Three Neandertal bone fragments, approximately 40,000 years old, from Vindija Cave, Croatia (shown to scale). DNA extracted from these bones was used to generate a draft sequence of the Neandertal genome, which was then compared to the genomes of five present-day humans. See page 710 and www.sciencemag.org/special/neandertal/.

Photo: Christine Verna/Department of Human Evolution, Max Planck Institute for Evolutionary Anthropology
RESEARCH ARTICLE

A Draft Sequence of the Neandertal Genome
R. E. Green et al.
Gene flow has occurred from Neandertals to humans of Eurasian descent, but not to Africans.

>> News story p. 680; Report p. 723

REPORTS

Targeted Investigation of the Neandertal Genome by Array-Based Sequence Capture
H. A. Burbano et al.
Array capture of Neandertal DNA identifies amino acid substitutions that occurred after the split between humans and Neandertals.

>> News story p. 680; Research Article p. 710

Fermi Gamma-Ray Imaging of a Radio Galaxy
The Fermi-LAT Collaboration
Gamma rays from a radio galaxy are relic cosmic microwave background radiation that underwent inverse Compton scattering.

The Equation of State of a Low-Temperature Fermi Gas with Tunable Interactions
N. Navon et al.
A Fermi gas is characterized along the crossover regime between its weak and strongly interacting limits.

Nanoscale Three-Dimensional Patterning of Molecular Resists by Scanning Probes
D. Pires et al.
A molecular glass can be patterned to dimensions of tens of nanometers with a heated scanning probe tip.

Visualizing the Electron Scattering Force in Nanostructures
C. Tao et al.
Effects of particular surface features on electron-induced atomic motion in metal structures are revealed.

Viscosity of MgSiO3 Liquid at Earth’s Mantle Conditions: Implications for an Early Magma Ocean
B. B. Karki and L. P. Stixrude
The behavior of the liquid mantle during Earth’s earliest stages was controlled by the viscosity of silicate melts.

Extreme Deuterium Excesses in Ultracarbonaceous Micrometeorites from Central Antarctic Snow
J. Duprat et al.
Interplanetary dust particles recovered from Antarctic snow may provide a sample of the early solar system.

>> Perspective p. 698; Science Podcast

Cross-Reacting Antibodies Enhance Dengue Virus Infection in Humans
W. Dejnirattisai et al.
Variable maturation of a dengue viral antigen results in incomplete neutralization and promotes secondary pathology.

Induction of Lymphoidlike Stroma and Immune Escape by Tumors That Express the Chemokine CCL21
J. D. Shields et al.
An immunotolerant microenvironment driven by chemokine expression contributes to tumor growth and spread.

>> Perspective p. 697

Altered Histone Acetylation Is Associated with Age-Dependent Memory Impairment in Mice
S. Peleg et al.
Deregulated histone acetylation may represent an early biomarker of age-dependent cognitive decline.

>> Perspective p. 701

Sequential Checkpoints Govern Substrate Selection During Cotranslational Protein Targeting
X. Zhang et al.
Protein cargo is monitored at several points during membrane translocation to improve targeting fidelity.

Dynamic Ca2+-Dependent Stimulation of Vesicle Fusion by Membrane-Anchored Synaptotagmin 1
H.-K. Lee et al.
A synaptic vesicle protein must be membrane-anchored to stimulate fusion in vitro at physiological Ca2+ concentrations.

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