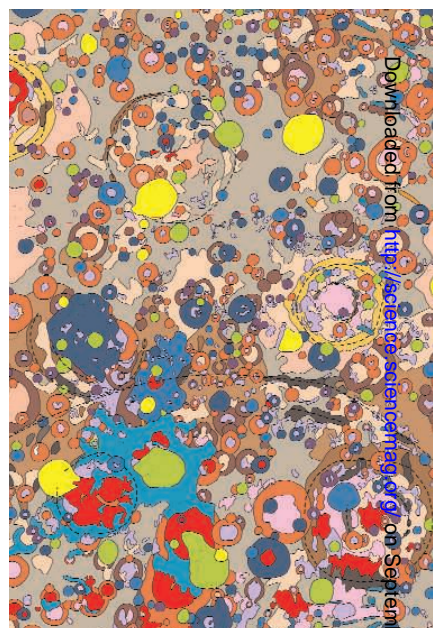
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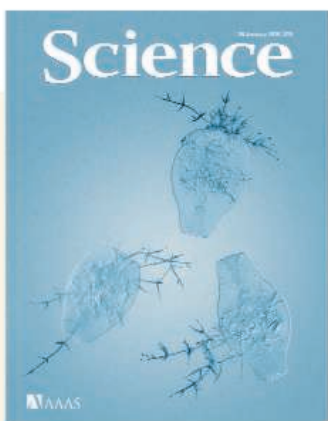


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COVER

Spore-bearing fungal parasites emerge from the digested corpses of three bdelloid rotifers. These freshwater invertebrates (length <0.5 millimeters) present an evolutionary puzzle because they have reproduced without sex for millions of years but have not been driven extinct by relentlessly coevolving parasites. Bdelloids can escape fungal parasites in space and time through complete desiccation and dispersal by wind to uninfected habitats. See page 574.

Image: Kent Loeffler, Kathie T. Hodge, Chris Wilson

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N-Terminal Acetylation of Cellular Proteins Creates Specific Degradation Signals

C.-S. Hwang et al.

In vivo protein stoichiometries are regulated through N-terminally acetylated degrons.
10.1126/science.1183147

Generating a Prion with Bacterially Expressed Recombinant Prion Protein

F. Wang et al.

Purified recombinant prion protein recapitulates the characteristics of the infectious agent in prion disease.
10.1126/science.1183748

Contributions of Stratospheric Water Vapor to Decadal Changes in the Rate of Global Warming

S. Solomon et al.

Decreases in stratospheric water vapor after the year 2000 slowed the rate of increase in global surface temperature.
10.1126/science.1182488

Symmetric Inertial Confinement Fusion Implosions at Ultra-High Laser Energies

S. H. Glenzer et al.

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C. K. Li et al.

Laser-driven temperatures and implosion symmetry are close to the requirements for inertial-fusion ignition.
10.1126/science.1185747

Food Security: The Challenge of Feeding 9 Billion People

H. C. J. Godfray et al.

10.1126/science.1185383

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Highlights From Our Daily News Coverage

Colliding Particles Can Make Black Holes

Simulations do not prove that the Large Hadron Collider will produce them, however.

Birdlike Dinosaur Was Adept Glider

Foam model may clarify origin of bird flight.

Hear That? Bats and Whales Share Sonar Protein

Similar genetic changes helped echolocation evolve in disparate species.

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RESEARCH ARTICLE: Molecular Basis of the Death-Associated Protein Kinase–Calcium/Calmodulin Regulator Complex

I. de Diego et al.

The structure of the death-associated protein kinase and calmodulin complex reveals how calmodulin binding leads to kinase activation.

RESEARCH ARTICLE: A Crucial Role for RACK1 in the Regulation of Glucose-Stimulated IRE1 α Activation in Pancreatic β -cells

Y. Qiu et al.

RACK1 dictates the response of the intracellular stress sensor IRE1 α to different extracellular stimuli.

PERSPECTIVE: Proteomics Modifies Our Understanding of Cell Cycle Complexity

M. C. Hall

Thousands of modified proteins were revealed in global cell cycle studies of phosphorylation and O-GlycNAcylation.

PODCAST

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A single amino acid substitution in a viral protein is sufficient to attenuate rabies virulence.

SCIENCE CAREERS

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Perspective: From 'Pet' to Peer

S. Pfirman et al.

Diverse probationary faculty members may be denied a fair chance to become peers.

Mind Matters: Gossip in the Lab

I. S. Levine

Workplace gossip may not be all bad, but it needs to be handled with care.

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D. Adams

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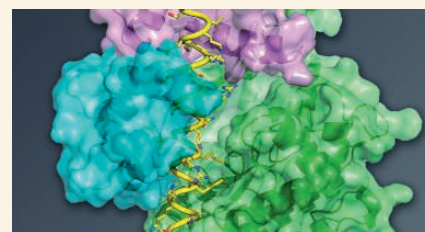
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PERSPECTIVE: Pathogen Microevolution in High Resolution

R. K. Aziz and V. Nizet

Next-generation high-throughput sequencing provides insight into the origin and spread of microbial pathogens.



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Structural insights into kinase activation by calmodulin.

COMMENTARY: Transforming Medicine via Digital Innovation

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Digital devices have exceptional promise for changing the future of medicine.

RESEARCH ARTICLE: Resiliency and Vulnerability in the HER2-HER3 Tumorigenic Driver

D. N. Amin et al.

The ability to overcome drug-resistant breast cancers may lie in dosage frequency.

RESEARCH ARTICLE: Metabolomic Imaging for Human Prostate Cancer Detection

C.-L. Wu et al.

Metabolic imaging in the prostate reveals cancerous regions, guides biopsies, and helps prognosis.

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