

EDITORIAL

- 1031 Science Adapters Wanted
Bruce Alberts

NEWS OF THE WEEK

- 1038 A roundup of the week's top stories

NEWS & ANALYSIS

- 1040 Humans Are Driving Extreme Weather; Time to Prepare
- 1041 First Spending Bill Giveth—And Taketh Away
- 1042 Global Tracking of Small Animals Gains Momentum
- 1043 Researchers Mull Impact of Geron's Sudden Exit From Field
- 1044 Skies Clear for Troubled Machine Being Built at Illinois Center
- 1045 UNESCO Science Braces for a Big Squeeze

NEWS FOCUS

- 1046 **Mysteries of the Cell**
Do Lipid Rafts Exist?
How Does a Cell Know Its Size?
How Does the Cell Position Its Proteins?
How Do Hungry Cells Start Eating Themselves?
Does a Gene's Location in the Nucleus Matter?
Cell Biology's Open Cases
>> *Reviews pp. 1081 and 1086; Science Podcast*
- 1052 Time to Adapt to a Warming World, But Where's the Science?
- 1054 Archaeologists Race Against Sea Change in Orkney

LETTERS

- 1057 A Well-Defined Planet
A. P. Boss
- Science Adviser Faced Tough Political Climate
M. Bowen

- Protecting Indigenous Livestock Diversity
P. J. Boettcher and I. Hoffmann
- Integrated Ocean Drilling Program Will Proceed
E. J. Screaton

1058 CORRECTIONS AND CLARIFICATIONS

1058 TECHNICAL COMMENT ABSTRACTS

BOOKS ET AL.

- 1062 Thinking, Fast and Slow
D. Kahneman, reviewed by S. J. Sherman
- 1064 Contagion
S. Soderbergh, director

POLICY FORUM

- 1066 The New Framework for EU Research and Innovation
M. Horvat

PERSPECTIVES

- 1069 Inheriting Maternal mtDNA
B. Levine and Z. Elazar
>> *Reports pp. 1141 and 1144*
- 1070 Communities Under Climate Change
D. Nogués-Bravo and C. Rahbek
>> *Report p. 1124*
- 1071 Cosmic-Ray Origins
W. R. Binns
>> *Report p. 1103*
- 1073 What Drives Biodiversity Changes?
J. Crampton
>> *Report p. 1121*
- 1074 The Essence of Quiescence
H. A. Collier
- 1075 Priming Cancer Cells for Death
J. C. Reed
>> *Report p. 1129*

SCIENCE PRIZE ESSAY

- 1077 Open Source Physics
W. Christian et al.

CONTENTS continued >>



page 1054



page 1077

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COVER

False-colored electron micrograph of the rough endoplasmic reticulum (ER, light green), which consists of elongated membrane structures studded with ribosomes (dark green dots) and is adjacent to the nuclear envelope (dark green, right). The ER is the entry portal for newly synthesized membrane and secretory proteins (circular mitochondrion: ~0.49 micrometers wide). Two Reviews (pages 1081 and 1086) describe the ER's role in protein quality control. A News package (beginning on page 1046) discusses a number of fundamental mysteries in cell biology.

Image: MedImage/Photo Researchers, Inc.

DEPARTMENTS

- 1029 This Week in *Science*
- 1033 Editors' Choice
- 1036 *Science* Staff
- 1079 AAAS News & Notes
- 1157 New Products
- 1158 *Science* Careers

REVIEWS

- 1081 **The Unfolded Protein Response: From Stress Pathway to Homeostatic Regulation**
P. Walter and D. Ron
- 1086 **Road to Ruin: Targeting Proteins for Degradation in the Endoplasmic Reticulum**
M. H. Smith et al.
>> *News package p. 1046*

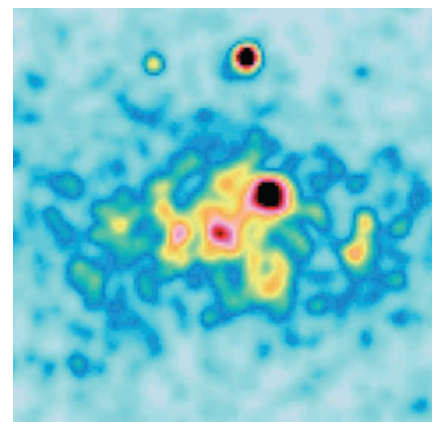
RESEARCH ARTICLES

- 1091 **The Cambrian Conundrum: Early Divergence and Later Ecological Success in the Early History of Animals**
D. H. Erwin et al.
Major animal clades evolved tens of millions of years before the widespread appearance of animal fossils.
- 1097 **A Potent and Broad Neutralizing Antibody Recognizes and Penetrates the HIV Glycan Shield**
R. Pejchal et al.
An HIV antibody achieves potency and breadth by binding simultaneously to two conserved glycans on the viral envelope protein.

