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Isotopes in the ear bones of tuna reveal that two populations—from the Gulf of Mexico and the Mediterranean—mingle in the Atlantic as adolescents but return home to breed. >> Science Podcast
10.1126/science.1161473

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Molecular Confinement Accelerates Deformation of Entangled Polymers During Squeeze Flow
H. D. Rowland, W. P. King, J. B. Pethica, G. L. W. Cross
When polymers are squeezed at nanometer scales, the longest chains unexpectedly flow more easily, even though in theory they should be the most entangled.
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Ubiquitin-Like Protein Involved in the Proteasome Pathway of Mycobacterium tuberculosis
A prokaryotic version of ubiquitin, a eukaryotic tag for protein degradation, is linked to lysines in prokaryotic proteins destined for destruction, a process called pupylation.
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A Large Excess in Apparent Solar Oblateness Due to Surface Magnetism
M. D. Fivian, H. S. Hudson, R. P. Lin, H. J. Zahid
Satellite measurements indicate that the sun is more oblate than previous measurements suggested, a shape resulting from the combined effects of rotation and magnetism.
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The 2.6 Angstrom Crystal Structure of a Human A2a Adenosine Receptor Bound to an Antagonist
V.-P. Jaakola et al.
The ligand binding pocket of the caffeine-binding human adenosine receptor has a different position and orientation than that of other G protein–linked receptors.
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The insides of single-walled carbon nanotubes repel water at 22°C but absorb it at 8°C, showing that temperature finely controls the dynamics of confined water nanodroplets.

CLIMATE CHANGE
Atmospheric CO2 and Climate on Millennial Time Scales During the Last Glacial Period
J. Ahn and E. J. Brook
A detailed gas record from the Byrd ice core from 90,000 to 20,000 years ago shows that warming episodes tracked high CO2 levels in Antarctica but lagged by several thousands of years in Greenland.

EVOLUTION
Rates of Molecular Evolution Are Linked to Life History in Flowering Plants
S. A. Smith and M. J. Donoghue
A phylogenetic analysis shows that long-lived trees and shrubs have lower rates of molecular evolution than short-lived herbaceous plants.

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Chemokine Signaling Controls Endodermal Migration During Zebrafish Gastrulation
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During zebrafish gastrulation, chemokines are required for integrin-dependent adhesion of endodermal cells to mesoderm, a role distinct from their action as chemotactants.

STRUCTURAL BIOLOGY
Molecular Architecture of the "Stressosome," a Signal Integration and Transduction Hub
J. Marles-Wright et al.
The stressosome, a huge multiprotein complex, has a virus capsid–like core and variable extensions that detect and integrate signals to activate the stress response.

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Internally Generated Reactivation of Single Neurons in Human Hippocampus During Free Recall
H. Gelbard-Sagiv et al.
The firing patterns of brain neurons recorded from people watching a video episode were the same as those recorded during later recall of the same show.

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A Physical Map of the 1-Gigabase Bread Wheat Chromosome 3B
E. Paux et al.
A physical map of the largest chromosome of wheat provides the first step toward sequencing the huge, 17-billion base pair genome of this critical food crop.

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Lacking Control Increases Illusory Pattern Perception
J. A. Whitson and A. D. Galinsky
When subjects receive false feedback in lab tests and so feel a loss of control, they are more apt to perceive patterns in random visual static and imagine conspiracies. >> Science Podcast

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