

## COVER

Steep terrain: To move a therapy from the research lab to the doctor's office requires a huge investment in clinical trials, which are growing more costly and more complex every year. See the special section beginning on page 209.

**Photo illustration:** Kelly Buckheit Krause  
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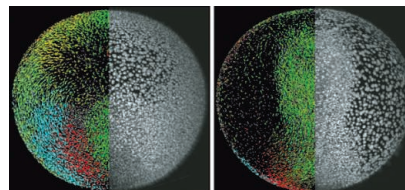
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[www.scienceexpress.org](http://www.scienceexpress.org)

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**Reaction-Driven Restructuring of Rh-Pd and Pt-Pd Core-Shell Nanoparticles**  
F. Tao et al.

Reducing or oxidizing conditions segregates rhenium or palladium at the surface of Rh-Pd (but not Pt-Pd) nanoparticles, facilitating the tuning of their catalytic properties.  
10.1126/science.1164170

### SOCIOLOGY

**Multi-University Research Teams: Shifting Impact, Geography, and Stratification in Science**

B. F. Jones, S. Wuchty, B. Uzzi

Over the past 30 years, scientific papers have become increasingly likely to be written by teams of authors from more than one of a small number of elite universities.

10.1126/science.1158357

### DEVELOPMENTAL BIOLOGY

**Reconstruction of Zebrafish Early Embryonic Development by Scanned Light Sheet Microscopy**

P. J. Keller, A. D. Schmidt, J. Wittbrodt, E. H. K. Stelzer

Digitized tracking of each cell during the first 24 hours of zebrafish development reveals how the body axis and germ layer are formed and provides a community resource.

>> *News story p. 176; Science Podcast*

10.1126/science.1162493

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**Generation of Mouse Induced Pluripotent Stem Cells Without Viral Vectors**

K. Okita, M. Nakagawa, H. Hyenjong, T. Ichisaka, S. Yamanaka

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10.1126/science.1164270

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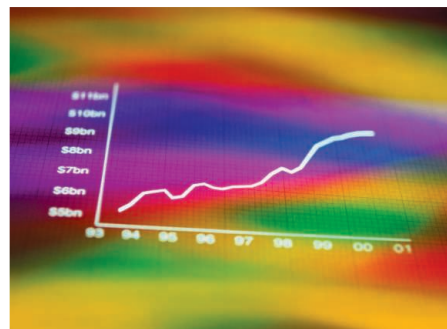
Comic take on Nobels awarded to 10 research teams, amid flying paper airplanes.

### Blood Test for Mom Picks Up Down Syndrome in Fetus

New approach offers hope for cheaper, less invasive diagnosis.

### Caving for Seismic History

Stalagmites may serve as record of past earthquakes.



Planning your research.

## SCIENCE CAREERS

[www.sciencecareers.org/career\\_development](http://www.sciencecareers.org/career_development)

FREE CAREER RESOURCES FOR SCIENTISTS

### Maximizing Productivity and Recognition, Part 3: Developing a Research Plan

*S. Pfirman, R. E. Bell, P. J. Culligan, P. Balsam, J. D. Laird*

To set your research on a clear course, you need a well-conceived but flexible plan.

### Opportunities: The Political Scientist

*P. Fiske*

Not understanding political elements of the scientific culture can reduce your effectiveness.

### Transferring Skills to Tech Transfer

*L. Laursen*

Technology transfer departments can bridge the gap between science and business.

### Science Careers Blog

*Science Careers Staff*

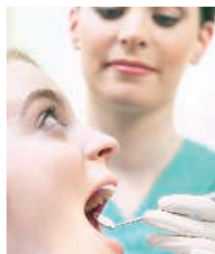
Get advice, opinions, news, funding opportunities, and links to other career-related resources.

Understanding gum disease.

## SCIENCE SIGNALING

[www.sciencesignaling.org](http://www.sciencesignaling.org)

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### PODCAST

*N. R. Gough and J. F. Foley*

The bacteria that cause periodontitis evade destruction by promoting crosstalk between two receptors that regulate the immune response.

### PRESENTATION: The Endothelial Glycocalyx—A Mechano-Sensor and -Transducer

*J. M. Tarbell and E. E. Ebong*

A complex extracellular network of proteoglycans communicates mechanical stress to endothelial cells.

### ST NETWATCH: Cellerator

This plug in for Mathematica allows users to model interactions between components of a signal transduction network or between multiple networks; in Modeling Tools.

### ST NETWATCH: Clapham Lab

Find a wealth of information about TRP channels and calcium signaling from this lab at Harvard Medical School; in Labs and People.

### ST NETWATCH: GenMAPP

Make sense of array data by using this application to map gene expression data onto cellular pathways; in Bioinformatics Resources.



## SCIENCE ONLINE FEATURE

### VIDEO: Pediatric Medicine—Prescribing Drugs “Off-Label”

A progress report on regulating and testing medicines for kids.

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