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Despite Protest, CNRS Moves Toward Major Shakeup
Proposed Rule Would Limit Fish Catch but Faces Data Gaps
House Gives $400 Million to Four Science Agencies
ITER Costs Give Partners Pause

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Senate Inquiry on Research Conflicts Shifts to Grantees
‘Biased’ Viruses Suggest New Vaccine Strategy for Polio and Other Diseases

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A. Tanovic, S. A. Samel, L.-O. Essen, M. A. Marahiel
A large enzyme complex assembles peptide natural products without ribosomal participation by successive catalytic steps at the end of a flexible, substrate-loaded arm.
10.1126/science.1159850

CHEMISTRY
Measurement of the Distribution of Site Enhancements in Surface-Enhanced Raman Scattering
Y. Fang, N.-H. Seong, D. D. Dlott
The distribution of electric field–enhancing sites on a nanostructured substrate is measured by using the enhanced field to damage those sites.
10.1126/science.1159499

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B. Devincre, T. Hoc, L. Kubin
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A polymer and platinum nanoparticles stabilized with a ligand form large lamellar or inverse hexagonal structures that can be fused to create porous platinum-carbon composites.

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Tryptophan-Accelerated Electron Flow Through Proteins
C. Shih et al.
A tryptophan residue placed between a donor and acceptor in a protein acts as a relay and accelerates long-distance electron transfer by more than a factor of 100.

EVOLUTION
A Phylegographic Study of Birds Reveals Their Evolutionary History
S. J. Hackett et al.
Nuclear DNA sequences of 19 loci from 169 bird species lead to a revised phylogenetic tree of avian evolution, in which several well-accepted orders are not monophyletic.

ECOLOGY
A Significant Upward Shift in Plant Species Optimum Elevation During the 20th Century
J. Lenoir, J. C. Gégout, P. A. Marquet, P. de Ruffray, H. Brisse
A 100-year survey shows that the optimal elevations for growth of plant species in European temperate forests have shifted upward by about 30 meters per decade.

DEVELOPMENTAL BIOLOGY
Polarization of the C. elegans Embryo by RhoGAP-Mediated Exclusion of PAR-6 from Cell Contacts
D. C. Anderson, J. S. Gill, R. M. Cinalli, J. Nance
Exclusion of a regulatory protein from cell-cell contacts in the developing worm allows it to direct the assembly of an asymmetrical cytoskeleton in preparation for gastrulation.

DEVELOPMENTAL BIOLOGY
FGF-Dependent Mechanosensory Organ Patterning in Zebrafish
A. Nechiporuk and D. W. Raible
A fish sensory organ develops when a wave of migrating primordial cells cyclically deposits rosettes of differentiated cells under the influence of fibroblast growth factor.

CELL BIOLOGY
β-Arrestin–Mediated Localization of Smoothened to the Primary Cilium
J. J. Kovacs et al.
β-arrestin, which has several known roles in signaling systems, also links a key receptor to a motor protein so that the receptor can be transported to cilia for sensing environmental cues.

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Both Catalytic Steps of Nuclear Pre-mRNA Splicing Are Reversible
C. K. Tseng and S.-C. Cheng
The transesterification splicing reactions performed on RNA by the spliceosome protein complex in eukaryotic cells are reversible.

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Virus Attenuation by Genome-Scale Changes in Codon Pair Bias
J. R. Coleman et al.
Altering the frequency of the adjacent codons in the poliovirus genome results in an attenuated virus that could form the basis of a vaccine.

GENETICS
Paleo-Eskimo mtDNA Genome Reveals Matrilineal Discontinuity in Greenland
M. T. P. Gilbert et al.
Ancient human DNA sequences from Greenland suggest that the earliest inhabitants of the far north were from a lineage distinct from extant Native Americans and Eskimos.
Specifying digits.

Smart Girls Eat Fish
Choice of dietary fat affects intelligence.

It’s a Dog’s (Genetic) Life
Pointing, herding, and life span of dogs linked to specific stretches of DNA.

Down Under, Fish Numbers Climb Up
Rapid recovery of a key species in Australia points to efficacy of fishing bans.

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