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Listen to stories on fear-enhanced odor detection, the latest news from the Curiosity mission, and more. |
| >> Science Digital First |
Explore the history of disease in a thousand-year graveyard, in a special multimedia news feature with video, slideshows, and graphics, at www.sciencemag.org. |

COVER
Remains of an older woman buried in the mid-1800s at Badia Pozzeveri graveyard in Altopascio, Italy. She is one of several skeletons entombed in lime, probably to quell infection during an epidemic. Archaeologists are currently studying skeletons buried over the course of 1000 years at this site for clues to ancient health and disease. For further information, see pages 1291 and 1306 and a special multimedia package at http://scim.ag/1000yrgrave.

Photo: Francesco Coschino

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1336 The Genome of the Ctenophore Mnemiopsis leidyi and Its Implications for Cell Type Evolution
J. F. Ryan et al.
Analysis of the genome of the sea walnut reveals insights into the early evolution of the animal kingdom.
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1337 The Hidden Geometry of Complex, Network-Driven Contagion Phenomena
D. Brockmann and D. Helbing
A model based on effective rather than geographical distance can reveal the origin, timing, and likely spread of epidemics.
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M. J. Barlow et al.

1346 Phosphorus in the Young Supernova Remnant Cassiopeia A
B.-C. Koo et al.
Spectroscopic observations of the remains of stellar explosions confirm that argon-36 and phosphorus are produced in such energetic events.

1349 Nondestructive Detection of an Optical Photon
A. Reiserer et al.
An atom in a cavity can be used for the nondestructive detection of optical photons.

1351 Effect of Collective Molecular Reorientations on Brownian Motion of Colloids in Nematic Liquid Crystal
T. Turz et al.
Colloidal particles in a nematic liquid crystal experience anomalous and anisotropic Brownian motion.
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1354 Detection and Structure of HOON: Microwave Spectroscopy Reveals an O–O Bond Exceeding 1.9 Å
K. N. Crabtree et al.
Spectroscopy reveals an isomer of nitrous acid previously considered too unstable to observe.

1357 Erythropoietin Derived by Chemical Synthesis
P. Wang et al.
Chemical synthesis of a glycoprotein hormone provides a sample uniformly substituted with specific sugar chains.
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1360 The Missing Mountain Water: Slower Westerlies Decrease Orogenic Enhancement in the Pacific Northwest USA
C. H. Luce et al.
Weakening westerly winds since 1950 have decreased streamflows across the Pacific Northwest United States.

1364 Long-Term Dynamics of Adaptation in Asexual Populations
M. J. Wiser et al.
Even in a constant environment, over 50,000 generations, evolutionary fitness continues to increase in bacterial cultures.

1367 Exonic Transcription Factor Binding Directs Codon Choice and Affects Protein Evolution
A. B. Stergachis et al.
Transcription factor binding within protein-coding regions of DNA constrains how the protein can evolve.
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1372 Cryptic Variation in Morphological Evolution: HSP90 as a Capacitor for Loss of Eyes in Cavefish
N. Röhrer et al.
Preexisting but “hidden” variations in eye size provide a substrate for natural selection in fish reared in the dark.
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1375 Progressive Specification Rather than Intercalation of Segments During Limb Regeneration
K. Roensch et al.
Salamanders regenerate limb segments using the same molecular hierarchy observed in development.

1379 EMRE Is an Essential Component of the Mitochondrial Calcium Uniporter Complex
Y. Sancak et al.
A final but essential protein component involved in maintaining mitochondrial calcium levels is discovered.

1382 Direct and Reversible Hydrogenation of CO$_2$ to Formate by a Bacterial Carbon Dioxide Reductase
K. Schuchmann and V. Müller
Enzymes from anaerobic bacteria can catalyze the storage of hydrogen in the form of formic acid.
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1385 Genetic and Molecular Basis of Drug Resistance and Species-Specific Drug Action in Schistosome Parasites
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Mutations in a distinctive sulfotransferase are responsible for oxamniquine resistance in a human blood fluke.

1389 Fear Learning Enhances Neural Responses to Threat-Predictive Sensory Stimuli
M. D. Kass et al.
The response of mouse olfactory sensory neurons was selectively increased when an odor was linked to discomfort.
>> Science Podcast