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Comprehensive Conservation Database Details Threats to Mammals

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Samurai Mathematician Set Japan Ablaze With Brief, Bright Light
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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

SOCIOLGY
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

LETTERS
Declines in NIH R01 Research Grant Funding
H. G. Mandel and E. S. Vesell
A Call to Action for Coral Reefs R. E. Dodge et al.
Neutralizing the Impact Factor Culture A. L. Notkins
Impact Factor Fever P. Cherubini
Life in Science: Sounds of Atoms P. S. Weiss and S. J. Stranick

CORRECTIONS AND CLARIFICATIONS

BOOKS ET AL.
What Science Offers the Humanities Integrating Body and Culture E. Slingerland, reviewed by H. Fromm
Humans, Nature, and Birds Science Art from Cave Walls to Computer Screens D. Wheye and D. Kennedy; A History of Paleontology Illustration J. P. Davidson, reviewed by M. Parrish

BROWSINGS
Trends in Human Gene Patent Litigation C. M. Holman

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Biodiversity in a Warmer World J.-C. Svenning and R. Condit
Volcanic Symphony in the Lab L. Burlini and G. Di Toro

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.
10.1126/science.1162493

DEVELOPMENTAL BIOLOGY
Generation of Mouse Induced Pluripotent Stem Cells Without Viral Vectors
K. Okita, M. Nakagawa, H. Hyenjong, T. Ichisaka, S. Yamanaka
Pluripotent cells can be created by introducing transcription factor genes into mouse embryonic fibroblasts on a plasmid that does not integrate into the genome.
10.1126/science.1164270

BREVIA
PALEONTOLOGY
Fossil arthropods in 525-million-year-old rocks in China are preserved in a long chain, implying that some Cambrian animals exhibited social behavior, unlike later arthropods.

ECOLOGY
A comprehensive assessment of all of Earth’s mammals shows that primary productivity drives species richness on land and sea and that 20 to 25 percent of species are under threat.

PHYSICS
A High Phase-Space-Density Gas of Polar Molecules K.-K. Ni et al.
Raman laser irradiation can cool a cloud of KRb molecules to ultralow translational, vibrational, and rotational temperatures, a step toward forming molecular condensates.

APPLIED PHYSICS
Cavity Optomechanics with a Bose-Einstein Condensate F. Brennecke, S. Ritter, T. Donner, T. Esslinger
Coupling a Bose-Einstein condensate to an optical cavity holding a few trapped photons provides a sensitive probe of mechanical oscillations in the quantum regime.

REPORTS
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Global warming threatens to cause species loss in the lowland tropics, R. K. Colwell

Northern Hemisphere Controls on Tropical Southeast African Climate During the Past 60,000 Years J. E. Tierney et al.

Abrupt changes in precipitation and temperature resolved in a record spanning the past 60,000 years from Lake Tanganyika, East Africa, are coeval with Northern Hemisphere climate events.

Natural Selection on a Major Armor Gene in a Three-spine Stickleback R. D. H. Barrett, S. M. Rogers, D. Schluter

In stickleback fish transferred to fresh water, selection against the allele for the costly armor plating only partly explains the changes in allele frequencies over generations.

Global Warming, Elevational Range Shifts, and Lowland Biotic Attrition in the Wet Tropics R. K. Colwell et al.

Global warming threatens to cause species loss in the lowland tropics, as species that move upward from low elevations are not replaced and those on mountain tops die out.

Impact of a Century of Climate Change on Small-Mammal Communities in Yosemite National Park, USA C. Moritz et al.

Over the past 100 years, small mammals in Yosemite, California, show range contraction at high elevations and range expansion lower down, as well as rearranged communities.
Ig Nobels Honor Studies of Lap Dancing, Soft Drink–Based Contraception
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.

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

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

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

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

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

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

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

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

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

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

Download the 10 October Science Podcast to hear about digital blueprints of vertebrate development, a single-species ecosystem deep within the Earth, clinical trials gridlock, and more.