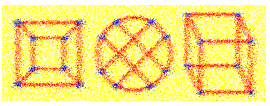
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Special Issue on Selected Papers from the Ninth International Workshop on Algorithms and Computation (WALCOM 2015) Guest Editors' Foreword

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This special issue of Journal of Graph Algorithms and Applications (JGAA) contains the full journal versions of a few papers carefully selected from the research works presented at the Ninth International Workshop on Algorithms and Computation (WALCOM 2015). The proceedings of WALCOM 2015 appeared at Volume 8973 of Lecture Notes in Computer Science published by Springer in 2015. WALCOM 2015 was held during February 26-28, 2015, at Dhaka, Bangladesh. In WALCOM 2015, we received and rigorously reviewed a total of 85 papers with authors from 25 countries. Finally, the programme committee accepted 26 full papers and 3 short papers among these submissions. Subsequently, following the tradition of the previous events of WALCOM, we invited seven top quality papers of WALCOM 2015 to this special issue based on their merits and relevance to JGAA. The invited papers have been reviewed following the standard refereeing process of JGAA. As a result, this special issue is an accumulation of up-to-date papers of very high quality in Graph Algorithms and Applications.

The first paper in this special issue is titled *Dichotomy Theorems for Homomorphism Polynomials of Graph Classes* and is authored by Christian Engels. The paper addresses graph homomorphisms in a specific setting. He shows dichotomies for the classes of cycles, cliques, trees and more.

The second paper entitled *An Improved Algorithm for Parameterized Edge Dominating Set Problem* authored by Ken Iwaide and Hiroshi Nagamochi studies the parameterized edge dominating set problem that asks us to test whether a given graph has an edge dominating set of size at most k or not. The authors present an $O^*(2.2351^k)$-time and polynomial-space branching algorithm to the problem. This is an improvement over the previous best time bound of $O^*(2.3147^k)$.

The third paper *An Efficient Silent Self-Stabilizing 1-Maximal Matching Algorithm in Anonymous Networks* by yuma Asada, Fukuhito Ooshita and Michiko Inoue proposes a new self-stabilizing 1-maximal matching algorithm which is silent and works for any anonymous networks without a cycle of length of a multiple of 3 under a central unfair daemon. The time complexity of the proposed algorithm is $O(e)$ moves, which is $O(n)$ moves if we restrict the topology to trees or rings, where n and e are the numbers of nodes and edges, respectively. This is a significant improvement from the best existing algorithm, which requires $O(n^4)$ moves for anonymous trees or rings.

In the fourth paper *The Impact of Communication Patterns on Distributed Self-Adjusting Binary Search Trees* by Thim Strothmann, the author studies how good an overlay network that resembles a binary search tree can adapt to communication patterns. He proposes a simple algorithm, closely related to the well-known concept of splay trees, and models the self-adjustment process of the network as a game between the nodes. He shows that in general the process does not converge and that results can be ineffective. However in specific communication scenarios the outcome is shown to be optimal.

In the fifth paper *Common Unfolding of Regular Tetrahedron and Johnson-Zalgaller Solid* by Yoshiaki Araki, Takashi Horiyama and Ryuhei Uehara, the authors investigate the common unfolding between regular tetrahedra and Johnson-Zalgaller solids. More precisely, they investigate the sets of all edge developments of Johnson-Zalgaller solids that fold into regular tetrahedra.

The sixth paper *Threshold Circuits Detecting Global Patterns in 2-Dimensional Maps* by Kei Uchizawa, Daiki Yashima and Xiao Zhou considers a biologically-inspired Boolean function P_D^n that models a simple task of detecting global spatial patterns on a two-dimensional map. The authors prove that P_D^n is computable by a threshold circuit of size (i.e., number of gates) $O(\sqrt{n}\log n)$, which is an improvement on the previous upper bound of $O(n)$. Moreover, they demonstrate that the size of their circuit is nearly optimal up to a logarithmic factor.

The seventh and the last paper in this special issue is titled *Simultaneous Drawing of Planar Graphs with Right-Angle Crossings and Few Bends* and is authored by Michael A. Bekos, Thomas C. van Dijk, Philipp Kindermann and Alexander Wolff. In this paper the authors study the so-called *RAC simultaneous drawing*. To enlarge the class of graphs that admit RAC simultaneous drawings, the authors allow edges to have bends. They prove that any pair of planar graphs admits a RAC simultaneous drawing with at most six bends per edge. For more restricted classes of planar graphs, they reduce the required number of bends per edge.

In conclusion, we express our sincere gratitude to the authors for contributing their high-quality papers, to the reviewers for their excellent work that led to further improvements, and to the Editors of the Journal of Graph Algorithms and Applications for making this special issue possible. We hope that the readers will find the papers in this special issue worth-reading.