

EDITORIAL

- 511 **Lessons from Genomics**
Bruce Alberts
 >> *News Focus* section;
Genome Anniversary Essays p. 546

NEWS OF THE WEEK

- 516 A roundup of the week's top stories

NEWS & ANALYSIS

- 520 **Can Obama Strike a Deal With House Republicans?**
 522 **With Reforms Under Way, International Centers Ask: Where Is the Money?**
 523 **USDA Decides Against New Regulation of GM Crops**
 524 **Obama Shifts Focus From Emissions to 'Clean' Energy**
 525 **NIH Report Urges Greater Emphasis on Training for All Graduate Students**

NEWS FOCUS

- 526 **HUMAN GENOME 10TH ANNIVERSARY**
Waiting for the Revolution
 Human Genetics in the Clinic, One Click Away
 530 **The Human Genome (Patent) Project**
 >> *Editorial* p. 511; *Genome Anniversary Essays* p. 546; *Science Podcast*

LETTERS

- 532 **Benefits of Intertwining Teaching and Research**
L. A. Gregg-Jolly et al.
Healthcare Venture Capital for Africa
J. Chakma and S. M. Sammut
Response
K. Simiyu et al.
 534 **CORRECTIONS AND CLARIFICATIONS**

BOOKS ET AL.

- 535 **Galileo**
J. L. Heilbron, reviewed by R. J. Raphael
 536 **Seeking Refuge**
R. M. Wilson, reviewed by F. R. Davis

POLICY FORUM

- 537 **Better Science Needed for Restoration in the Gulf of Mexico**
K. A. Bjorndal et al.

PERSPECTIVES

- 539 **A Genome for the Environment**
D. Ebert
 >> *Research Article* p. 555
 540 **Climate and Human Evolution**
P. B. deMenocal
 542 **Happy People Live Longer**
B. S. Frey
 543 **A Translational Pause to Localize**
D. Ron and K. Ito
 >> *Report* p. 586
 544 **Exciton Quenching and Migration in Single Conjugated Polymers**
C. Bardeen
 >> *Report* p. 565

ESSAYS

- 546 **Genome-Sequencing Anniversary: A Celebration of the Genome, Part I**
Faces of the Genome
F. S. Collins
The Human Genome at 10: Successes and Challenges
J. C. Venter
The Golden Age of Human Population Genetics
M. Przeworski
Genomics and Clinical Relevance
T. Hudson
What Defines Us?
R. Cole-Turner
Painting the Genome for the Public
X. Cortada



page 526



page 536

Bringing Genomics and Genetics Back Together

R. A. Gibbs
 >> *Editorial* p. 511; *News Focus* section;
Science Podcast

CONTENTS continued >>



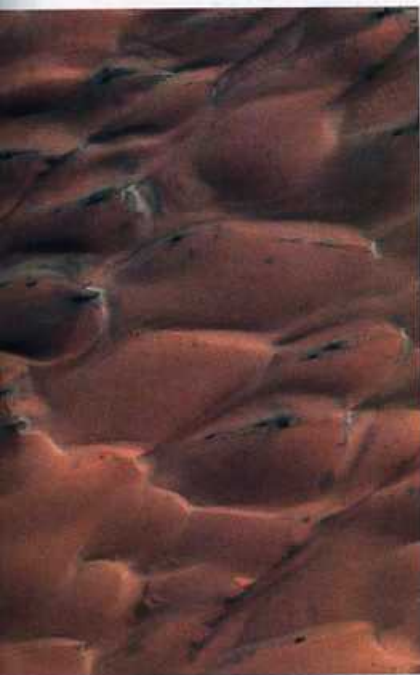
COVER

False-colored scanning electron micrograph of aligned zinc oxide nanowire arrays. Nanowires, each 10 to 50 nanometers in diameter and 0.5 to 1 micrometers long, have a variety of potential applications from medical diagnostics to miniature electronics. The Gordon Research Conference on Cancer Nanotechnology will be held 17 to 22 July 2011 at Colby College in Waterville, Maine. See page 602 for the conference schedule and preliminary programs.

