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### COVER

Computer illustration of streams of matter delineating the network of cosmic voids, each tens of millions of light years across. Matter accumulates where the voids meet, forming a cosmic web of walls, filaments, and clusters of galaxies. This illustration was awarded first place in the informational graphics category in the 2011 Science/NSF International Science & Engineering Visualization Challenge. The winning entries are featured in a special section starting on page 525 and at www.sciencemag.org/site/special/vis2011/.

*Image: Miguel A. Aragon Calvo, Julieta Aguilera, Mark Subbarao*
BREVIA
551  Nanoscopy in a Living Mouse Brain
S. Berning et al.
Super high-resolution microscopy resolves neuron dynamics in the cerebral cortex of a living mouse.

RESEARCH ARTICLES
552  High-Resolution View of the Yeast Meiotic Program Revealed by Ribosome Profiling
G. A. Brar et al.
During yeast sporulation, the production of most proteins is tightly regulated by both messenger RNA levels and translational control.

557  The Southern Ocean’s Role in Carbon Exchange During the Last Deglaciation
A. Burke and L. F. Robinson
Radiocarbon measurements of deep-sea corals reveal the presence of old, carbon-rich water in the Southern Ocean.

REPORTS
561  Spin-Down of Radio Millisecond Pulsars at Genesis
T. M. Tauris
Numerical calculations show that processes responsible for spinning up millisecond pulsars may also lead them to slow down.

563  Revealing the Superfluid Lambda Transition in the Universal Thermodynamics of a Unitary Fermi Gas
M. J. H. Ku et al.
Thermodynamic quantities for the superfluid transition of a strongly interacting atomic Fermi gas were measured.

567  Iron Catalysts for Selective Anti-Markovnikov Alkene Hydrosilylation Using Tertiary Silanes
A. M. Tondreau et al.
Iron catalysts offer a potentially cheaper route than platinum for certain commercially useful carbon-silicon compounds.

570  High-Latitude Forcing of the South American Summer Monsoon During the Last Glacial
L. C. Kanner et al.
High-latitude processes in the Northern and Southern Hemispheres both influence the South American Summer Monsoon.

574  Natural Variation in a Chloride Channel Subunit Confers Avermectin Resistance in C. elegans
R. Ghosh et al.
Resistance to avermectin, an anti-nematode drug, is conferred by a deletion in a glutamate-gated chloride channel.

579  Affirmative Action Policies Promote Women and Do Not Harm Efficiency in the Laboratory
L. Balafoutas and M. Sutter
Increasing the representation of competition-averse individuals does not alter overall output.

582  Female Leadership Raises Aspirations and Educational Attainment for Girls: A Policy Experiment in India
L. Beaman et al.
The effects of female leaders on girls occur via policy changes in the short run and parental aspirations in the longer run.

587  Untangling Genomes from Metagenomes: Revealing an Uncultured Class of Marine Euryarchaeota
V. Iverson et al.
Reconstruction of whole genomes from a complex microbial community has revealed an evolutionary surprise.

590  Sequential Signaling Crosstalk Regulates Endomesoderm Segregation in Sea Urchin Embryos
A. J. Sethi et al.
Separation of deuterostome endoderm and mesoderm occurs through sequential interactions between Notch and Wnt signaling.

593  Growth of Western Australian Corals in the Anthropocene
T. F. Cooper et al.
Cores taken from massive corals indicate that temperature rather than ocean acidification has governed reef growth.

597  Innate Response Activator B Cells Protect Against Microbial Sepsis
P. J. Rauch et al.
A specialized population of B lymphocytes is important for controlling bacterial infections and preventing sepsis.

