

EDITORIAL

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Phillip A. Sharp and Alan I. Leshner

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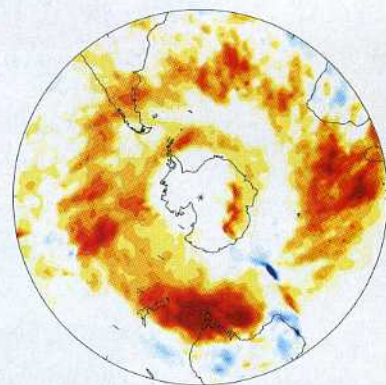
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ON THE WEB THIS WEEK

>> Science Podcast
This week's show features a study on tracing autism's developmental roots and a roundup of stories from our daily news site.

>> Find More Online
Check out the latest in a series of Perspectives on Challenges in Climate Science at www.sciencemag.org/extra/climate.



COVER

Water swirls in a vortex above two millimeter-sized coral polyps (pink and purple) in "Invisible Coral Flows," which won first place in the photography category of the 2013 *Science*/NSF International Science & Engineering Visualization Challenge. The vortex, driven by the polyps' wafting cilia, helps the coral draw in nutrients and sweep away waste products. The winning entries are featured in a special section starting on page 599 and at <http://scim.ag/vischall2013>.

Photo: Vicente I. Fernandez, Orr H. Shapiro, Melissa S. Garren, Assaf Vardi, Roman Stocker/Massachusetts Institute of Technology

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RESEARCH ARTICLE

- 628 **Secreting and Sensing the Same Molecule Allows Cells to Achieve Versatile Social Behaviors**

H. Youk and W. A. Lim

The etiquette of yeast cells that secrete signals that influence themselves and their neighbors is explored.

Research Article Summary; for full text:

<http://dx.doi.org/10.1126/science.1242782>

>> Perspective p. 624

REPORTS

- 629 **Classification of Interacting Electronic Topological Insulators in Three Dimensions**

C. Wang et al.

Six symmetry-protected topological phases that have no counterpart in noninteracting systems are identified.

- 631 **1D-1D Coulomb Drag Signature of a Luttinger Liquid**

D. Laroche et al.

An upturn in the temperature dependence of the drag resistance of two closely-spaced conducting wires is observed.

- 634 **Elastic Instability of a Crystal Growing on a Curved Surface**

G. Meng et al.

Constant-background Gaussian curvature alters crystal growth and favors the formation of anisotropic, ribbon-like domains.

- 637 **Rapid Soil Production and Weathering in the Southern Alps, New Zealand**

I. J. Larsen et al.

Fast weathering rates in the New Zealand Alps point to a strong influence of tectonic processes on global climate.

>> Perspective p. 617

- 641 **Periodic Variability in the Large-Scale Southern Hemisphere Atmospheric Circulation**

D. W. J. Thompson and E. A. Barnes

Large-scale atmospheric circulation in the Southern Hemisphere oscillates on a time scale of roughly 20 to 30 days.

>> News story p. 588

- 645 **A Promiscuous Intermediate Underlies the Evolution of LEAFY DNA Binding Specificity**

C. Sayou et al.

Comparative and structural studies reveal how an essential plant transcription factor evolved different specificities.

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- 649 **PCP and Septins Compartmentalize Cortical Actomyosin to Direct Collective Cell Movement**

A. Shindo and J. B. Wallingford

A mechanism is revealed for orchestrated cell movement during gastrulation in *Xenopus*.

- 653 **Distribution of ESCRT Machinery at HIV Assembly Sites Reveals Virus Scaffolding of ESCRT Subunits**

S. B. Van Engelenburg et al.

ESCRT-III proteins scaffold within assembling HIV particles to mediate viral membrane abscission.

- 656 **A Structurally Distinct Human Mycoplasma Protein that Generically Blocks Antigen-Antibody Union**

R. K. Grover et al.

High-affinity binding of Protein M to a very broad range of human antibodies may find widespread immunochemical applications.

- 661 **Interchromosomal Communication Coordinates Intrinsically Stochastic Expression Between Alleles**

R. J. Johnston Jr. and C. Desplan

A stochastic, cell-autonomous decision to express a particular transcription factor is nevertheless coordinated.

- 665 **Loose Coupling Between Ca²⁺ Channels and Release Sensors at a Plastic Hippocampal Synapse**

N. P. Vyleta and P. Jonas

The mossy fiber to the CA3 synapse operates via loose calcium microdomains established by local calcium buffering.

- 670 **Local Impermeant Anions Establish the Neuronal Chloride Concentration**

J. Glykys et al.

Imaging of a fluorescent chloride indicator reveals a role for impermeant anions in setting intraneuronal chloride levels.

- 675 **Oxytocin-Mediated GABA Inhibition During Delivery Attenuates Autism Pathogenesis in Rodent Offspring**

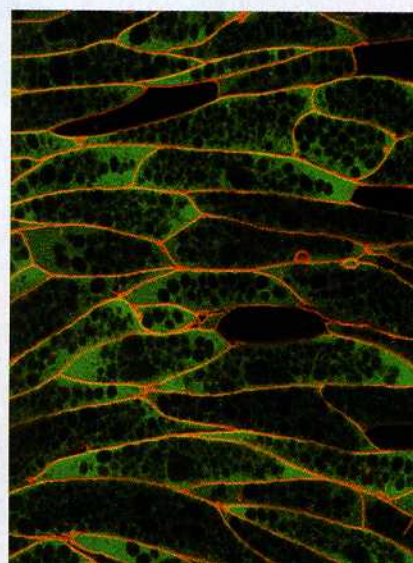
R. Tyzio et al.

Maternal administration of bumetanide before delivery reduces the autistic phenotype in rodent models of autism.

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