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Fiber pathways of a female human brain mapped noninvasively with diffusion magnetic resonance imaging. The image shows an axial view from above (front is at top). Major pathways of the human frontal lobes, and their organization as orthogonal grids, are shown here (cerebral association pathways, vertical; transverse pathways, horizontal). For a description of cortical networks, see the special section beginning on page 577.

Image: Van J. Wedeen, Aapo Nummenmaa, Ruopeng Wang, and Lawrence L. Wald/Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, with support of NIH Human Connectome Project and NSF

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Deterministically Encoding Quantum Parameter Space Compression Underlies Quantum Limit of Heat Flow Across a Retinal Circuit Assembly

B. Vlastakis et al.

A scheme is demonstrated for coherently mapping the state of a single superconducting qubit onto a large number of photons. Mapping the state of a single superconducting qubit onto a large number of photons is 0036-8075.

Evidence for Determined Bovine Nasal Tissue Regeneration Under Microgravity Conditions

L. O. Sun et al.

A warm spring favors early flowering by invoking less transcriptional repression by a floral repressor complex. A warm spring favors early flowering by invoking less transcriptional repression by a floral repressor complex.

Regulation of Temperature-Responsive Factor Repressors

J. H. Lee et al.

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Structural Basis for flg22-Induced Activation of the Arabidopsis FLS2-BAK1 Immune Complex

Y. Sun et al.

The molecular basis for how a plant heterodimeric receptor responds to bacterial infection signals is elucidated.

Reconstructing the Microbial Diversity and Function of Pre-Agricultural Tallgrass Prairie Soils in the United States

N. Fierer et al.

Analysis of microbiota in prairie soil relicts offers insights into the ecological function of a near-extinct biome.

Succession in a Novel Expanse of the Peatlands

M. M. Yartsev et al.

The coenzyme nicotinamide adenine dinucleotide mechanistically links the circadian clock to control of energy production by mitochondria.

Circadian Clock NAD+ Cycle Drives Mitochondrial Oxidative Metabolism in Mice

C. B. Peek et al.

The coenzyme nicotinamide adenine dinucleotide mechanistically links the circadian clock to control of energy production by mitochondria.

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One-Dimensional Electrical Contact to a Two-Dimensional Material

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Metal contacts to graphene along its edge improve bonding and, in turn, electronic performance.

Pacific Ocean Heat Content During the Past 10,000 Years

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Marine records show how ocean heat content has varied in step with climate over the past 10,000 years.

Reconstructing the Microbial Diversity and Function of Pre-Agricultural Tallgrass Prairie Soils in the United States

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Deterministically Encoding Quantum Information Using 100-Photon Schrödinger Cat States

B. Vlastakis et al.

A scheme is demonstrated for coherently mapping the state of a single superconducting qubit onto a large number of photons.

Real-Space Identification of Intermolecular Bonding with Atomic Force Microscopy

J. Zhang et al.

An atomic force microscope tip bearing a single carbon monoxide molecule was used to resolve hydrogen bonding contacts between molecules.

One-Dimensional Electrical Contact to a Two-Dimensional Material

L. Wang et al.

Metal contacts to graphene along its edge improve bonding and, in turn, electronic performance.

Prairie Soils in the United States have varied in step with climate over the past 10,000 years.

Resident Neural Stem Cells Restrict Tissue Mosaic Copy Number Variation in Human Neurons

M. J. McConnell et al.

Single-cell genomics reveals that individual adult human neurons acquire diverse individual genomes.

Evolution of the Magnetic Field Structure of the Crab Pulsar

A. Lyne et al.

Long-term measurements show the systematic evolution of the radiation pattern of one of the youngest neutron stars known.

Regulation of Temperature-Responsive Flowering by MADS-Box Transcription Factor Repressors

J. H. Lee et al.

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