601  Abnormal Brain Structure Implicated in Stimulant Drug Addiction
K. D. Ersche et al.
A neurological marker of addiction vulnerability occurs in sibling pairs who do not take drugs.
Field-Effect Tunneling Transistor Based on Vertical Graphene Heterostructures
L. Britnell et al.
Boron nitride or molybdenum disulfide layers sandwiched between graphene sheets act as tunneling barriers to minimize device leakage currents.
10.1126/science.1218461

Extremely Long-Lived Nuclear Pore Proteins in the Rat Brain
J. N. Savas et al.
Individual components of rat brain nuclear pores can be almost as old as the animal itself.
10.1126/science.1217421

ER Cargo Properties Specify a Requirement for COPII Coat Rigidity Mediated by Sec13p
A. Capit et al.
Membrane curvature of cellular vesicles is generated by altering the symmetry of the cargo and the rigidity of coat proteins.
10.1126/science.1215909

Pollinator-Mediated Selection on Flower Color Allele Drives Reinforcement
R. Hopkins and M. D. Rauscher
Butterfly behavior reduces hybridization and reinforces speciation among Phlox plants.
10.1126/science.1215198

Founder Effects Persist Despite Adaptive Differentiation: A Field Experiment with Lizards
J. J. Kolbe et al.
Introduced populations of anoles retain characteristics of their founders and acquire adaptations to their new environment.
10.1126/science.1209566

Adaptations of Avian Flu Virus Are a Cause for Concern
K. I. Berns et al.
10.1126/science.1217994

Comment on “Abiotic Pyrite Formation Produces a Large Fe Isotope Fractionation”
A. D. Cuja et al.
Full text at www.sciencemag.org/cgi/content/ full/335/6068/538-c

Response to Comment on “Abiotic Pyrite Formation Produces a Large Fe Isotope Fractionation”
R. Guilbaud et al.
Full text at www.sciencemag.org/cgi/content/ full/335/6068/538-d

Highlighting From Our Daily News Coverage
North Star May Be Wasting Away
Polaris could be casting off the equivalent of Earth’s magnetic field every year, observations suggest.
http://scim.ag/North_Star

Breaking the Law or Bending the Terminology?
One team of physicists skirts a fundamental limit on a phenomenon called diffraction—sort of.
http://scim.ag/Law_Diffraction

Killer Whale Menu Finally Revealed
Inuit hunters provide a glimpse of what these giant predators eat in the remote Arctic.
http://scim.ag/Killer_Whales

The Signal Transduction Knowledge Environment
31 January issue: http://scim.ag/ss011212

RESEARCH ARTICLE: Myosin I Links PIP3 Signaling to Remodeling of the Actin Cytoskeleton in Chemotaxis
C.-L. Chen et al.
Some myosin motor proteins use the phospholipid PIP3, to link membrane and cytoskeletal dynamics.

ST NETWATCH: Mouse Genome Informatics
This site includes information about genes, phenotypes, and disease models.

Integrating Medicine and Science
1 February issue: http://scim.ag/stm02112

RESEARCH ARTICLE: Massage Therapy Attenuates Inflammatory Signaling After Exercise-Induced Muscle Damage
J. D. Crane et al.
Massage abrogates inflammatory processes resulting from exercise-induced muscle damage.

RESEARCH ARTICLE: CXCL12-Induced Monocyte-Endothelial Interactions Promote Lymphocyte Transmigration Across an in Vitro Blood-Brain Barrier
S. Man et al.
In an in vitro model of the human blood-brain barrier, chemokine receptors regulate the transmigration of leukocytes.

REPORT: The Anti-Trypanosome Drug Fenixinidazole Shows Potential for Treating Visceral Leishmaniasis
S. Wylie et al.
Fenixinidazole, a drug in clinical testing for African sleeping sickness, may prove useful for another neglected tropical disease.

MEETING REPORT: Using Health Information Technology to Engage Communities
L. K. Marrriott et al.
The Internet can be used for personal health management and to facilitate partnerships and data-sharing in a community setting.

MEETING REPORT: Real-Time Assessment of Community Health Needs and Concerns
L. B. Cotler and R. Nagarajan
Interfacing the efforts of community health workers with Web-based systems will facilitate ongoing assessment of community needs.

MEETING REPORT: Geomapping Health-Related Data
S. Sayani
Geographical information systems can be used to analyze health data and drive improvements.

Killer Whale Menu Finally Revealed
Inuit hunters provide a glimpse of what these giant predators eat in the remote Arctic.
http://scim.ag/Killer_Whales

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