

https://dspace.org/

# International scope of biomedical research ethics review

**Mark Rothstein; Kelly Zimmerer; Pamela Andanda; E et al**

https://hdl.handle.net/10539/42238
WOS

Downloaded from a DSpace repository. https://dspace.org/

# CONTENTS

12 JULY 2024 • VOLUME 385 • ISSUE 6705



134

## NEWS

### IN BRIEF

124 News at a glance

### IN DEPTH

**126 Can 'cow flu' be eliminated—or is it too late?**
Feeble government response and lack of industry cooperation hamper U.S. control efforts *By J. Cohen*
EDITORIAL p. 123

**127 Accusations sting bee 'odometer' studies**
Scientists allege irregularities in papers on how honey bees gauge distance *By S. Quaglia*

**129 Ancient crystals show plate tectonics began early**
Hardy zircons suggest subduction of ocean crust began 4 billion years ago
*By P. Voosen*

**130 Stunning 3D chromosomes preserved in thawed mammoths**
"New type of fossil" may boost efforts to bring beasts back *By R. Stone*

**131 Biologist returns after harassment suspension**
Bruce Blumberg's graduate student reported fleeing harrowing conference trip in Spain
*By M. Wadman*

**132 Neanderthals and moderns mingled early and often**
Study of genes modern humans gave Neanderthals helps explain their end
*By A. Gibbons*

### FEATURES

**134 Rat poison's long reach**
Supertoxic rodenticides are building up inside unintended targets, including birds, mammals, and insects. Scientists want to understand the damage—and limit it *By D. F. Maron*
PODCAST

## INSIGHTS

### PERSPECTIVES

**138 Sound evidence for biodiversity monitoring**
Bioacoustics and artificial intelligence facilitate ecological studies of animal populations *By J. H. Rasmussen* et al.
PODCAST

**140 Unmasking immune suppression**
Inhibition of a mutated metabolic enzyme puts the sting back in antitumor immunity
*By J. R. Pitarresi and K. A. Fitzgerald*
RESEARCH ARTICLE p. 159

**142 Adaptive fungal invasion of bat cells**
A fungus uses different cell entry strategies, depending on its host's hibernation status
*By J. M. Vargas-Muñiz*
RESEARCH ARTICLE p. 194

**144 Particle resupply in the lower atmosphere**
New atmospheric particles form when the stratosphere intrudes into the troposphere
*By H. Coe*
RESEARCH ARTICLE p. 210

### POLICY FORUM

**145 International scope of biomedical research ethics review**
Many countries consider long-term implications for society *By M. A. Rothstein* et al.

### BOOKS *ET AL.*

**148 Meet the Mississippi**
A rich introduction captures some but not all the remarkable river has to offer *By M. Doyle*

**149 A physician's legacy**
Tony Fauci reflects on a remarkable career
*By V. Thompson*

PHOTO: CHIP SOMODEVILLA/GETTY IMAGES

## LETTERS

**151 World science and Indigenous knowledge**
*By R. Ahdar* et al.

**152 Vitalism in New Zealand science education**
*By N. J. Matzke*

**152 Response**
*By A. Black and J. M. Tylianakis*

# RESEARCH

## IN BRIEF

**154** From *Science* and other journals

## RESEARCH ARTICLES

**157 Plant genetics**
Natural selection drives emergent genetic homogeneity in a century-scale experiment with barley *J. B. Landis* et al.
RESEARCH ARTICLE SUMMARY; FOR FULL TEXT: DOI.ORG/10.1126/SCIENCE.ADL0038

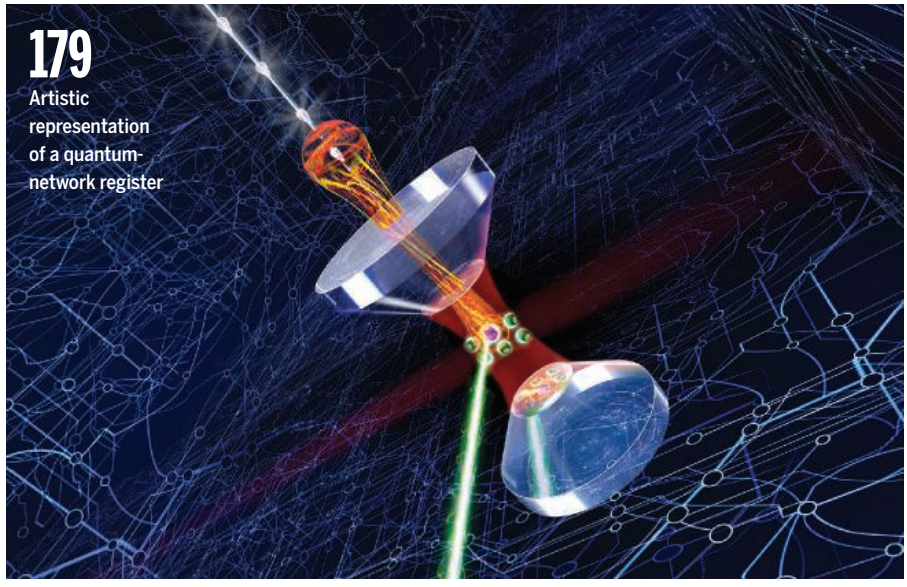
**158 Hominin genetics**
Recurrent gene flow between Neanderthals and modern humans over the past 200,000 years *L. Li* et al.
RESEARCH ARTICLE SUMMARY; FOR FULL TEXT: DOI.ORG/10.1126/SCIENCE.ADI1768