REPORTS

- 1103 **A Cocoon of Freshly Accelerated Cosmic Rays Detected by Fermi in the Cygnus Superbubble**
M. Ackermann et al.
Cosmic rays can be accelerated in the cavities carved by the stellar winds created by clusters of massive stars.
>> *Perspective p. 1071*
- 1107 **Fermi Detection of a Luminous γ -Ray Pulsar in a Globular Cluster**
The Fermi LAT Collaboration
Contrary to expectations, the γ -rays from a distant cluster of stars are dominated by emission from a single neutron star.
- 1110 **A Homonuclear Molecule with a Permanent Electric Dipole Moment**
W. Li et al.
Two rubidium atoms, one in its ground state and the other with a highly excited electron, form a metastable polar molecule.
- 1114 **Discovery of an α -Amino C–H Arylation Reaction Using the Strategy of Accelerated Serendipity**
A. McNally et al.
An unanticipated photocatalytic carbon-carbon bond-forming reaction emerged from screening many unusual reagent combinations.
- 1117 **Pelagic Fishing at 42,000 Years Before the Present and the Maritime Skills of Modern Humans**
S. O'Connor et al.
Abundant fish remains from a shelter in East Timor imply that humans were fishing the deep sea by 43,000 years ago.

- 1121 **Phanerozoic Earth System Evolution and Marine Biodiversity**
B. Hannisdal and S. E. Peters
Environmental factors, more so than sampling biases, drive trends in biological evolution observed in the fossil record.
>> *Perspective p. 1073*
- 1124 **Climate Change, Keystone Predation, and Biodiversity Loss**
C. D. G. Harley
Rising temperature and predation result in range limits and local extinction events in an intertidal community.
>> *Perspective p. 1070*
- 1127 **Experimental Evolution of Reduced Sex Ratio Adjustment Under Local Mate Competition**
E. Macke et al.
Tests of Hamilton's theory on a spider mite show that populations evolve with less phenotypic plasticity in their sex ratio.
- 1129 **Pretreatment Mitochondrial Priming Correlates with Clinical Response to Cytotoxic Chemotherapy**
T. Ni Chonghaile et al.
The mitochondrial state of a tumor cell prior to chemotherapy may help determine how well it responds to drug treatment.
>> *Perspective p. 1075*
- 1133 **Transplanted Hypothalamic Neurons Restore Leptin Signaling and Ameliorate Obesity in db/db Mice**
A. Czupryn et al.
Neurons transplanted from healthy donor mice can repair brain circuitry and partially normalize metabolism in obese mice.
>> *Science Podcast*
- 1137 **Polarization of PAR Proteins by Advective Triggering of a Pattern-Forming System**
N. W. Goehring et al.
Patterning of *Caenorhabditis elegans* zygotes involves passive as well as active mechanisms.
- 1141 **Degradation of Paternal Mitochondria by Fertilization-Triggered Autophagy in *C. elegans* Embryos**
M. Sato and K. Sato
- 1144 **Postfertilization Autophagy of Sperm Organelles Prevents Paternal Mitochondrial DNA Transmission**
S. Al Rawi et al.
Maternal inheritance of mitochondrial DNA results from autophagy-dependent clearance of paternal mitochondria.
>> *Perspective p. 1069*
- 1148 **Deep Human Genealogies Reveal a Selective Advantage to Be on an Expanding Wave Front**
C. Moreau et al.
Women in the vanguard of range expansions, such as the European settlement of Quebec, married young and had more offspring.



pages 1071, 1103, & 1107



pages 1070 & 1124

- 1151 **Stress-Related Noradrenergic Activity Prompts Large-Scale Neural Network Reconfiguration**
E. J. Hermans et al.
Acute stress leads to reorganization of large-scale neural network connectivity in the brain that is driven by noradrenaline.

CONTENTS continued >>

SCIENCEONLINE

SCIENCEEXPRESS

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The Technology Path to Deep Greenhouse Gas Emissions Cuts by 2050: The Pivotal Role of Electricity

J. H. Williams et al.

Reducing greenhouse gas emissions to 80% below 1990 levels by 2050 requires widespread electrification of transportation and other sectors.

10.1126/science.1208365

>> [Science Podcast](#)

Climate Sensitivity Estimated from Temperature Reconstructions of the Last Glacial Maximum

A. Schmittner et al.

Last Glacial Maximum temperature reconstructions and model simulations can constrain the equilibrium climate sensitivity.

10.1126/science.1203513

Using the Past to Predict the Future?

