Approximation, Randomization, and Combinatorial Optimization. Algorithms and Techniques

17th International Workshop, APPROX 2014, and
18th International Workshop, RANDOM 2014
September 4–6, 2014, Barcelona, Spain

Edited by

Klaus Jansen
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Contents

17th Int'l Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX'14) / 18th Int'l Workshop on Randomization and Computation (RANDOM'14).
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Contributed Talks of RANDOM

Preface

This volume contains the papers presented at the 17th International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX 2014) and the 18th International Workshop on Randomization and Computation (RANDOM 2014), which took place concurrently in Universitat Politècnica de Catalunya Barcelona, Spain, during September 4–6, 2014.

APPROX focuses on algorithmic and complexity issues surrounding the development of efficient approximate solutions to computationally difficult problems, and was the 17th 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), and Princeton (2011), Berkeley (2013). RANDOM is concerned with applications of randomness to computational and combinatorial problems, and was the 18th 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).

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 geometry, mathematical programming methods, combinatorial problems in graphs and networks, game theory, markets and economic applications, geometric problems, packing, covering, scheduling, approximate learning, design and analysis of online algorithms, 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, phase transitions, computational learning theory, and other applications of approximation and randomness.

The volume contains 31 contributed papers, selected by the APPROX Program Committee out of 64 submissions, and 30 contributed papers, selected by the RANDOM Program Committee out of 62 submissions.

We would like to thank all of the authors who submitted papers, the invited speakers, the members of the Program Committees, and the external reviewers. We gratefully acknowledge the support from the Microsoft Research, USA, the Institute of Computer Science of the Christian-Albrechts-Universität zu Kiel, the Santa Fe Institute, USA, and the Department of Computer Science of the University of Geneva.

September 2014

Nikhil R. Devanur
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