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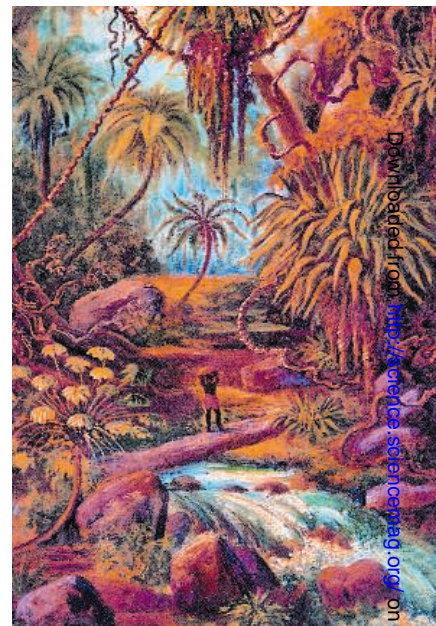
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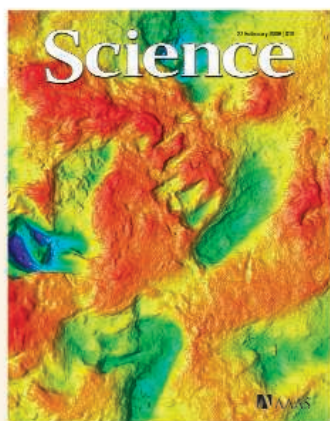


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COVER

Optical laser scan of early hominin footprints at Ileret, Kenya, color-rendered to illustrate depth; reds indicate areas of high elevation, blues lower elevation. The footprints are 1.5 million years old and were probably made by *Homo ergaster/erectus*. Two right footprints and a partial left are visible along with a range of animal prints. See page 1197.

Image processing in Rapidform™: Matthew Bennett/ Bournemouth University

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1187 Global Cooling During the Eocene-Oligocene Climate Transition

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1190 Seeing the Fermi Surface in Real Space by Nanoscale Electron Focusing

A. Weismann et al.

Scanning tunneling microscopy can reveal the bulk Fermi surface of copper when buried cobalt atoms are present.

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1193 Conductance of a Single Conjugated Polymer as a Continuous Function of Its Length

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1197 Early Hominin Foot Morphology Based on 1.5-Million-Year-Old Footprints from Ileret, Kenya

M. R. Bennett et al.

Footprints found near Lake Turkana show that human foot shape and gait had been achieved 1.5 million years ago.

>> *Perspective p. 1174*1201 RNA Polymerase IV Functions in Paramutation in *Zea mays*

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1205 Mutations in the *FUS/TLS* Gene on Chromosome 16 Cause Familial Amyotrophic Lateral Sclerosis

T. J. Kwiatkowski Jr. et al.

1208 Mutations in FUS, an RNA Processing Protein, Cause Familial Amyotrophic Lateral Sclerosis Type 6

C. Vance et al.

Mutations in an RNA processing protein, the second implicated, suggest that a common mechanism promotes Lou Gehrig's disease.

1211 Synchronous Hyperactivity and Intercellular Calcium Waves in Astrocytes in Alzheimer Mice

K. V. Kuchibhotla et al.

In a mouse model of Alzheimer's disease, astrocytes respond globally to plaque formation.

1215 Meropenem-Clavulanate Is Effective Against Extensively Drug-Resistant *Mycobacterium tuberculosis*

J.-E. Hugonnet et al.

Together, two FDA-approved drugs inhibit the growth of 13 antibiotic-resistant strains of the tuberculosis pathogen.

1218 Analysis of *Drosophila* Segmentation Network Identifies a JNK Pathway Factor Overexpressed in Kidney Cancer

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Blue favors creativity in humans, whereas red improves attention to detail.

1229 Self-Sustained Replication of an RNA Enzyme

T. A. Lincoln and G. F. Joyce

Two ribozymes synthesize each other from oligonucleotide substrates to give a self-replicating system.

1232 Antagonistic Actions of Msx1 and Osr2 Pattern Mammalian Teeth into a Single Row

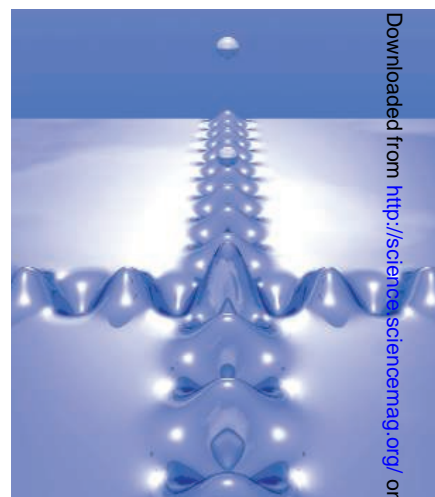
Z. Zhang et al.

