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# Graph Algorithms and Graph Theory II

Guest Editor:

**Dr. Manuel Lafond**
Department of Computer Science, Université de Sherbrooke, Sherbrooke, QC, Canada

Deadline for manuscript submissions:
**closed (31 May 2023)**

## Message from the Guest Editor

Dear Colleagues,

Following the success of the first Special Issue of *Symmetry*, titled Graph Algorithms and Graph Theory, it is my pleasure to be the Guest Editor for a second Special Issue.

Graphs have applications in numerous areas of computer science, including machine learning, computational biology, social network analysis, and many other areas, which all require fast algorithms for various optimization problems. Recent advances in graph theory have shown that most graphs exhibit structural properties or symmetry that can be leveraged for the development of efficient algorithms. To cite a few examples, minor theory has paved the way for countless results in parameterized complexity, and several regularity lemmata have spurred several new ideas in approximation algorithms. Moreover, these results represent only a fraction of the algorithmic applications of structural graph theory that have emerged over the last few decades. This demonstrates that expanding our fundamental knowledge of graphs, whether it be graphs in general or specific classes, is necessary in order to improve the state-of-the-art in algorithms and complexity.

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## Editor-in-Chief

**Prof. Dr. Sergei D. Odintsov**
ICREA, P. Lluis Companyas 23, 08010 Barcelona and Institute of Space Sciences (IEEC-CSIC), C. Can Magrans s/n, 08193 Barcelona, Spain

## 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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*Symmetry*
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/symmetry
symmetry@mdpi.com
@Symmetry_MDPI