Perspectives

**Molecular Evolution**

Deep Phylogeny—How a Tree Can Help Characterize Early Life on Earth

*Eric A. Gaucher, James T. Kratzer, and Ryan N. Randall*

**Molecular Biology**

Synchronization of Chromosome Dynamics and Cell Division in Bacteria

*Martin Thanbichler*

**Cell Biology**

The Regulation of the p53-mediated Stress Response by MDM2 and MDM4

*Mary Ellen Perry*

Cytoskeletal Mechanisms for Breaking Cellular Symmetry

*R. Dyche Mullins*

Molecular Basis of the Core Structure of Tight Junctions

*Mikio Furuse*

**Developmental Biology**

Regulation of Organ Growth by Morphogen Gradients

*Gerald Schwank and Konrad Basler*

Polarity in Stem Cell Division: Asymmetric Stem Cell Division in Tissue Homeostasis

*Yukiko M. Yamashita, Hebao Yuan, Jun Cheng, and Alan J. Hunt*

Gradients in Planarian Regeneration and Homeostasis

*Teresa Adell, Francesc Cebrià, and Emili Saló*

**Molecular Pathology**

Cadherins as Targets for Genetic Diseases

*Aziz El-Amraoui and Christine Petit*

**Cancer Biology**

TP53 Mutations in Human Cancers: Origins, Consequences, and Clinical Use

*Magali Olivier, Monica Hollstein, and Pierre Hainaut*
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| **Erratum**                           |                                                                                  |         |

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