

Editorial

Editorial: Special Issue on Graph Algorithms

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Abstract: This special issue of *Algorithms* is devoted to the design and analysis of algorithms for solving combinatorial problems of a theoretical or practical nature involving graphs, with a focus on computational complexity.

Keywords: graph algorithms; computational complexity; fixed-parameter tractability; exact algorithms; approximation algorithms; heuristics; computational studies

1. Introduction

Because of their simplicity and generality, graphs have been used for a long time in many different areas of science and engineering, *e.g.*, to describe how objects such as the atoms of a molecule are connected, or to express various types of constraints such as precedence constraints in a complex manufacturing process. More recently, graphs have found new applications in emerging research fields like social network analysis, the design of robust computer network topologies, frequency allocation in wireless networks, and bioinformatics (*i.e.*, to represent metabolic pathways, protein–protein interactions, evolutionary relationships, or other kinds of structured biological information). The amount of data in such applications can be enormous, and therefore, the resulting graphs may be huge, which motivates further development of fast and space-efficient algorithms in the near future for solving various (old and new) graph problems exactly or approximately.

2. Special Issue

A special issue of *Algorithms* was proposed in order to stimulate new and original research on graph algorithms. In response to the call for papers, researchers from all over the world submitted a total of fifteen articles, covering a wide range of related topics. All submissions were evaluated by experts;

based on their anonymous reviews, nine of the articles were then selected for inclusion in the special issue. After several rounds of revision, the final versions were published in [1–9].

Acknowledgments

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