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Genome recombination during meiosis is likely controlled by a chromatin-modifying enzyme.
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PRDM9 Is a Major Determinant of Meiotic Recombination Hotspots in Humans and Mice
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A chromatin-modifying enzyme is implicated in the determination of recombination loci within the genome.
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Resonance Fluorescence of a Single Artificial Atom
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A superconducting circuit can exhibit quantum optical behavior, acting like an artificial atom.

Spin-Dependent Quantum Interference Within a Single Magnetic Nanostructure
H. Oka et al.
Magnetization modulation is observed on a cobalt nanosland using spin-polarized scanning tunneling microscopy.

Multiple Functional Groups of Varying Ratios in Metal-Organic Frameworks
H. Deng et al.
The adsorption characteristics for mixed linkers can exceed that expected from just combining the single-linker compounds.

Break-Up of Stepped Platinum Catalyst Surfaces by High CO Coverage
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Stepped platinum surfaces break up into nanometer-scale clusters at high carbon monoxide surface coverages.
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Sea-Level Highstand 81,000 Years Ago in Mallorca
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A bacterial signaling molecule induces the dimerization and activation of a biofilm-promoting transcription factor.

Darwinian Evolution of Prions in Cell Culture
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Repulsion of Superinfecting Virions: A Mechanism for Rapid Virus Spread
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Drive Against Hotspot Motifs in Primates Implicates the PRDM9 Gene in Meiotic Recombination
S. Myers et al.
Bioinformatics identifies a chromatin-modifying enzyme as a factor in determining recombination hotspots.
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The Lmo2 Oncogene Initiates Leukemia in Mice by Inducing Thymocyte Self-Renewal
M. P. McCormack et al.
Expression of an oncogene confers self-renewal activity to committed T cells in the thymus long before disease onset.

A Composite of Multiple Signals Distinguishes Causal Variants in Regions of Positive Selection
S. R. Grossman et al.
Combining statistical methods detects signals of selection with increased sensitivity and a lower false-positive rate.
Westerns inspire discovery about reaction speed.

Legendary quantum physicist's speculations about causes weight loss, a study suggests.

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Fixing the Legal Framework for Pharmaceutical Research S. M. Knowles 10.1126/science.1184188

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Significant Acidification in Major Chinese Croplands J. H. Guo et al. 10.1126/science.1182570

Intensifying agriculture in China in the past 30 years is the major contributor to soil acidification at the regional scale. 10.1126/science.1182570

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Science Policy News and Analysis

RESEARCH ARTICLE: The Origins of Sexually Transmitted HIV Among Men Who Have Sex with Men

D. M. Butler et al.

A cell-free virus in semen is the origin of sexually transmitted HIV among men who have sex with men.

RESEARCH ARTICLE: A Monoclonal Antibody Against αVβ3 Integrin Inhibits Development of Atherosclerotic Lesions in Diabetic Pigs

L. A. Maile et al.

An antibody directed at the C terminal of an integrin subunit can prevent atherosclerosis in diabetic pigs.

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Free Weekly Show Download the 12 February Science Podcast to hear about measuring food insecurity, rethinking agriculture for the 21st century, and reducing meat consumption. >> Food Security section p. 797 and www.sciencemag.org/special/foodsecurity

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Can Your Hair Detect Cancer?

A study suggests that cancer patients can identify their own hair as thicker than before treatment, but the results were not statistically significant.

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Commentary: Liberating Health Data for Clinical Research Applications

Jr. J. Nadler and G. J. Downing

Electronic health record systems represent important new strategies to improve health care.

New Strategies to Improve Health Care

Electronic health record systems represent important new strategies to improve health care.

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