

SPECIAL SECTION

Forces in Development

INTRODUCTION

209 Forceful Thinking

REVIEWS

- 210 Developmental Pattern Formation: Insights from Physics and Biology
A. Kicheva et al.
- 212 Knowing the Boundaries: Extending the Differential Adhesion Hypothesis in Embryonic Cell Sorting
J. D. Amack and M. L. Manning

PERSPECTIVES

- 215 A Dynamical-Systems View of Stem Cell Biology
C. Furusawa and K. Kaneko
- 217 Physico-Genetic Determinants in the Evolution of Development
S. A. Newman
>> *Science Podcast*

>> *Editorial p. 171; Perspectives pp. 201 and 206; Research Article p. 226; Reports pp. 253 and 257; and www.sciencemag.org/special/forces*



page 184

EDITORIAL

- 171 Enabling Scientific Innovation
James S. Langer
>> *Forces in Development section p. 209*

NEWS OF THE WEEK

- 176 A roundup of the week's top stories

NEWS & ANALYSIS

- 178 Reprogrammed Cells Earn Biologists Top Honor
- 179 Manipulators of the Quantum Realm Lauded
- 180 Oh, Baby: Fight Brews Over U.S. Import of Beluga Whales
- 181 NIH Funding Shifts With Disease Lobbying, Study Suggests
- 183 New Arctic Research Vessel Ready to Make a Splash

NEWS FOCUS

- 184 Aftershocks in the Courtroom
The Seven Defendants
- 189 Turning Back the Clock: Slowing the Pace of Prehistory
>> *Science Podcast*

LETTERS

- 192 Baits, Budget Cuts: A Deadly Mix
A. Margalida
Saving Vietnam's Wildlife Through Social Media
L. T. P. Nghiem et al.
Making Science Education Relevant
W. A. Wulf
- 193 CORRECTIONS AND CLARIFICATIONS
- 193 TECHNICAL COMMENT ABSTRACTS

BOOKS ET AL.

- 194 The Pseudoscience Wars
M. D. Gordin, reviewed by A. Wellerstein
- 195 Liars and Outliers
B. Schneier, reviewed by B. Herrmann

POLICY FORUM

- 196 Standards and Infrastructure for Innovation Data Exchange
L. L. Haak et al.

PERSPECTIVES

- 198 Animal Behavior and the Microbiome
V. O. Ezenwa et al.
- 200 Putting the Squeeze on Phototransduction
E. R. Liman
>> *Report p. 260*
- 201 Physical Biology Returns to Morphogenesis
R. Keller
>> *Forces in Development section p. 209*
- 203 A Golden Spike for Planetary Science
R. P. Binzel
>> *Reports pp. 242 and 246*
- 204 Downsizing the Deep Biosphere
K.-U. Hinrichs and F. Inagaki
- 206 Cilia Discern Left from Right
D. P. Norris and D. T. Grimes
>> *Forces in Development section p. 209; Research Article p. 226*
- 207 Seeing Is Believing
B. A. Brooks
>> *Report p. 250*

CONTENTS continued >>



COVER

False-colored scanning electron micrograph of a zebrafish (*Danio rerio*) embryo (~0.7 millimeters across) at a late stage of development. Biophysical studies of model organisms such as zebrafish reveal forces that organize tissue patterns and shape cell layers and physical features (segments, cavities, and folds). The special section beginning on page 209 presents work in which physicists and biologists collaborate to explain the physical mechanisms of animal development.

Image: Dr. Richard Kessel/Visuals Unlimited, Inc.

DEPARTMENTS

- 169 This Week in *Science*
- 172 Editors' Choice
- 174 *Science* Staff
- 274 New Products
- 275 *Science* Careers

BREVIA

- 221 Genome Sequencing Identifies a Basis for Everolimus Sensitivity
G. Iyer et al.
Tumor genome sequencing reveals the molecular basis of a patient's unexpected and dramatic response to a cancer drug.

