

Special Issue

Topological Indices and Symmetry in Complex Networks

Message from the Guest Editors

Topological graph indices, also called molecular descriptors, are numerical parameters of a graph which are invariant under graph isomorphisms. Nowadays, there are numerous topological indices (over 3000 topological graph indices are registered in Chemical Data Bases), which can be classified by the structural properties of the graphs used for their calculation. This research area is studied by mathematicians and chemists, and a series of mathematical properties and applications have been intensively studied over the last six decades. Therefore, topological graph indices are researched worldwide. Many topological graph indices are metric indices for networks, which have extensive applications in centrality of networks, randomized algorithm, connectivity and robustness of networks. The aim of this Special Issue is to solicit original research articles focussing on topological graph indices and issues in network optimization. We highly encourage submissions from researchers in the field of graph theory and network optimization. Review articles discussing the state of the art are also welcome.

Guest Editors

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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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