Special Issue

Gene Editing in *Drosophila* to Study Gene Function and Developmental Processes

Message from the Guest Editors

or decades, studies on gene function and developmental processes in *Drosophila* have been dependent on gene mutations, the phenotypic consequences of which have enabled the delineation of respective gene functions and the determination of their impact on developmental processes. Over time, tissue-specific overexpression techniques have been used to study the effects of ectopic gene expression, usually resulting in the opposite phenotype of the mutations. The most recent techniques for genome engineering, including CRISPR/Cas9 applications, now enable gene replacement at the endogenous locus, as well as precise gene editing. These techniques open the avenue to addressing many questions, including the precise structure–function relationships in single proteins or protein complexes, the impact of secondary modifications such as phosphorylation, and gene regulatory networks. In this way, *Drosophila,* as one of the best established model systems, may serve to address processes of medical importance and, eventually, to facilitate the development of new therapies.

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Genes is central to our understanding of biology, and modern advances such as genomics and genome editing have maintained genetics as a vibrant, diverse and fast-moving 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. Why not consider *Genes* for your next genetics paper?

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