G. C. Hegerl and T. Russon

10.1126/science.1214828

Molecular Mimicry Regulates ABA Signaling by SnRK2 Kinases and PP2C Phosphatases

F.-F. Soon et al.

Two players and one chair regulate this plant hormone signaling cascade.

10.1126/science.1215106

Direct Redox Regulation of F-Actin Assembly and Disassembly by Mical

R.-J. Hung et al.

A protein involved in redox signaling disassembles actin filaments and alters their reassembly.

10.1126/science.1211956

Mouse B-Type Lamins Are Required for Proper Organogenesis But Not by Embryonic Stem Cells

Y. Kim et al.

Mice lacking critical structural components of the nucleus, lamin-B intermediate filament proteins, remain viable until birth.

10.1126/science.1211222

TECHNICALCOMMENTS

Comment on "Hydrogen Mapping of the Lunar South Pole Using the LRO Neutron Detector Experiment LEND"

D. J. Lawrence et al.

Full text at www.sciencemag.org/cgi/content/full/334/6059/1058-c

Response to Comment on "Hydrogen Mapping of the Lunar South Pole Using the LRO Neutron Detector Experiment LEND"

I. G. Mitrofanov et al.

Full text at www.sciencemag.org/cgi/content/full/334/6059/1058-d

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The Signal Transduction Knowledge Environment

22 November issue: <http://scim.ag/ss112211>

EDITORIAL GUIDE: Focus Issue—Fine Tuning Hedgehog Signaling in Development and Disease

A. M. VanHook

The Hedgehog signaling cascade is regulated by a complex and diverse set of mechanisms.

PERSPECTIVE: Barcoding Hedgehog for Intracellular Transport

T. B. Kornberg

Cholesterol modification may influence where Hedgehog is released.

PRESENTATION: Sonic Hedgehog Activates the GTPases Rac1 and RhoA in a Gli-Independent Manner Through Coupling of Smoothed to G_i Proteins

A. H. Polizio et al.

Smoothed signals through small G proteins in one type of noncanonical Hedgehog signaling.

PRESENTATION: Direct Delivery Mechanisms of Morphogen Dispersion

S. Roy and T. B. Kornberg

Cytosomes transfer signaling proteins from producing to receiving cells.

PRESENTATION: Hedgehog Signaling and the Gli Code in Stem Cells, Cancer, and Metastases

A. Ruiz i Altaba

The balance between activator and repressor functions of Gli transcription factors influences stem cell-like behavior and metastasis.

RESEARCH ARTICLE: Agonist-Driven Maturation and Plasma Membrane Insertion of Calcium-Sensing Receptors Dynamically Control Signal Amplitude

M. P. Grant et al.

Activation of a G protein-coupled receptor increases its own surface abundance to enhance its signaling.

RESEARCH ARTICLE: Ric-8 Proteins Are Molecular Chaperones That Direct Nascent G Protein α Subunit Membrane Association

M. Gabay et al.

Control of the insertion of G protein α subunits into endomembranes by Ric-8 proteins regulates the abundance and function of heterotrimeric G proteins.

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23 November issue: <http://scim.ag/stm112311>

COMMENTARY: Engineering Efficient Technology Transfer

K. Lutchen et al.

PODCAST

K. Lutchen and K. LaMarco

Academic and industry leaders strategize for efficient translation of university-driven biomedical engineering innovations.

FOCUS: Glowing Tumors Make for Better Detection and Resection

M. Bouvet and R. M. Hoffman

Topical fluorescent probes make tumors selectively fluorescent and may improve cancer detection and removal.

RESEARCH ARTICLE: Rapid Cancer Detection by Topically Spraying a γ -Glutamyltranspeptidase-Activated Fluorescent Probe

Y. Urano et al.

A small-molecule imaging probe that fluoresces upon cleavage by a cancer-specific enzyme may improve surgical removal procedures of tumors.

RESEARCH ARTICLE: Bactericidal/Permeability-Increasing Protein (rBPI21) and Fluoroquinolone Mitigate Radiation-Induced Bone Marrow Aplasia and Death

E. C. Guinan et al.

An endotoxin-neutralizing protein fragment plus a fluoroquinolone antibiotic improve survival and hematopoietic recovery in mice after lethal radiation.

SCIENCE CAREERS

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Free Career Resources for Scientists

Perspective: The STEM Job Market

J. Austin

Recent reports on the scientific and technical workforce draw widely divergent conclusions.

<http://scim.ag/STEMJobsPerspective>

Experimental Error: Thanks 10⁶

A. Ruben

When you carve the turkey, don't forget to thank science.

http://scim.ag/EE_GivingThanks

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E. Pain

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http://scim.ag/Hoja_Profile

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