

Special Issue

Advances in Cattle Genetics, Genomics and Breeding: From Molecular Insights to Sustainable Production

Message from the Guest Editor

This Special Issue focuses on recent advances and emerging technologies in genomics and breeding across all bovine species and their crosses. We welcome contributions that explore the fundamental molecular mechanisms underlying economically important traits and applied research demonstrating innovative breeding strategies. Topics of interest include but are not limited to genomic selection methodologies, genome-wide association studies, genome-editing applications, multi-omics approaches (genomics, transcriptomics, proteomics, and metabolomics), reproductive technologies, genetic diversity assessments, adaptation genetics, disease resistance, and epigenetic regulation in cattle. We particularly encourage submissions that address integrating novel technologies with traditional breeding practices, climate resilience and adaptation strategies, and sustainable production systems. This Special Issue aims to provide a comprehensive overview of current future directions in cattle genomics research, serving as a valuable resource for researchers, breeders, and industry stakeholders working to advance bovine genetics and genomics for improved productivity, welfare, and sustainability.

Guest Editor

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Deadline for manuscript submissions

15 December 2025

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Impact Factor 2.8
CiteScore 5.5
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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

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