Approximation, Randomization, and Combinatorial Optimization. Algorithms and Techniques

20th International Workshop, APPROX 2017, and
21st International Workshop, RANDOM 2017
August 16–18, 2017, Berkeley, CA, USA

Edited by

Klaus Jansen
José D. P. Rolim
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Contributed Talks of RANDOM

Preface

This volume contains the papers presented at the 20th International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX 2017) and the 21st International Workshop on Randomization and Computation (RANDOM 2017), which took place concurrently at the at University of California in Berkeley, USA during August 16–18, 2017.

APPROX focuses on algorithmic and complexity issues surrounding the development of efficient approximate solutions to computationally difficult problems, and was the 20th in the series after Aalborg (1998), Berkeley (1999), Saarbrücken (2000), Berkeley (2001), Rome (2002), Princeton (2003), Cambridge (2004), Berkeley (2005), Barcelona (2006), Princeton (2007), Boston (2008), Berkeley (2009), Barcelona (2010), Princeton (2011), Boston (2012), Berkeley (2013), Barcelona (2014), Princeton (2015), and Paris (2016). RANDOM is concerned with applications of randomness to computational and combinatorial problems, and was the 21st workshop in the series following Bologna (1997), Barcelona (1998), Berkeley (1999), Geneva (2000), Berkeley (2001), Harvard (2002), Princeton (2003), Cambridge (2004), Berkeley (2005), Barcelona (2006), Princeton (2007), Boston (2008), Berkeley (2009), Barcelona (2010), Princeton (2011), Boston (2012), Berkeley (2013), Barcelona (2014), Princeton (2015), and Paris (2016).

Topics of interest for APPROX and RANDOM are: design and analysis of approximation algorithms, hardness of approximation, small space algorithms, sub-linear time algorithms, streaming algorithms, embeddings and metric space methods, spectral methods, mathematical programming methods, combinatorial optimization in graphs and networks, algorithmic game theory, mechanism design and economics, computational geometric problems, distributed and parallel approximation, approximate learning, online algorithms, approaches that go beyond worst case analysis, design and analysis of randomized algorithms, randomized complexity theory, pseudorandomness and derandomization, random combinatorial structures, random walks/Markov chains, expander graphs and randomness extractors, probabilistic proof systems, random projections and embeddings, error-correcting codes, average-case analysis, property testing, computational learning theory, and other applications of approximation and randomness.

The volume contains 22 contributed papers, selected by the APPROX Program Committee out of 60 submissions, and 27 contributed papers, selected by the RANDOM Program Committee out of 72 submissions.

We would like to thank all the authors who submitted papers, the invited speakers, Uriel Feige and Moses Charikar, the members of the Program Committees, and the external reviewers. We gratefully acknowledge the Department of Computer Science of the Christian-Albrechts-Universität zu Kiel, the Department of Computer Science of the University of Geneva, the College of Computing of the Georgia Institute of Technology, and the School of Operations Research and Information Engineering of the Cornell University.

August 2017

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