RESEARCH ARTICLES

- 222 A High-Coverage Genome Sequence from an Archaic Denisovan Individual
M. Meyer et al.
A close-up look provides clues to the relationships between modern humans, Denisovans, and Neandertals.
- 226 Cilia at the Node of Mouse Embryos Sense Fluid Flow for Left-Right Determination via Pkd2
S. Yoshida et al.
A Ca²⁺ channel implicated in polycystic kidney disease helps to establish the left-right body axis of the mammalian embryo.
>> *Perspective p. 206; Forces in Development section p. 209*

REPORTS

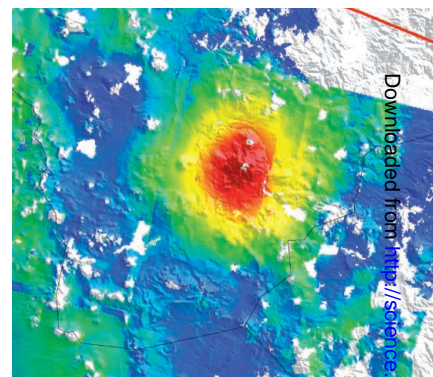
- 232 Strain Tuning of Individual Atomic Tunneling Systems Detected by a Superconducting Qubit
G. J. Grabovskij et al.
A process responsible for the decoherence of superconducting qubits is controlled using mechanical strain.
- 234 Observation of Resonances in Penning Ionization Reactions at Sub-Kelvin Temperatures in Merged Beams
A. B. Henson et al.
Minimizing the relative velocity spread among reaction partners in a supersonic beam reveals nonclassical dynamics.
- 238 An Ancient Core Dynamo in Asteroid Vesta
R. R. Fu et al.
Paleomagnetic studies of a meteorite from asteroid Vesta reveal remanent magnetization produced by an ancient core dynamo.
- 242 Elemental Mapping by Dawn Reveals Exogenic H in Vesta's Regolith
T. H. Prettyman et al.
- 246 Pitted Terrain on Vesta and Implications for the Presence of Volatiles
B. W. Denevi et al.
Analysis of data from the Dawn spacecraft implies that asteroid Vesta is rich in volatiles.
>> *Perspective p. 203*

- 250 Sombrero Uplift Above the Altiplano-Puna Magma Body: Evidence of a Ballooning Mid-Crustal Diapir
Y. Fialko and J. Pearce
Subsidence accompanies uplift below a massive rising magma body in the central Andes mountains.
>> *Perspective p. 207*
- 253 Adhesion Functions in Cell Sorting by Mechanically Coupling the Cortices of Adhering Cells
J.-L. Maître et al.
Cell adhesion provides a mechanical scaffold for cell cortex tension to drive cell sorting during zebrafish gastrulation.
- 257 Forces Driving Epithelial Spreading in Zebrafish Gastrulation
M. Behrndt et al.
Contraction of an actomyosin ring drives epithelial morphogenesis during embryonic development.
>> *Forces in Development section p. 209*
- 260 Photomechanical Responses in *Drosophila* Photoreceptors
R. C. Hardie and K. Franze
Light sensing involves contraction of the photoreceptor cell membrane physically gating the light-sensitive channels.
>> *Perspective p. 200*
- 264 Bacterial Quorum Sensing and Metabolic Incentives to Cooperate
A. A. Dandekar et al.
Cooperating groups of bacteria resist infiltration by noncooperating cheaters by co-regulating shared and individual products.
- 267 Quantifying the Impact of Human Mobility on Malaria
A. Wesolowski et al.
Geographical information in mobile phone records for 15 million Kenyans is linked to malaria prevalence estimates.
- 270 Preference by Association: How Memory Mechanisms in the Hippocampus Bias Decisions
G. E. Wimmer and D. Shohamy
Remembered links between objects can result in the unintentional linking of their values and can affect choices.

