

COVER

A hot spring in Bali, Indonesia. The discovery of thriving microbial communities in such unexpected places has motivated investigation into the diversity and distribution of microbial life. The special issue beginning on page 1027 explores the microbial world.

Image: Sylvain Grandadam/Getty Images

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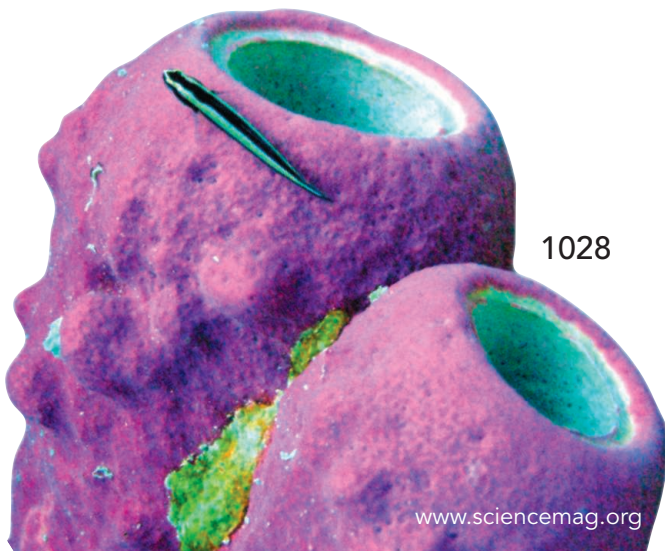


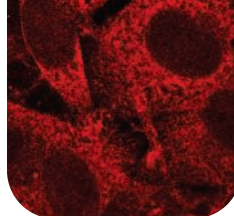
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SCIENCE EXPRESS

www.scienceexpress.org

CELL SIGNALING

The Rag GTPases Bind Raptor and Mediate Amino Acid Signaling to mTORC1

Y. Sancak et al.

Nutrients, specifically amino acids, are sensed by small guanosine triphosphatases, which bind to a signaling complex, moving it close to the nucleus where it initiates cell growth.

10.1126/science.1157535

MICROBIOLOGY

Evolution of Mammals and Their Gut Microbes

R. E. Ley et al.

Genomic sampling of the microbes in the feces of 60 mammals shows that herbivores harbor the most diversity and that individuals of the same species have the same flora.

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10.1126/science.1155725

CELL BIOLOGY

β -Arrestin-Mediated Localization of Smoothed to the Primary Cilium

J. J. Kovacs et al.

β -arrestin, which has several known roles in signaling systems, also links a key receptor to a motor protein so that the receptor can be transported to cilia for sensing environmental cues.

10.1126/science.1157983

CLIMATE CHANGE

Evidence for Upwelling of Corrosive "Acidified" Water onto the Continental Shelf

R. A. Feely et al.

As a result of anthropogenic CO₂ uptake, corrosive seawater undersaturated with calcium carbonate shoaled on the continental shelf of western North America in 2007.

10.1126/science.1155676

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Extending the Sub-Sea-Floor Biosphere

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E. G. Roussel et al.

Prokaryotic cells and DNA from Archaea are present at depths greater than 1 kilometer in sediments below the ocean floor, where temperatures range up to 100° Celsius.

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Regulated Protein Denitrosylation by Cytosolic and Mitochondrial Thioredoxins 1050

M. Benhar, M. T. Forrester, D. T. Hess, J. S. Stamler

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N. Bouatia-Naji et al.

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X. Du et al.

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The Right and the Good: Distributive Justice and Neural Encoding of Equity and Efficiency 1092

M. Hsu, C. Anen, S. R. Quartz

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SCIENCE (ISSN 0036-8075) is published weekly on Friday, except the last week in December, by the American Association for the Advancement of Science, 1200 New York Avenue, NW, Washington, DC 20005. Periodicals Mail postage (publication No. 484460) paid at Washington, DC, and additional mailing offices. Copyright © 2008 by the American Association for the Advancement of Science. The title SCIENCE is a registered trademark of the AAAS. Domestic individual membership and subscription (51 issues): \$144 (\$74 allocated to subscription). Domestic institutional subscription (51 issues): \$770; Foreign postage extra: Mexico, Caribbean (surface mail) \$55; other countries (air assist delivery) \$85. First class, airmail, student, and emeritus rates on request. Canadian rates with GST available upon request, GST #1254 88122. Publications Mail Agreement Number 1069624. **Printed in the U.S.A.**

Change of address: Allow 4 weeks, giving old and new addresses and 8-digit account number. **Postmaster:** Send change of address to AAAS, P.O. Box 96178, Washington, DC 20090-6178. **Single-copy sales:** \$10.00 current issue, \$15.00 back issue prepaid includes surface postage; bulk rates on request. **Authorization to photocopy** material for internal or personal use under circumstances not falling within the fair use provisions of the Copyright Act is granted by AAAS to libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that \$20.00 per article is paid directly to CCC, 222 Rosewood Drive, Danvers, MA 01923. The identification code for Science is 0036-8075. Science is indexed in the *Reader's Guide to Periodical Literature* and in several specialized indexes.

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Genetically modified primates may be better than mice for studying neurological disorders.

Astronomers in a Spin About Mystery Pulsar

One of the universe's most extreme objects just got a bit stranger.

Catching a Climate Offender

New strategy could reduce CO₂ emissions from coal plants.



Telling the story of teamwork.

SCIENCE CAREERS

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FREE CAREER RESOURCES FOR SCIENTISTS

MiSciNet: Family Trailblazers

S. Gaidos

Fitting in on a college faculty is harder when you are the first in your family to go to college.

Tooling Up: Transitioning to Teamwork

D. Jensen

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B. Noordam and P. Gosling

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From the Archives: How to Get a Job in Academia

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Search committees at different institutions look for different strengths in their faculty applicants.



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SCIENCE SIGNALING

www.sciencesignaling.org

THE SIGNAL TRANSDUCTION KNOWLEDGE ENVIRONMENT

EDITORIAL GUIDE: Focus Issue—A Niche of One's Own

E. M. Adler and J. F. Foley

The nature of microbe-host relationships often depends on signaling pathways in the host.

PERSPECTIVE: Diversification of the Function of Cell-to-Cell Signaling in Regulation of Virulence Within Plant Pathogenic Xanthomonads

M. Dow

Different plant pathogens use similar signaling molecules in distinct ways.

PERSPECTIVE: Bacterial-Modulated Signaling Pathways in Gut Homeostasis

W.-J. Lee

Stimulation of the production of reactive oxygen species in gut epithelial cells by commensal bacteria dampens the host immune response.

PERSPECTIVE: ETosis—A Novel Cell Death Pathway

F. Wartha and B. Henriques-Normark

Pathogenic microbes are trapped and killed by mast cell- and neutrophil-derived extracellular traps.

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320 (5879)

Science **320** (5879), 981-1096.

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