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10.1126/science.1154833

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Frequency Ratio of Al$^+$ and Hg$^+$ Single-Ion Optical Clocks; Metrology at the 17th Decimal Place
T. Rosenband et al.
Precise measurements of the frequency ratio of two optical clocks indicate that the fine-structure constant is fine and constant to an uncertainty of $10^{-17}$.
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Oncogenic CARD11 Mutations in Human Diffuse Large B Cell Lymphoma
G. Lenz et al.
One type of non-Hodgkin’s lymphoma is caused by mutations in a scaffolding protein that inappropriately activate an inflammatory signaling pathway.
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Dimethylsulfiniopropionate as a Foraging Cue for Reef Fishes
Reef fish locate desirable feeding opportunities by recognizing dimethylsulfiniopropionate, which is released by coral reef algae in response to foraging by fish.

RESEARCH ARTICLES
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Long-Term Sea-Level Fluctuations Driven by Ocean Basin Dynamics
R. D. Müller, M. Sidralias, C. Gaina, B. Steinberger, C. Heine
Considering changes in the shape of the ocean basins implies that global sea level fell by $-250$ meters since 140 to 80 million years ago, a larger drop than implied in a recent study.

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Antisocial Punishment Across Societies
B. Herrmann, C. Thöni, S. Gächter
Retaliation against those who enforce the social norms of civic cooperation and rule of law varies among cultures and is more pronounced where social norms are weaker.

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Fiber-Optical Analog of the Event Horizon
T. G. Philbin et al.
An optical analog of the event horizon of a gravitational black hole can be produced with light pulses propagating along an optical fiber, providing a tractable experimental system.
A drug for controlling cholesterol may be useful as an antibiotic for multi-drug-resistant Staphylococcus aureus because of unexpected structural similarities among critical proteins.

High-density genotyping of individuals from 82 families shows unexpected variation in the number of meiotic crossovers and in the relative activity of recombination hotspots.

A variant of a human gene associated with high rates of recombination in males and low rates in females is an ortholog of a nematode gene essential for recombination.

Competing glycosylation and phosphorylation of a single amino acid in a transcriptional coactivator regulate nutrient- and energy-sensing pathways and may contribute to diabetes.

Mutating a cell-surface virulence protein on strep bacteria stabilizes its structure, minimizing its inflammatory side effects and potentially making it a better vaccine.

A drug for controlling cholesterol may be useful as an antibiotic for multi-drug-resistant Staphylococcus aureus because of unexpected structural similarities among critical proteins.
**Perspective: Matrix Elasticity, Cytoskeletal Tension, and TGF-β: The Insoluble and Soluble Meet**

R. G. Wells and D. E. Discher

Extracellular matrix stiffness regulates the equilibrium between storage and release of matrix-bound transforming growth factor–β.

**Glossary**

Find out what MVE, SFRP, and LCR mean in the world of cell signaling.