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False-colored transmission electron microscopy image of avian H5N1 influenza virus isolated in Hong Kong (field-of-view width ~260 nm). A highly pathogenic influenza subtype is currently pandemic among the world’s wild birds, with serious outbreaks occurring in domestic poultry. Concern about the possibility of the virus evolving into a human pandemic threat has prompted controversial research on mutations that facilitate airborne infection between mammals. See the special section beginning on page 1521 for details of the scientific investigations and policy.

Image: Dr. Gopal Murti/Visuals Unlimited, Inc.
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1554  A Sharp Peak of the Zero-Temperature Penetration Depth at Optimal Composition in BaFe$_2$(As$_{1-x}$P$_x$)$_2$
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1561  Electrical Wind Force–Driven and Dislocation-Templated Amorphization in Phase-Change Nanowires
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The transition from crystalline to amorphous states in a phase-change material may not require a melting process.

1566  Breaking the Speed Limits of Phase-Change Memory
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1573  Baseline Map of Carbon Emissions from Deforestation in Tropical Regions
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1578  The Dorsal Aorta Initiates a Molecular Cascade That Instructs Sympatho-Adrenal Specification
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Morphogenetic proteins provided by the dorsal aorta control early and late processes in neurovascular development.

1581  Membrane Fusion Intermediates via Directional and Full Assembly of the SNARE Complex
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1585  The Fission Yeast FANCM Ortholog Directs Non-Crossover Recombination During Meiosis
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A homolog of a human Fanconi anemia complementation group protein is involved in controlling crossing over during meiosis.

1590  Septin-Mediated Plant Cell Invasion by the Rice Blast Fungus, Magnaporthe oryzae
Y. F. Dagdas et al.
A plant pathogen mechanically ruptures cell walls in rice leaves to enter the plant cells and initiate infection.

1595  The lac Repressor Displays Facilitated Diffusion in Living Cells
P. Hammar et al.
The lac repressor slides along DNA in living cells, frequently passing its operator before binding.