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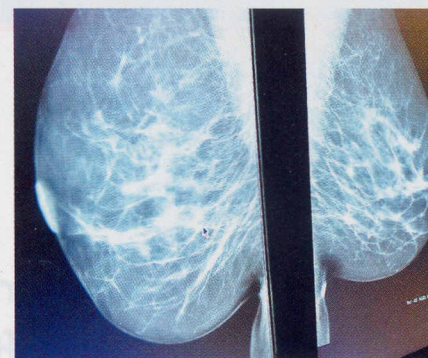
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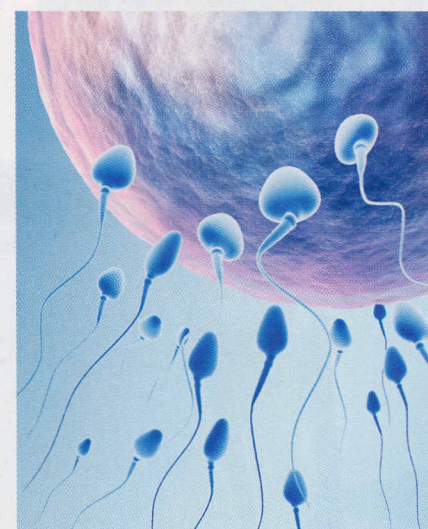
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"Branching Morphogenesis," an installation made from more than 75,000 interconnected cable zip ties, illustrates the predicted forces generated by human lung endothelial cells as they form networks within an extracellular matrix over time. Winners of the 2009 Science/NSF International Science & Engineering Visualization Challenge are featured in a special section starting on page 945.

Image: Jenny E. Sabin; installation: Peter Lloyd Jones, Jenny E. Sabin, Andrew Lucia, Annette Fierro/Sabin+Jones LabStudio, University of Pennsylvania

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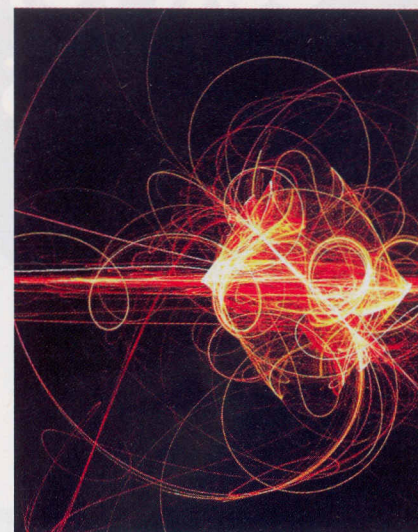
- 1018 Limits of Predictability in Human Mobility

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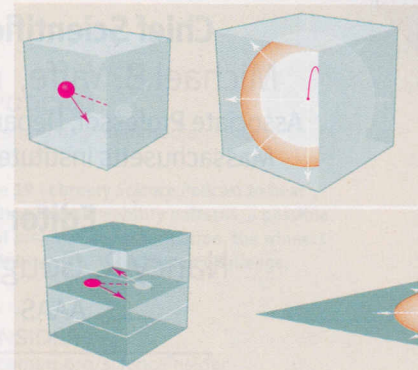
Analysis of the trajectories of people carrying cell phones reveals that human mobility patterns are highly predictable.

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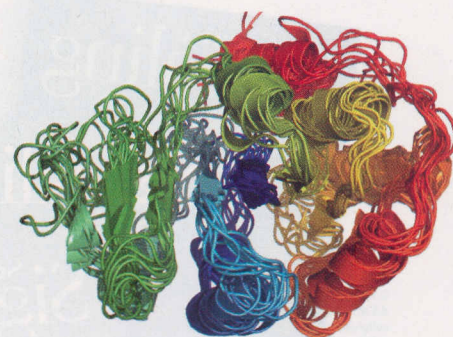
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SCIENCEONLINE

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www.sciencexpress.org

Design of Polymethine Dyes with Large Third-Order Optical Nonlinearities and Loss Figures of Merit

J. M. Hales et al.

Nonlinear optical materials are designed and characterized for potential applications in all-optical switching.
10.1126/science.1185117

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Highlights From Our Daily News Coverage

Is That Elephant Running? Don't Bet on It

New study argues that, regardless of their speed, elephants don't actually run.

What Doesn't Kill Microbes, Makes Them Stronger

Low levels of antibiotics trigger mutations that cause resistance.

Ancient Human Sequenced for First Time

Strands of hair paint detailed picture of 4000-year-old Greenlander.

SCIENCE SIGNALING

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RESEARCH ARTICLE: Microbial Hijacking of Complement-Toll-Like Receptor Crosstalk

M. Wang et al.

Pathogen-instigated crosstalk between the complement C5a receptor and Toll-like receptor 2 disables innate immune function.

RESEARCH ARTICLE: Deciphering Protein Kinase Specificity Through Large-Scale Analysis of Yeast Phosphorylation Site Motifs

J. Mok et al.

A high-throughput peptide array approach reveals insight into kinase substrates and specificity.

CONNECTIONS MAP:

Jasmonate Biochemical Pathway

A. Gfeller et al.

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CONNECTIONS MAP: Arabidopsis Jasmonate Signaling Pathway

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The pathogen *Porphyromonas gingivalis* evades the innate immune system by initiating signaling cross talk.

SCIENCE CAREERS

www.sciencecareers.org/career_magazine

Free Career Resources for Scientists

Tooling Up: The Applications Scientist Career Track

D. Jensen

An "applications scientist" job can link the bench to other industry careers.

Protecting Poland's Rapeseed Crop

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Malgorzata Jedryczka's system for detecting crop pathogens has become a national industry-sponsored program.

Perspective: Audacity Is Overrated

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SCIENCE TRANSLATIONAL MEDICINE

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Integrating Medicine and Science

COMMENTARY: Ten Years of the Immune Tolerance Network—An Integrated Clinical Research Organization

J. A. Bluestone et al.

New insights from old programs yield the equation for a successful research program.

COMMENTARY: Medical Education Research as Translational Science

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RESEARCH ARTICLE: Long-Term Thermostabilization of Live Poxviral and Adenoviral Vaccine Vectors at Supraphysiological Temperatures in Carbohydrate Glass

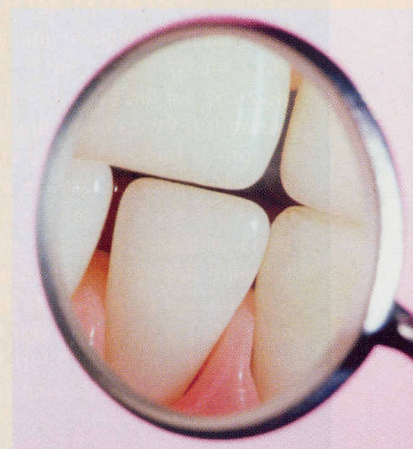
R. Alcock et al.

A sucrose-trehalose glass film dried onto a filter can preserve the activity of vaccine viral vectors.

RESEARCH ARTICLE: S-Nitrosylation from GSNOR Deficiency Impairs DNA Repair and Promotes Hepatocarcinogenesis

W. Wei et al.

An enzyme that removes harmful marks from cellular proteins guards against liver cancer.



SCIENCE SIGNALING

Insight into an oral pathogen.

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Free Weekly Show

Download the 19 February *Science* Podcast to hear about predicting human mobility patterns, a possible mechanism of prebiotic sugar formation, the winners of the 2009 *Science*/NSF Visualization Challenge, and more.

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Science Policy News and Analysis

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