

16 March 2012 | \$10

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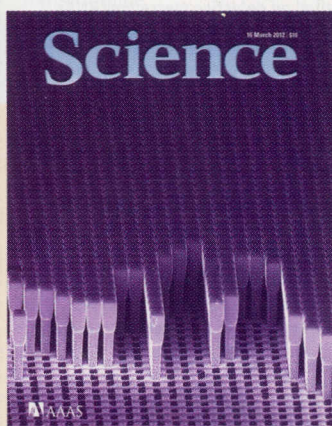
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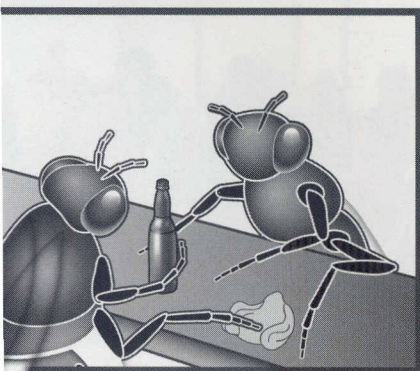
COVER

False-colored scanning electron micrograph of ~8-micrometer-tall germanium crystals, separated by finite gaps, grown onto silicon pillars. In structures like this one, wafer bowing and layer cracking are absent, allowing single-crystal integration of different materials onto a silicon substrate, which serves as a platform for many applications, such as multiple-junction solar cells, x-ray and particle detectors, or power electronic devices. See page 1330.

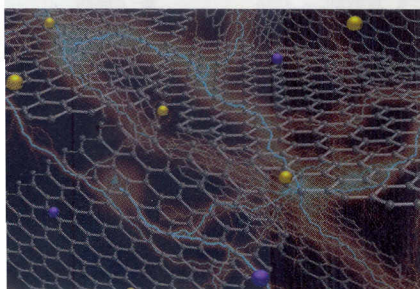
Image: Claudiu V. Falub, Laboratory for Solid State Physics, Swiss Federal Institute of Technology (ETH-Zürich)

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In laboratory experiments, male fruit flies respond to lack of sex by increasing alcohol consumption.
>> Perspective p. 1309; Science Podcast
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H. Wende et al.
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S. Cobey and M. Lipsitch
The human immune response preserves antigenic variation in a bacterial pathogen.

SCIENCEONLINE

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A Fine-Scale Chimpanzee Genetic Map from Population Sequencing

A. Auton et al.

Chimpanzees show similar genetic recombination rates as humans but differ in the genomic regions involved.

10.1126/science.1216872

Ribosome Profiling Shows That miR-430 Reduces Translation Before Causing mRNA Decay in Zebrafish

A. A. Bazzini et al.

MicroRNAs act to repress their messenger RNA targets first by blocking translation initiation and then through degradation.

10.1126/science.1215704

ESCRT-III Governs the Aurora B-Mediated Abscission Checkpoint Through CHMP4C

J. G. Carlton et al.

The membrane scission and cytokinesis ESCRT machinery may help to protect against genetic damage.

10.1126/science.1217180

The Coexistence of Superconductivity and Topological Order in the Bi₂Se₃ Thin Films

M.-X. Wang et al.

A thin layer of a topological insulator grown on the surface of a superconductor is shown to acquire a superconducting gap.

10.1126/science.1216466

TECHNICALCOMMENTS

Comment on "Widespread RNA and DNA Sequence Differences in the Human Transcriptome"

C. L. Kleinman and J. Majewski

Full text at www.sciencemag.org/cgi/content/full/335/6074/1302-c

Comment on "Widespread RNA and DNA Sequence Differences in the Human Transcriptome"

J. K. Pickrell et al.

Full text at www.sciencemag.org/cgi/content/full/335/6074/1302-d

Comment on "Widespread RNA and DNA Sequence Differences in the Human Transcriptome"