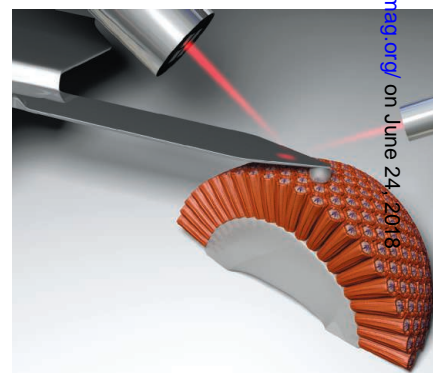
CONTENTS continued >>



page 198

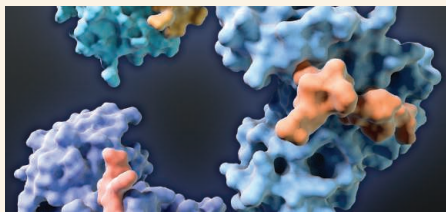


pages 207 & 250



pages 200 & 260

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D. E. Cook et al.
10.1126/science.1228746

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N. D. Derr et al.
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V. Calcagno et al.
10.1126/science.1227833
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D. P. McCarthy et al.
10.1126/science.1229803

TECHNICAL COMMENTS

Comment and Response on “Climactic Niche Shifts Are Rare Among Terrestrial Plant Invaders”
Comment: B. L. Webber et al.
<http://dx.doi.org/10.1126/science.1225980>
Response: A. Guisan et al.
<http://dx.doi.org/10.1126/science.1226051>

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RESEARCH ARTICLE: Interferon-Induced SCYL2 Limits Release of HIV-1 by Triggering PP2A-Mediated Dephosphorylation of the Viral Protein Vpu
K. Miyakawa et al.
HIV-infected cells dephosphorylate and inactivate a viral factor to restrict viral spreading.

RESEARCH ARTICLE: Specificity of Linear Motifs That Bind to a Common Mitogen-Activated Protein Kinase Docking Groove
Á. Garai et al.
Three related kinases use structural features to discriminate between potential binding partners.

PRESENTATION: Posttraumatic Stress Disorder in Children and Adolescents—Neuroendocrine Perspectives
P. Pervanidou and G. P. Chrousos
Trauma-induced changes in circulating cortisol concentrations are associated with pediatric PTSD.

PRESENTATION: Fetal Programming of Brain Development—Intrauterine Stress and Susceptibility to Psychopathology
C. Buss et al.
Intrauterine stress and maternal obesity are associated with neurodevelopmental disorders.

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E. J. Nestler and A. M. VanHook
The neurotrophic factor BDNF has opposite effects on cocaine- and morphine-induced neuroplasticity.

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<http://scim.ag/ScienceCareers12October2012>

Biomedical Consulting Agreements: The Good, the Bad, and the Ugly
E. Klees et al.
A leading attorney and a serial entrepreneur tell how to avoid potholes in agreements with industry.

Perspective: Embrace Flexible Work Arrangements
N. Pettorelli et al.
To achieve gender equality in science, shift men's perceptions of what is professionally acceptable.

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RESEARCH ARTICLE: Human Neural Stem Cells Induce Functional Myelination in Mice with Severe Dysmyelination
N. Uchida et al.
Human neural stem cell transplants restore myelination in mice with a hypomyelination disorder.

RESEARCH ARTICLE: Neural Stem Cell Engraftment and Myelination in the Human Brain
N. Gupta et al.
Neural stem cell transplantation in children with a hypomyelination disorder.

RESEARCH ARTICLE: Immunotherapy Against HPV16/18 Generates Potent T_H1 and Cytotoxic Cellular Immune Responses
M. L. Bagarazzi et al.
CD8⁺ T cells with cytolytic activity are induced after therapeutic HPV vaccination in humans.

COMMENTARY: Revolution Stalled
S. E. Hyman
Drug discovery for psychiatric disorders is at a near standstill.

PERSPECTIVE: Next-Generation Treatments for Mental Disorders
T. R. Insel
New approaches are needed for developing next-generation treatments for mental disorders.

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