Special Issue

Symmetry and Biomechanics in Sport, Tactical Performance and Physical Expression

Message from the Guest Editors

Asymmetries in physical or performance measures are common across high-demand disciplines such as athletics, tactical professions, performing arts, and strength sports. These asymmetries affect biomechanics, influencing both kinematic (e.g., joint angles, coordination) and kinetic (e.g., ground reaction forces, joint moments) patterns, which can alter mechanical efficiency and impact injury risk or performance outcomes. In some cases, asymmetries may emerge as adaptations to task-specific movement patterns rather than being inherently harmful. This Special Issue invites original research and reviews on the biomechanical implications of symmetry and asymmetry in human movement. We welcome studies that use kinematic and kinetic analyses, assess links to movement quality, injury risk, and performance, and evaluate interventions aimed at optimizing symmetry. Contributions may include methodological advances and interdisciplinary work across lab and field settings related to sport, tactical, and expressive movement.

Guest Editors

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About the Journal

Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

Editor-in-Chief

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