

Special Issue

Advances in Cell Division and Chromosome Segregation Mechanisms

Message from the Guest Editor

Recent advances have uncovered remarkable insights into how diverse organisms organize and regulate division and segregation. In bacteria, studies continue to reveal the dynamic interplay between cytoskeletal elements, DNA organization, and cell envelope remodeling. In mammalian cells, extensive work has defined complex regulatory networks that govern mitosis, chromosome condensation, and checkpoint control. Together, these discoveries highlight both conserved strategies and unique adaptations across life forms. This Special Issue, “Advances in Cell Division and Chromosome Segregation Mechanisms”, aims to showcase progress in this critical area by bringing together original research and reviews. Cutting-edge approaches such as single-molecule imaging, super-resolution microscopy, cryo-electron microscopy, and computational modeling are also featured, providing fresh insights into the organization and regulation of these complex systems. By integrating bacterial and mammalian perspectives, this collection seeks to foster cross-disciplinary exchange, inspire new collaborations, and advance our understanding of how these essential processes shape health and disease.

Guest Editor

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Message from the Editorial Board

A major strength of biological science is the diversity of approaches that biological scientists apply to their research problems. *Biology* reflects this diversity and brings together studies employing the varied experimental and theoretical approaches that are fueling biological discovery. *Biology*, the journal, is a fully peer-reviewed publication with a rapid and economical route to open access publication and is listed on PubMed. All articles are peer-reviewed and the editorial focus is on determining that the work is scientifically sound rather than trying to predict its future impact.

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