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Advances of Optical Genome Mapping in Human Genetics

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Deadline for manuscript
submissions:

20 September 2024

Message from the Guest Editors

Optical genome mapping (OGM) is a relatively young technology for the genome-wide detection and characterization of all types of chromosomal structural variants. It is able to encompass a wide range of variant sizes, with up to 1000× greater resolution compared to karyotyping, which is accomplished by analyzing ultra-long DNA molecules.

The number of users of this promising technique has grown rapidly in recent years and includes members of the fields of constitutional genetics, cancer genomics and basic research. So far, OGM has been successfully introduced in cancer diagnostics. Furthermore, it was shown to be a promising tool in constitutional genetics, mainly for complementing existing analytical workflows, although several stand-alone findings have been reported as well.

This Special Issue intends to compile the insights, results and knowledge of the small but ever-growing community of researchers and clinical laboratories utilizing OGM. This should help to define more clearly the viable applications of OGM and its prospective role in the toolkit of cytogenomics.

In this Special Issue, original research articles, case studies and reviews are welcome.



mdpi.com/si/178200

Special Issue



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Message from the Editor-in-Chief

Genes are central to our understanding of biology, and modern advances such as genomics and genome editing have maintained genetics as a vibrant, diverse and fastmoving field. There is a need for good quality, open access journals in this area, and the *Genes* team aims to provide expert manuscript handling, serious peer review, and rapid publication across the whole discipline of genetics. Starting in 2010, the journal is now well established and recognised.

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