Special Issue

Biomechanics and Fluid Dynamics in Swimming

Message from the Guest Editor

Swimming biomechanics plays a central role in enhancing athletic performance while also supporting safe and efficient movement across all levels of aquatic participation. This Special Issue invites research that advances our understanding of the mechanical principles governing propulsion, drag reduction, and movement efficiency and how these principles translate into both improved competitive outcomes and foundational aquatic competence.

We particularly welcome studies examining biomechanical determinants of stroke efficiency, technique development in novice and developing swimmers, and mechanisms of injury prevention across aquatic environments. Contributions that leverage emerging technologies—including wearable sensors, high-speed video, computational modeling, and machine learning-based movement analysis—are especially encouraged, as these tools offer new insights into technique optimization and performance enhancement. By integrating perspectives from performance science, pedagogy, and aquatic safety, this Special Issue aims to promote evidence-based approaches that strengthen both elite swimming performance and essential movement literacy in the water.

Guest Editor

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

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