

Special Issue

Aquaculture Omics: Current Status and Future Perspectives

Message from the Guest Editor

Aquaculture stands as the fastest-growing food production sector, poised to meet escalating global protein demands amid declining wild fisheries. However, challenges like disease outbreaks, environmental stressors, and genetic limitations hinder sustainable intensification. In this context, "omics" technologies—genomics, transcriptomics, proteomics, metabolomics, and epigenomics—have unlocked unprecedented insights into aquatic organism biology, enabling precision breeding, health management, and resilience enhancement. We invite the submission of original research, reviews, and perspectives that explore omics applications across species. Key foci include genomic selection for growth and disease resistance, multi-omics integration for stress response mechanisms, microbiome dynamics in production systems, and epigenetic innovations for environmental adaptation. We will highlight persistent hurdles, such as data standardization and equitable access in developing regions, while envisioning AI-driven omics for climate-resilient aquaculture. By converging global expertise, we will propel omics from bench to scalable practice, fostering a sustainable blue revolution.

Guest Editor

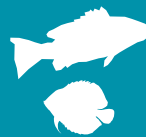
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Deadline for manuscript submissions

15 October 2026



Fishes

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Impact Factor 2.9
CiteScore 4.4



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About the Journal

Message from the Editor-in-Chief

Fishes is a multidisciplinary open access journal focusing on reports of original research and critical reviews and synthesis from the broad area of fishes and aquatic animals. The ultimate objective of *Fishes* is to facilitate the discovery of connections between research areas, advancing science and filling knowledge gaps, and providing solutions for all present and future issues encountered in the sector of fisheries and aquaculture. As Editor-in-Chief, I encourage you to consider *Fishes* for your scientific papers and would be pleased to welcome you as one of our authors.

Editor-in-Chief

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