Special Issue

Studies on Developmental Genetic Programs of Animal Early Embryogenesis

Message from the Guest Editor

The fertilization of oocyte and sperm, to produce a new organism, is the culmination of numerous intricately regulated cellular processes. After fertilization, gametes develop from a highly differentiated state to a pluripotent state, and then undergo early embryogenesis. During this process, paternal and maternal chromatin structures and genomes undergo dramatic changes, with the latter experiencing genome-wide epigenetic modifications or reprogramming. The transcriptome, proteome, and metabolome of the early embryo also exhibit significant transformations, all of which could regulate the events of embryonic development and even the entire lifespan or offspring. Several important theories and mechanisms concerning the regulation of animal early embryogenesis have been elucidated, triggering the emergence of important technologies such as assisted reproduction, animal breeding, the creation of gene-editing animals, and so on. However, the early embryonic development process is complex, and its mechanisms are not fully understood. This Special Issue will focus on valuable findings associated with the genetic programs of animal early embryogenesis.

Guest Editor

Prof. Dr. Enqi Liu

1. Laboratory Animal Center, Xi'an Jiaotong University, Xi'an, China
2. Translational Medicine Institute, Institute of Cardiovascular Science, Xi'an Jiaotong University, Xi'an, China

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

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Message from the Editor-in-Chief

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?

Editor-in-Chief

Prof. Dr. Selvarangan Ponnazhagan
Department of Pathology, The University of Alabama at Birmingham, 1825 University Blvd, SHEL 814, Birmingham, AL 35294-2182, USA

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