W. Lin et al.

Full text at www.sciencemag.org/cgi/content/full/335/6074/1302-e

Response to Comments on "Widespread RNA and DNA Sequence Differences in the Human Transcriptome"

M. Li et al.

Full text at www.sciencemag.org/cgi/content/full/335/6074/1302-f

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Highlights From Our Daily News Coverage

Some Corals May Adapt to Warmer Seas

A study raises hopes that some species may be more resilient than previously thought.

http://scim.ag/Corals_Seas

How to Say 'In Your Face' Like a Penguin

Triumph displays advertise a winner's prowess—and neighbors take notice.

http://scim.ag/Penguins_Triumph

To Boldly Go Where No Bee Has Gone

A genetic study of bees suggests that similar genes confer novelty seeking in insects and humans.

<http://scim.ag/Scout-Bees>

SCIENCE SIGNALING

www.sciencesignaling.org

The Signal Transduction Knowledge Environment
13 March issue: <http://scim.ag/ss031312>

RESEARCH ARTICLE: Regulation of the EGF Transcriptional Response by Endocytic Sorting

B. Brankatschk et al.

The transcriptional response to EGFR activation is rapidly initiated after receptor stimulation before degradative sorting occurs.

RESEARCH RESOURCE: Proteome-Wide Discovery of Evolutionary Conserved Sequences in Disordered Regions

A. N. Nguyen Ba et al.

A statistical analysis method can identify short, functionally important linear motifs in disordered regions of proteins.

PERSPECTIVE: From Sulfenylation to Sulfhydration—What a Thiolate Needs to Tolerate

T. Finkel

New techniques have revealed the dynamics of posttranslational modifications triggered by redox signaling that target cysteine residues.

E-LETTERS: Comment and Response on "Ras and Rap GAP Function and GTPase Sequestration in Plexin-Mediated Cell Signaling Mechanisms"

Negishi and Buck discuss the work of Wang et al. in the context of other studies of the mechanisms by which plexins transduce signals.

SCIENCE TRANSLATIONAL MEDICINE

www.sciencetranslationalmedicine.org

Integrating Medicine and Science

14 March issue: <http://scim.ag/stm031412>

STATE OF THE ART REVIEW: Treating Human Autoimmunity—Current Practice and Future Prospects

M. D. Rosenblum et al.

Recent advances in understanding immune regulation set the stage for new targeted therapies for autoimmune disease.

RESEARCH ARTICLE: A Model for Personalized in Vivo Analysis of Human Immune Responsiveness

H. Kalscheuer et al.

Personalized humanized mice can model intrinsic defects in human immune disease.

RESEARCH ARTICLE: Data-Driven Prediction of Drug Effects and Interactions

N. P. Tatonetti et al.

Two new databases permit identification of drug targets, prediction of drug indications, and discovery of drug interactions.

RESEARCH ARTICLE: Structure-Guided Design of a High-Affinity Platelet Integrin $\alpha_{IIb}\beta_3$ Receptor Antagonist That Disrupts Mg^{2+} Binding to the MIDAS

J. Zhu et al.

A new integrin-directed drug blocks platelet aggregation and may have fewer side effects.

SCIENCE CAREERS

www.sciencereers.org/career_magazine

Free Career Resources for Scientists

Data Deluge Drives Demand

E. Wayman

More data means more demand for people who can use supercomputers.

<http://scim.ag/SupercomputerJobs>

Tooling Up: Customize Your Training

D. Jensen

The extra skills you need to get attention from industry do not have to cost an arm and a leg.

http://scim.ag/TU_CustomizeTraining

In Person: Career GPS

E. Shkolnik et al.

Our self-organized peer-mentoring group changed our lives for the better.

<http://scim.ag/InPersonGPS>

SCIENCE PODCAST

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On the 16 March Science Podcast: governing the Earth; sex, alcohol, and fruit flies; mental health in Indonesia; and more.

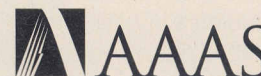
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Science Policy News and Analysis

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