RESEARCH ARTICLE

1195  A Switch Between Topological Domains Underlies HoxD Genes Collinearity in Mouse Limbs
G. Andrey et al.
Regulation of the HoxD gene cluster switches from one side of the cluster to the other in parallel with limb development.
Research Article Summary; for full text: http://dx.doi.org/10.1126/science.1234167
>> Perspective p. 1181

REPORTS

1196  Probing the Solar Magnetic Field with a Sun-Grazing Comet
C. Downs et al.
Observations of a comet’s motion through the solar corona constrain this region’s magnetic field and plasma properties.
>> Video

1199  A Major Asymmetric Dust Trap in a Transition Disk
N. van der Marel et al.
Radio interferometry observations reveal a highly asymmetric distribution of millimeter-sized grains surrounding a young star.
>> Perspective p. 1179

1202  Coupling a Single Trapped Atom to a Nanoscale Optical Cavity
J. D. Thompson et al.
A single rubidium atom is positioned in close proximity to an optical cavity so they can interact.
>> Perspective p. 1175

1205  Entanglement Polytopes: Multiparticle Entanglement from Single-Particle Information
M. Walter et al.
An algebraic geometry approach provides insight into the nature of entanglement of many particles.

1208  From Sub-Rayleigh to Supershear Ruptures During Stick-Slip Experiments on Crustal Rocks
F. X. Passelegue et al.
Rupture fronts propagate faster than shear waves following experimental microearthquake nucleation.

1211  Stepwise Evolution of Essential Centromere Function in a Drosophila Neogene
B. D. Ross et al.
How does a recently evolved gene come to encode an essential function?

1215  Density Triggers Maternal Hormones That Increase Adaptive Offspring Growth in a Wild Mammal
B. Dantzer et al.
Mothers’ stress levels in free-ranging red squirrels increase baby growth in anticipation of overcrowding.

1217  The Cross-Bridge Spring: Can Cool Muscles Store Elastic Energy?
N. T. George et al.
A temperature gradient in a locked-spring lattice in insect muscle stores energy during locomotion.

1220  Structural Systems Biology Evaluation of Metabolic Thermotolerance in Escherichia coli
R. L. Chang et al.
As summer approaches, protein structures and network analysis pinpoint heat-sensitive metabolic nodes in a bacterium.

1223  Widespread Production of Extracellular Superoxide by Heterotrophic Bacteria
J. M. Diaz et al.
A broad range of bacteria produce substantial amounts of reactive oxygen species in aquatic ecosystems.
>> Perspective p. 1176

1227  Structural Basis for Effector Control and Redox Partner Recognition in Cytochrome P450
S. Tripathi et al.
The redox partner of P450cam stabilizes it in an open conformation to facilitate proton-coupled electron transfer.

1230  Role of Tissue Protection in Lethal Respiratory Viral-Bacterial Coinfection
A. M. Jamieson et al.
Reduced immune tolerance, rather than resistance, increases the susceptibility of mice to a secondary bacterial infection.

1234  Repeated Cortico-Striatal Stimulation Generates Persistent OCD-Like Behavior
S. E. Ahmari et al.
Hyperactivation of projections from the orbitofrontal cortex to the striatum increases repetitive grooming in mice.
>> Perspective p. 1174; Report p. 1243

1239  Geniculocortical Input Drives Genetic Distinctions Between Primary and Higher-Order Visual Areas
S.-J. Chou et al.
Neural activity in the developing visual system dictates differential gene expression in the primary and higher-order areas.

1243  Optogenetic Stimulation of Lateral Orbitofronto-Striatal Pathway Suppresses Compulsive Behaviors
E. Burguete et al.
Normal behavior can be rescued in a mouse model of obsessive-compulsive disorder.
>> Perspective p. 1174; Report p. 1234
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