

Special Issue

Complex Chromosomal Rearrangements in Cancers and Congenital Disorders

Message from the Guest Editors

DNA sequencing of cancer tissues and of individuals with congenital disorders has uncovered many patterns of chromosomal alterations that involve multiple rearrangements. Complex chromosomal rearrangements (CCRs) can result from multiple rounds of mutagenesis due to genome instability. For instance, the breakage–fusion–bridge cycles that can lead to gene amplifications. CCRs can also be generated in a single catastrophic event causing massive mutagenesis, such as chromothripsis and chromoanagenesis. Analysis of CCRs in diseases and their mechanisms have led to new research strategies combining experimental cell biology and DNA sequencing. We invite colleagues to contribute original analyses and reviews on the general subject of CCRs. Relevant topics include discoveries and descriptions of CCRs in disease, technology and computational approaches for CCR analysis, and experimental studies of CCR mechanisms and their functional impacts. We hope to generate new insight into the aetiology of CCRs and how they contribute to pathogenesis and drive genome evolution.

Guest Editors

Dr. Cheng-Zhong Zhang

Dana-Farber Cancer Institute, Boston, MA, USA

Dr. Alexander Spektor

Dana-Farber Cancer Institute, Boston, MA, USA

Prof. Cynthia Casson Morton

Department of Pathology, Brigham and Women's Hospital, Boston, MA, USA

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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
biomolecules@mdpi.com

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Editors-in-Chief

Prof. Dr. Peter E. Nielsen

Department of Cellular and Molecular Medicine, Faculty of Health and Medical Sciences, University of Copenhagen, Blegdamsvej 3C, DK-2200 Copenhagen, Denmark

Prof. Dr. Lukasz Kurgan

Department of Computer Science, Virginia Commonwealth University, Richmond, VA 23284, USA

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