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Recent Advances in Mechanisms of Mitotic and Meiotic Chromosome Segregation and Error Correction

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Deadline for manuscript submissions:

closed (31 October 2023)

Message from the Guest Editors

Dear Colleagues,

Chromosome segregation ensures the equal inheritance of genetic material among progeny across generations. Accurate segregation is essential to maintaining genomic integrity and preventing catastrophic outcomes. Over the years, we have broadened our understanding of the myriad pathways that control this central process required to maintain life in perpetuity, but some aspects remain unaddressed.

In this Special Issue, first, we hope to reflect on recent advances in understanding the functional basis for error correction in mitosis. Error correction mechanisms, including those controlling anaphase chromosome movement, have been studied for years, but we especially want to focus on recent studies that revisit models for how chromosomes are segregated accurately to each pole. Second, we would like to cover recent studies on the highly error-prone oocyte chromosome segregation process, including acentrosomal spindle assembly, maternal aging, early embryonic aneuploidy, meiotic checkpoints, and female meiotic drive or biased segregation.

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mdpi.com/si/162423

Special Issue



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Message from the Editorial Board

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