**159 Cancer immunology**
Mutant IDH1 inhibition induces dsDNA sensing to activate tumor immunity
*M.-J. Wu* et al.
RESEARCH ARTICLE SUMMARY; FOR FULL TEXT: DOI.ORG/10.1126/SCIENCE.ADL6173
PERSPECTIVE p. 140

**160 Molecular biology**
Antagonistic conflict between transposon-encoded introns and guide RNAs
*R. Žedaveinytė* et al.
RESEARCH ARTICLE SUMMARY; FOR FULL TEXT: DOI.ORG/10.1126/SCIENCE.ADM8189

**161 Solar cells**
A crystal capping layer for formation of black-phase $FAPbI_3$ perovskite in humid air
*Y. Zou* et al.

**168 Structural biology**
High-resolution electron cryomicroscopy of V-ATPase in native synaptic vesicles
*C. E. Coupland* et al.



**179**
Artistic representation of a quantum-network register

**174 Synthetic biology**
Integrated translation and metabolism in a partially self-synthesizing biochemical network *S. Giaveri* et al.

**179 Quantum systems**
A quantum-network register assembled with optical tweezers in an optical cavity
*L. Hartung* et al.

**183 Electron microscopy**
Structured electrons with chiral mass and charge *Y. Fang* et al.

**188 Molecular biology**
Molecular mechanism of plasmid elimination by the DdmDE defense system *L. Loeff* et al.

**194 Fungal pathogens**
Pathogenic strategies of *Pseudogymnoascus destructans* during torpor and arousal of hibernating bats *M. Isidoro-Ayza* et al.
PERSPECTIVE p. 142

**201 Atmospheric chemistry**
Resetting tropospheric OH and $CH_4$ lifetime with ultraviolet $H_2O$ absorption
*M. J. Prather and L. Zhu*

**204 Dielectrics**
Partitioning polar-slush strategy in relaxors leads to large energy-storage capability
*L. Shu* et al.

**210 Cloud formation**
Stratospheric air intrusions promote global-scale new particle formation *J. Zhang* et al.
PERSPECTIVE p. 144

**216 Electrochemistry**
Programmed alternating current optimization of Cu-catalyzed C-H bond transformations
*L. Zeng* et al.

## DEPARTMENTS

**123 Editorial**
Stop H5N1 influenza in US cattle now
*By N. Lewis and M. Beer*
NEWS STORY p. 126

**226 Working Life**
Opening up *By A. W. Li*

## ON THE COVER

The fungus causing white-nose syndrome infects hibernating bats, such as this little brown bat (*Myotis lucifugus*). The white material around the nose indicates skin infected by the causative fungus *Pseudogymnoascus destructans*. This disease has decimated North American bat populations during the past two decades. Researchers report mechanisms used by this cold-loving fungus to invade bat skin during the hibernation phases of torpor and arousal. See pages 142 and 194. *Photo: Jonathan Mays/Maine Department of Inland Fisheries and Wildlife/CC BY 2.0*




ILLUSTRATION: MPQ/HARALD RITSCH

*Science* Staff ..... 122
New Products ..... 224
*Science* Careers ..... 225

**SCIENCE (ISSN 0036-8075) is published weekly on Friday, except 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 © 2024 by the American Association for the Advancement of Science. The title SCIENCE is a registered trademark of the AAAS. Domestic individual membership, including subscription (12 months): $165 ($74 allocated to subscription). Domestic institutional subscription (51 issues): $2627; Foreign postage extra: Air assist delivery: $107. First class, airmail, student, and emeritus rates on request. Canadian rates with GST available upon request, GST #125488122. 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:** $15 each plus shipping and handling available from backissues.science.org; bulk rate on request. **Authorization to reproduce** material for internal or personal use under circumstances not falling within the fair use provisions of the Copyright Act can be obtained through the Copyright Clearance Center (CCC), www.copyright.com. The identification code for *Science* is 0036-8075. *Science* is indexed in the *Reader's Guide to Periodical Literature* and in several specialized indexes.