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P. Sarkies and E. A. Miska
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ON THE WEB THIS WEEK
> Policy Podcast
Listen to an interview with Perspective author Eric Miska on using RNA as a signaling molecule between organisms.

BOOKS ET AL.
458  Novel Ecosystems
R. J. Hobbs et al., Eds., reviewed by D. M. Mateos
459  Permanent Present Tense
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COVER
Clouds pass over Kenya’s Lake Magadi, where geologists are drilling a core to gather detailed climate data from the ancient lake bed. Data on past climates are vital for researchers seeking to understand how anthropogenic climate change will affect Earth’s ecosystems and species, including its effects on infectious diseases and food security. See the special section beginning on page 472.

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RESEARCH ARTICLES

525  A Role for SIRT2-Dependent Histone H3K18 Deacetylation in Bacterial Infection
H. A. Eskandarian et al.
The bacterial pathogen Listeria monocytogenes exploits histone modifications to reprogram its host.
Research Article Summary; for full text: http://dx.doi.org/10.1126/science.1238858

526  The Evolution of Social Monogamy in Mammals
D. Lukas and T. H. Clutton-Brock
Social monogamy developed in mammalian species where males could not defend access to multiple females.
>> Perspective p. 469

REPORTS

530  Hierarchical Porous Polymer Scaffolds from Block Copolymers
H. Sai et al.
Spinodal decomposition of block copolymers and oligomeric additives produces three-dimensional hierarchical porous polymers.

534  Liquid-Mediated Dense Integration of Graphene Materials for Compact Capacitive Energy Storage
X. Yang et al.
Electrochemical capacitors made with compressed gels of chemically converted graphene exhibit high energy density.

537  Detection of a Spinning Object Using Light’s Orbital Angular Momentum
M. P. I. Lavery et al.
Orbital angular momentum modes of light can be used to detect rotation.
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540  Efficient Generation of H2 by Splitting Water with an Isothermal Redox Cycle
C. L. Muchich et al.
A thermal process for generating H2 from water uses pressure changes to recycle between catalyst redox states.
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542  Anthropogenic Seismicity Rates and Operational Parameters at the Salton Sea Geothermal Field
E. E. Brodsky and L. J. Lajoie
The net volume of geothermal fluid extracted is the most direct control on induced seismicity rate.

546  Two Dimensions of Value: Dopamine Neurons Represent Reward But Not Aversiveness
C. D. Fiorillo
Experiments in monkeys suggest that positive and negative expectations are represented by different types of neurons.

549  Functional Lysine Modification by an Intrinsically Reactive Primary Glycolytic Metabolite
E. R. Moellinger and B. F. Cravatt
A reactive intermediate formed during glycolysis reacts nonenzymatically to inhibit glycolytic enzymes.

554  Cytochrome P450 Drives a HIF-Regulated Behavioral Response to Reoxygenation
by C. elegans
D. K. Ma et al.
A worm model of ischemia-reperfusion injury reveals protective mechanisms potentially relevant to stroke and heart attack.

558  Robustness and Compensation of Information Transmission of Signaling Pathways
S. Uda et al.
Information theory analysis of cell signaling reveals mechanisms for reliable cellular responses despite signal variability.

562  Sequencing Y Chromosomes Resolves Discrepancy in Time to Common Ancestor of Males Versus Females
G. D. Poznik et al.
Global diversity in the Y chromosome and mitochondrial DNA coalesce at approximately the same times in humans.
>> Perspective p. 465

565  Low-Pass DNA Sequencing of 1200 Sardinian Y-Chromosome Phylogeny
P. Francalacci et al.
Local human demographic history is inferred from in-depth DNA sequence analyses of Sardinian men’s Y chromosomes.
>> Perspective p. 465

569  The Microbial Metabolites, Short-Chain Fatty Acids, Regulate Colonic Treg Cell Homeostasis
P. M. Smith et al.
Bacterial fermentation products regulate the number and function of regulatory T cells in the mouse colon.
>> Perspective p. 463