



*symmetry*

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## Human Factors and Cognitive Engineering in Complex Systems

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submissions:

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### Message from the Guest Editors

Asymmetry has been found ubiquitously in nature, economics, or human–machine interactions. Asymmetric features of information are of great importance to study complex human behaviors in complex socioeconomic systems. For example, an imbalance between a sender and a receiver of the information can lead to communication failures in a variety of activities. Symmetry also plays a fundamental role in understanding human–system–environment interactions and applying the human-center design principles to various complex problems. Asymmetry can cause increasing uncertainty when managing human–machine interactions and lead to significant accidents or failures of design in complex systems.

For this Special Issue, we invite authors to submit their research on any aspects of asymmetry (or symmetry) that are critical to the description, modeling, analysis, or investigation of complex systems with a focus on human–machine interactions in the fields of human factors, ergonomics, safety, industrial sociology, applied psychology, cognitive engineering, and industrial engineering and management.



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# Special Issue



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## 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.

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