

19th International Workshop on Algorithms in Bioinformatics

WABI 2019, September 8–10, 2019, Niagara Falls, NY, USA

Edited by

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■ Preface

This proceedings volume contains papers presented at the 19th Workshop on Algorithms in Bioinformatics (WABI 2019), which was held in Niagara Falls, New York, USA, September 8–10, 2019. WABI 2019 was held together with the 10th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics (ACM BCB).

The Workshop on Algorithms in Bioinformatics is an annual conference established in 2001 to cover all aspects of algorithmic work in bioinformatics, computational biology, and systems biology. The workshop is intended as a forum for discrete algorithms and machine-learning methods that address important problems in biology (particularly problems based on molecular data and phenomena); that are founded on sound models; that are computationally efficient; and that have been implemented and tested in simulations and on real data-sets. The meeting's focus is on recent research results, including significant work-in-progress, as well as identifying and exploring directions of future research.

In 2019, a total of 47 manuscripts were submitted to WABI from which 24 were selected for presentation at the conference and are included in this proceedings volume as full papers. Extended versions of selected papers have been invited for publication in a thematic series in the journal *Algorithms for Molecular Biology (AMB)*, published by BioMed Central. The 24 papers selected for the conference underwent a thorough peer review, involving at least three (and often four or five) independent reviewers per submitted paper, followed by discussions among the WABI Program Committee members. The selected papers cover a wide range of topics including phylogenetic trees and networks, biological network analysis, sequence alignment and assembly, genomic-level evolution, sequence and genome analysis, RNA and protein structure, topological data analysis, and more.

We thank all the authors of submitted papers and the members of the WABI Program Committee and their reviewers for their efforts that made this conference possible. We are also grateful to the WABI Steering Committee for their help and advice. We thank all the conference participants and speakers who contributed to a great scientific program. In particular, we are indebted to the keynote speaker of the conference, Nadia El-Mabrouk, for her presentation. WABI 2019 is grateful for the support of the sponsors of ACM BCB 2019, The ACM, and SIGBio. We thank Letu Qingge for setting up the WABI webpage, Michael Wagner for his assistance with putting together the WABI conference proceedings, and the ACM BCB Organizing Committee, especially Xinghua (Mindy) Shi for her efforts to coordinate WABI and ACM-BCB 2019. Finally, we also thank Dong Si, Michael Buck and Pierangelo Veltri for their hard work in making all the local arrangements to ensure an exciting and successful WABI and ACM BCB.



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