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CONTENTs continued >>

ON THE WEB THIS WEEK
>> Science Express
Read Reports on self-assembling peptide cages, explaining a missing spleen, and more.

COVER
Reconstruction of a ~2-million-year-old Australopithecus sediba skeleton (height: ~1.3 meters) based on fossils from the Malapa Hominin 1 (MH1), MH2, and MH4 specimens from Malapa, Gauteng, South Africa. Brown indicates discovered fossils. Au. sediba exhibits a mosaic morphology distinct from that of other australopiths and early Homo.

Reconstruction: Peter Schmid and casting technicians at the University of the Witwatersrand’s Evolutionary Studies Institute; Photo: Brett Eloff, courtesy of Lee R. Berger and the University of the Witwatersrand

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C.-Z. Chang et al.

An elusive effect emerges in thin films of a bismuth-antimony-telluride topological insulator doped with magnetic chromium.

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170 Evidence for Two Distinct Populations of Type Ia Supernovae

X. Wang et al.

The spectral diversity of a particular type of stellar explosion is tied to the stellar environment.

174 Infrared Absorption Spectrum of the Simplest Criegee Intermediate CH₂OO

Y.-T. Su et al.

The vibrational spectrum of an intermediate involved in ozone chemistry may facilitate its direct study in the atmosphere.

177 Direct Measurements of Conformer-Dependent Reactivity of the Criegee Intermediate CH₂CHOO

C. A. Taatjes et al.

The reaction kinetics of an intermediate implicated in atmospheric ozone chemistry has been measured in the laboratory.

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180 Enantioselective Synthesis of Pactamycin, a Complex Antitumor Antibiotic

J. T. Malinowski et al.

A synthetic route to a complex natural product could foster preparation of analogs for exploratory medicinal chemistry.

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183 Speleothems Reveal 500,000-Year History of Siberian Permafrost

A. Vaks et al.

Siberian caves recorded the history of permafrost occurrence during the past 450,000 years.

186 A Long-Lived Relativistic Electron Storage Ring Embedded in Earth’s Outer Van Allen Belt

D. N. Baker et al.

NASA’s Van Allen Probes revealed an additional, dynamic belt of relativistic particles surrounding Earth.

189 A Guanosine-Centric Mechanism for RNA Chaperone Function

J. K. Grohman et al.

RNA chaperones promote assembly of complex RNA structures by binding to and “neutralizing” guanosine bases.

195 A Histone Acetylation Switch Regulates H2A.Z Deposition by the SWR-C Remodeling Enzyme

S. Watanabe et al.

A modification on histone H3 in a nucleosome favors the swapping out of one type of H2A histone for another.

199 Latency-Associated Degradation of the MR1 Drug Transporter During Latent Human Cytomegalovirus Infection

M. P. Weekes et al.

A virally encoded protein eliminates a cell surface drug transporter, promoting latent human cytomegalovirus infection.

202 Blockade of Chronic Type I Interferon Signaling to Control Persistent LCMV Infection

E. B. Wilson et al.

Blockade of type I interferons leads to better control of persistent lymphocytic choriomeningitis virus infection.

207 Persistent LCMV Infection Is Controlled by Blockade of Type I Interferon Signaling

J. R. Tejero et al.

Blockade of type I interferons enables interferon-independent control of persistent lymphocytic choriomeningitis virus infection.

211 Injectable, Cellular-Scale Optoelectronics with Applications for Wireless Optogenetics

T. Kim et al.

Miniaturized and implantable light-emitting diodes offer precise and flexible control of neurons, when used in combination with optogenetics.

216 Interactions Between the Nucleus Accumbens and Auditory Cortices Predict Music Reward Value

V. N. Salimpoor et al.

Activity in the mesolimbic striatum and its interaction with the auditory cortices determines the hedonic response to new music.

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