SCIENCE PRIZE ESSAY

1185  From Persistence to Cross-Species Emergence of a Viral Zoonosis
    D. G. Streicker

RESEARCH ARTICLES

1202  A Mechanism for Reorientation of Cortical Microtubule Arrays Driven by Microtubule Seveng
    J. J. Lindeboom et al.
    A self-organizing system makes the microtubule array in plants rearrange in order for the shoot to turn toward blue light.
    Research Article Summary; for full text: http://dx.doi.org/10.1126/science.1245533
    >> Perspective p. 1183; Video

1203  Oscillatory Control of Factors Determining Multipotency and Fate in Mouse Neural Progenitors
    I. Imayoshi et al.
    During neural development, the differentiated state correlates with sustained expression of a single fate-determination factor.

REPORTS

1208  Structure and Composition of the Plate-Boundary Slip Zone for the 2011 Tohoku-Oki Earthquake
    F. M. Chester et al.
    The Tohoku-Oki earthquake occurred along a thin, clay-rich fault zone in the basal strata of the subducting plate.

1211  Low Coseismic Shear Stress on the Tohoku-Oki Megathrust Determined from Laboratory Experiments
    K. Ujiie et al.
    Rotary shear experiments reveal the frictional properties of clay-rich material recovered directly from the Tohoku-Oki fault zone.

1214  Low Coseismic Friction on the Tohoku-Oki Fault Determined from Temperature Measurements
    P. M. Fulton et al.
    A temperature anomaly of 0.31°C indicates that coseismic friction was extremely low during the Tohoku-Oki earthquake.
    >> Perspective p. 1178; Science Podcast

1217  Giant Convection Cells Found on the Sun
    D. H. Hathaway et al.
    Flows in cells transport angular momentum toward the solar equator, maintaining the Sun’s rapid equatorial rotation.

1220  Precision Spectroscopy of Polarized Molecules in an Ion Trap
    H. Loh et al.
    A method to measure the electric dipole moment of the electron is demonstrated using polarized trapped molecular ions.

1223  Phase Mismatch–Free Nonlinear Propagation in Optical Zero-Index Materials
    H. Suchowski et al.
    Metamaterials relax the requirement for phase matching in nonlinear optics.
    >> Perspective p. 1182

1226  Interfollicular Epidermal Stem Cells Self-Renew via Autocrine Wnt Signaling
    X. Lim et al.
    Stem cells produce short-range signals to support self-renewal and long-range signal inhibitors to allow differentiation.
    >> Perspective p. 1183

1230  Preferential Recognition of Avian-Like Receptors in Human Influenza A H7N9 Viruses
    R. Xu et al.
    The hemagglutinin of 2013 avian-origin H7N9 influenza virus is poorly adapted for efficient human-to-human transmission.

1235  HCF-1 Is Cleaved in the Active Site of O-GlcNac Transferase
    M. B. Lazarus et al.
    A protein involved in cell cycle regulation is proteolytically activated and glycosylated by a nutrient-sensitive enzyme.

1239  Crossstalk Between Microtubule Attachment Complexes Ensures Accurate Chromosome Segregation
    D. K. Cheerambathur et al.
    Chromosome partitioning involves regulatory crossstalk between two major microtubule-binding complexes at the kinetochore.

1243  Nonredundant Function of Soluble LTrα3 Produced by Innate Lymphoid Cells in Intestinal Homeostasis
    A. A. Kruglov et al.
    Soluble lymphotixin plays a paracrine role in controlling immunoglobulin A responses and regulating gut microbiota.

1247  Hedgehog Signaling Controls T Cell Killing at the Immunological Synapse
    M. de la Roche et al.
    T cell receptor stimulation activates Hedgehog signaling to arm cytotoxic T cells with the labile actin needed for killing.
    >> Perspective p. 1177

1251  Intact But Less Accessible Photic Repetitive Neurons in Adults with Dyslexia
    B. Boets et al.
    The persistent reading problems observed in dyslexia may derive from inefficient communication within the brain.
    >> News story p. 1158

1254  MicroRNA-128 Governs Neuronal Excitability and Motor Behavior in Mice
    C. Lek Tan et al.
    A microRNA expressed in adult neurons affects movement by modulating neuronal signaling networks and excitability.

1258  Chromosome Partitioning Involves Regulatory Complexes Ensures Accurate Chromosome Segregation
    M. B. Lazarus et al.
    A protein involved in cell cycle regulation is proteolytically activated and glycosylated by a nutrient-sensitive enzyme.

1262  Interfollicular Epidermal Stem Cells Self-Renew via Autocrine Wnt Signaling
    X. Lim et al.
    Stem cells produce short-range signals to support self-renewal and long-range signal inhibitors to allow differentiation.
    >> Perspective p. 1183
Editor's Summary

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