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Nina V. Fedoroff

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COVERAGE
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

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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.
One team of physicists skirts a fundamental limit mass every year, observations suggest. Polaris could be casting off the equivalent of Earth’s North Star May Be Wasting Away

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R. Guilbaud

Fractionation”

A. D. Czaja

a Large Fe Isotope Fractionation”

Comment on “ Abiotic Pyrite Formation Produces a Cause for Concern

Adaptations of Avian Flu Virus Are a Cause for Concern

K. J. Berns et al.

Introducing 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. J. Berns et al.

10.1126/science.1217994

TECHNICAL COMMENTS

Comment on “ Abiotic Pyrite Formation Produces a Cause for Concern

A. D. Czaja et al.

Full text at www.sciencemag.org/cgi/content/ full/335/6068/538-c

Response to Comment on “ Abiotic Pyrite Formation Produces a Cause for Concern

R. Guibaud et al.

Full text at www.sciencemag.org/cgi/content/ full/335/6068/538-d

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Highlights From Our Daily News Coverage

North Star May Be Wasting Away

Polaris could be casting off the equivalent of Earth’s mass 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

SCIENCEEXPRESS

www.sciencexpress.org

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 cargo 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 Differatiation: A Field Experiment with Lizards

J. J. Kolbe et al.

10.1126/science.1209566

now. Science Policy News and Analysis

news.sciencemag.org/scienceinsider

10.1126/science.1215198

MEETING REPORT: The Anti-Trypanosome Drug Fexinidazole Shows Potential for Treating Visceral Leishmaniasis

S. Wyllie et al.

Fexinidazole, a drug in clinical testing for African trypanosomiasis, has potential for treating visceral leishmaniasis.

10.1126/science.1218461

MEETING REPORT: Geomapping

B. Tai et al.

Treatment of mental health and substance abuse issues requires the delivery of services through a primary-care–based integrated system.

MEETING REPORT: Geomapping

S. Sayani

Geographical information systems can be used to analyze health data and drive improvements.

SCIENCEPODCAST

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Free Weekly Show

On the 3 February Science Podcast: how corals respond to climate change, inherited factors for drug addiction, 2011 Visualization Challenge winners, and more.

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Science Policy News and Analysis

MEETING REPORT: Meaningful Use of Electronic Behavioral Health Data in Primary Health Care

B. Tai et al.

Science Policy News and Analysis

http://scim.ag/Killer_Whales

giant predators eat in the remote Arctic. Inuit hunters provide a glimpse of what these huge beasts of prey might be like.

Science Policy News and Analysis

http://scim.ag/CC_Mentoring

A good mentor at each career stage can greatly enhance your professional and personal achievement.

http://scim.ag/CC_Mentoring