

# Approximation, Randomization, and Combinatorial Optimization. Algorithms and Techniques

APPROX/RANDOM 2022, September 19–21, 2022,  
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Edited by

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## ■ Preface

This volume contains the papers presented at the 25th International Conference on Approximation Algorithms for Combinatorial Optimization Problems (APPROX 2021) and the 26th International Conference on Randomization and Computation (RANDOM 2021), which due to COVID-19 were organized as parallel virtual conferences from September 19–21, 2022. APPROX focuses on algorithmic and complexity issues surrounding the development of efficient approximate solutions to computationally-difficult problems, and the 2022 edition was the 25th in the series. RANDOM is concerned with applications of randomness to computational and combinatorial problems, and the 2022 edition was the 26th in the series. Prior to 2003, APPROX took place in Aalborg (1998), Berkeley (1999), Saarbrücken (2000), Berkeley (2001), and Rome (2002), while RANDOM took place in Bologna (1997), Barcelona (1998), Berkeley (1999), Geneva (2000), Berkeley (2001), and Harvard (2002). Since 2003, APPROX and RANDOM have been co-located, taking place in 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), Paris (2016), Berkeley (2017), Princeton (2018), Boston (2019), and online (2020, 2021).

Topics of interest for APPROX and RANDOM are: approximation algorithms, hardness of approximation, small space, sub-linear time and streaming algorithms, online algorithms, approaches that go beyond worst case analysis, distributed and parallel approximation, embeddings and metric-space methods, mathematical-programming methods, spectral methods, combinatorial optimization, algorithmic game theory, mechanism design and economics, computational-geometry problems, approximate learning, 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, smoothed analysis, property testing, and computational learning theory.

The volume contains 24 contributed papers, selected by the APPROX Program Committee out of 46 submissions, and 31 contributed papers, selected by the RANDOM Program Committee out of 60 submissions. We would like to thank all the authors who submitted papers, the members of the program committees, and the external reviewers. We are grateful for the guidance of the steering committees: Jarosław Byrka, Samir Khuller, Monaldo Mastrolili, Laura Sanità, László Végh, Virginia Vassilevska Williams, and David P. Williamson for APPROX, and Oded Goldreich, Raghu Meka, Cris Moore, Anup Rao, Omer Reingold, Dana Ron, Ronitt Rubinfeld, Amit Sahai, Ronen Shaltiel, Alistair Sinclair, and Paul Spirakis for RANDOM.





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