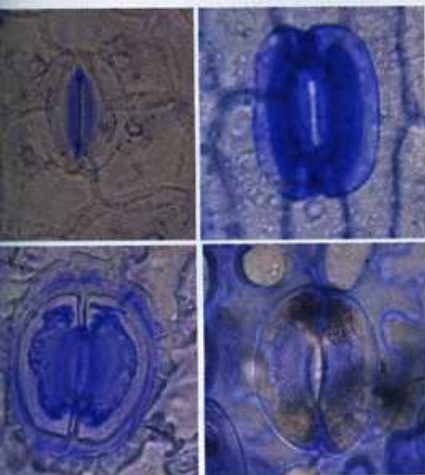
Image: Z. L. Wang, School of Materials Science and Engineering, Georgia Institute of Technology

DEPARTMENTS

- 507 **This Week in Science**
 512 **Editors' Choice**
 514 **Science Staff**
 602 **Gordon Research Conferences**
 625 **New Products**
 626 **Science Careers**



page 575



page 582

REVIEW

- 550 **A Parsimonious Model for Gene Regulation by miRNAs**
S. Djuranovic et al.

BREVIA

- 554 **The 2010 Amazon Drought**
S. L. Lewis et al.
Amazonia experienced lower rainfall and higher calculated carbon emissions from tree deaths than in the 2005 drought.

RESEARCH ARTICLE

- 555 **The Ecoresponsive Genome of *Daphnia pulex***
J. K. Colbourne et al.
The *Daphnia* genome reveals a multitude of genes and shows adaptation through gene family expansions.
>> *Perspective p. 539; Science Podcast*

REPORTS

- 562 **KOI-126: A Triply Eclipsing Hierarchical Triple with Two Low-Mass Stars**
J. A. Carter et al.
The Kepler telescope detected a triple stellar system and reveals details of the structure of low-mass stars.
- 565 **Ultralong-Range Polaron-Induced Quenching of Excitons in Isolated Conjugated Polymers**
J. C. Bolinger et al.
Visualization of the fluorescence of a single-conducting-polymer chain provides insight into energy-relaxation mechanisms.
>> *Perspective p. 544*
- 568 **Two-Dimensional Nanosheets Produced by Liquid Exfoliation of Layered Materials**
J. N. Coleman et al.
Layered transition metal dichalcogenides, such as tungsten disulfide, are exfoliated into atomically thin flakes.
- 571 **Protein Native-State Stabilization by Placing Aromatic Side Chains in N-Glycosylated Reverse Turns**
E. K. Culyba et al.
Protein reverse turns that interact with a phenylalanine group allow stable introduction of glycan groups at asparagine residues.

- 575 **Seasonal Erosion and Restoration of Mars' Northern Polar Dunes**
C. J. Hansen et al.
High-resolution images of Mars show active sand transport on northern polar dunes.
- 578 **2500 Years of European Climate Variability and Human Susceptibility**
U. Büntgen et al.
Variability of central European temperature and precipitation shows correlations with some major historical changes.
- 582 **Passive Origins of Stomatal Control in Vascular Plants**
T. J. Brodribb and S. A. M. McAdam
The transition from passive to active metabolic control of stomata and plant water balance occurred about 360 million years ago.
- 586 **Translational Pausing Ensures Membrane Targeting and Cytoplasmic Splicing of *XBP1u* mRNA**
K. Yanagitani et al.
A peptide-mediated translational pause facilitates the unconventional splicing of a messenger RNA on the endoplasmic reticulum.
>> *Perspective p. 543*
- 589 **Directed Evolution of a Protein Container**
B. Wörsdörfer et al.
An engineered protein container protects its bacterial host by efficient and selective encapsulation of a toxic protease.
>> *Science Podcast*
- 593 **Aberrant Overexpression of Satellite Repeats in Pancreatic and Other Epithelial Cancers**
D. T. Ting et al.
Noncoding RNAs transcribed from DNA repeats in heterochromatin are expressed at surprisingly high levels in tumors.
- 596 **A Cryptic Subgroup of *Anopheles gambiae* Is Highly Susceptible to Human Malaria Parasites**
M. M. Riehle
Collecting mosquito larvae from West African ponds has revealed a previously unknown but highly abundant genotype.
- 599 **Action-Potential Modulation During Axonal Conduction**
T. Sasaki et al.
The waveform of an action potential can be physiologically modified while it travels along the axon.