A pair of transcription factors controls sites of tooth formation in mice by regulating the distribution of signals.

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Greatly Expanded Tropical Warm Pool and Weakened Hadley Circulation in the Early Pliocene
C. M. Brierley et al.

The warm tropics of the Early Pliocene, about 4 million years ago, extended much farther toward the poles than they do today.
10.1126/science.1167625

RNA Pol II Accumulates at Promoters of Growth Genes During Developmental Arrest

L. R. Baugh et al.

Growth and development genes, poised for expression during developmental arrest in nematodes, respond rapidly to feeding.
10.1126/science.1169628

A Transposon-Based Genetic Screen in Mice Identifies Genes Altered in Colorectal Cancer

T. K. Starr et al.

A functional screen in mice uncovers genes that are likely to drive the growth of gut-specific tumors.
10.1126/science.1163040

Antibody Recognition of a Highly Conserved Influenza Virus Epitope

D. C. Ekiert et al.

A broadly neutralizing antibody binds the hemagglutinin stalk of pathogenic influenza viruses to block membrane fusion.
10.1126/science.1171491

TECHNICALCOMMENTS

Comment on "Multipartite Entanglement Among Single Spins in Diamond"

B. W. Lovett and S. C. Benjamin

full text at www.sciencemag.org/cgi/content/full/323/5918/1169c

Response to Comment on "Multipartite Entanglement Among Single Spins in Diamond"

P. Neumann et al.

full text at www.sciencemag.org/cgi/content/full/323/5918/1169d

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Abuse Leaves Its Mark on the Brain

Parental abuse alters a stress gene in the brain.

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A few antibodies may guard against a variety of influenza strains.

X-ray Vision Reveals Intergalactic Medium

Missing matter has been spotted in a supersized wall of galaxies.

SCIENCE SIGNALING

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RESEARCH ARTICLE: Dok-7 Activates the Muscle Receptor Kinase MuSK and Shapes Synapse Formation

A. Inoue et al.

The cytoplasmic protein Dok-7 is required for the full activation of the receptor tyrosine kinase MuSK.

RESEARCH ARTICLE: IL-17 Receptor Signaling Inhibits C/EBP β by Sequential Phosphorylation of the Regulatory 2 Domain

F. Shen et al.

The IL-17 receptor triggers dual, sequential phosphorylation of the transcription factor C/EBP β , which represses the expression of target genes.

REVIEW: Positive and Negative Modulation of Angiogenesis by VEGFR1 Ligands

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PlGF and VEGF-B exhibit dual effects on angiogenesis mediated by VEGF-A.

PERSPECTIVE: Jasmonate—Preventing the Maize Tassel from Getting in Touch with His Feminine Side

J. Browse

Male identity in the maize tassel is controlled by jasmonate signaling.

PERSPECTIVE: Chemoattractant Receptors and Leukocyte Recruitment—More Than Cell Migration

E. M. Borroni et al.

Atypical "chemoattractant receptors" that do not signal through G proteins contribute to leukocyte recruitment through indirect mechanisms.

MEETING REPORT: Signal Transduction Molecules as Targets for Cancer Prevention

A. M. Bode and Z. Dong

Two conferences at The Hormel Institute highlight early intervention and chemoprevention in targeting cancer.

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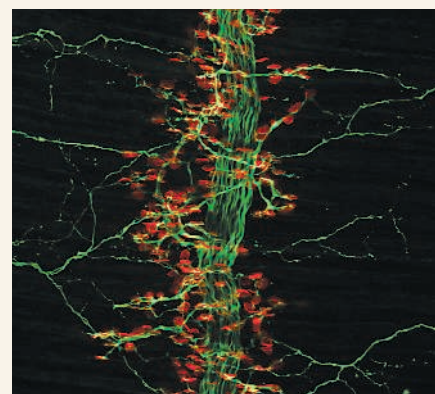
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A History of Beginnings

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Science Policy News and Analysis



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Special Feature: Two Young, African-American Women in Science

J. Austin

Our sample of African-American women reveals brilliance, scientific ambition, and progress against discrimination.

When Ironies Make Perfect Sense

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E. Pain

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