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Hurricane Ike caused extensive damage throughout the Caribbean and Gulf of Mexico regions in September 2008, as shown here at Pinar del Rio in western Cuba. A state-of-the-art computer model projects that global warming should cause an increase in the frequency of the most intense western Atlantic hurricanes, like Ike, during the 21st century. See page 454.

Photo: Claudia Daut/Reuters/Landov

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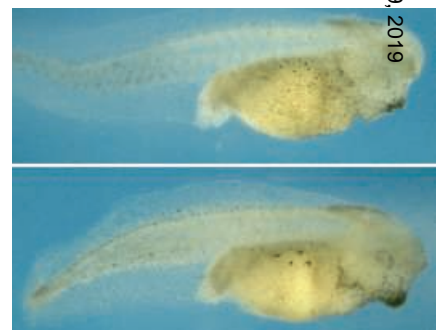
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Early in infection, vaccinia virus exploits the actin cytoskeleton to promote rapid cell-to-cell spread.
10.1126/science.1183173
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The *Lmo2* Oncogene Initiates Leukemia in Mice by Inducing Thymocyte Self-Renewal
M. P. McCormack et al.

Expression of an oncogene confers self-renewal activity to committed T cells in the thymus long before disease onset.
10.1126/science.1182378

Climate-Modulated Channel Incision and Rupture History of the San Andreas Fault in the Carrizo Plain

L. Grant Ludwig et al.
10.1126/science.1182837

Slip in the 1857 and Earlier Large Earthquakes Along the Carrizo Plain, San Andreas Fault
O. Zielke et al.

The historical behavior of the San Andreas fault may have been dominated by smaller, more frequent slip events.
10.1126/science.1182781

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Highlights From Our Daily News Coverage

Fish May Not Have Evolved Gills to Breathe

New study suggests a surprising reason for adaptation.

Radiocarbon Daters Tune Up Their Time Machine

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They may be pretty, but simple swooping bridge cables are not the best design.

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EDITORIAL GUIDE: Focus Issue—External and Internal Regulators of Immune Responses

J. F. Foley and N. R. Gough

Host defense mechanisms are modulated by host-derived and pathogen-derived factors.

RESEARCH ARTICLE: Distinct Signal Codes Generate Dendritic Cell Functional Plasticity
K. Arima et al.

The cytokine TSLP triggers distinct signals in dendritic cells that program a T helper 2 (T_H2)-type response.

RESEARCH ARTICLE: Attenuation of Rabies Virulence—Takeover by the Cytoplasmic Domain of Its Envelope Protein

C. Préhaud et al.

Survival of rabies virus-infected neurons depends on a single amino acid in the PDZ-binding site of a viral protein.

PERSPECTIVE: TAK-ling IKK Activation—“Ub” the Judge

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REVIEW: What Is the Function of the Dendritic Cell Side of the Immunological Synapse?

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CONNECTIONS MAP OVERVIEW: Interleukin-1 β (IL-1 β) Processing Pathway

A. Weber et al.

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SCIENCE CAREERS

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SPECIAL QUANTITATIVE BIOMEDICINE ISSUE
Quantitative Biomedical Careers

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Physicists and mathematicians are finding new ways to apply quantitative skills to biomedical sciences.

Informatics Careers Take Shape in Translational and Clinical Research

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Electronic patient data and research repositories mean new opportunities in medical informatics.

Statistics Serving Biomedicine

E. Pain

Spanish statistician David Rossell supports other biomedical scientists while pursuing his own research.

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PERSPECTIVE: Optimizing the Delivery of Cancer Drugs that Block Angiogenesis

Y. Cao and R. Langer

Optimizing antiangiogenic therapy requires the development of new drug delivery systems.

COMMENTARY: Meeting the Governance Challenges of Next-Generation Biorepository Research

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Requisites for biorepository governance need to keep pace with developments in translational science.

RESEARCH ARTICLE: Vaccines with MF59 Adjuvant Expand the Antibody Repertoire to Target Protective Sites of Pandemic H5N1 Influenza Virus

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An oil-based adjuvant improves the efficacy of an H1N1 vaccine.

RESEARCH ARTICLE: Identification of a Class of HCV Inhibitors Directed Against the Nonstructural Protein NS4B

N.-J. Cho et al.

A newly discovered activity in hepatitis C virus gives rise to a distinct class of antiviral compounds.

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