

Preface

This volume contains the papers presented at the 8th International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX 2005) and the 9th International Workshop on Randomization and Computation (RANDOM 2005), which took place concurrently at the University of California in Berkeley, on August 22–24, 2005. APPROX focuses on algorithmic and complexity issues surrounding the development of efficient approximate solutions to computationally hard problems, and APPROX 2005 was the eighth in the series after Aalborg (1998), Berkeley (1999), Saarbrücken (2000), Berkeley (2001), Rome (2002), Princeton (2003), and Cambridge (2004). RANDOM is concerned with applications of randomness to computational and combinatorial problems, and RANDOM 2005 was the ninth workshop in the series following Bologna (1997), Barcelona (1998), Berkeley (1999), Geneva (2000), Berkeley (2001), Harvard (2002), Princeton (2003), and Cambridge (2004).

Topics of interest for APPROX and RANDOM are: design and analysis of approximation algorithms, hardness of approximation, small space and data streaming algorithms, sub-linear time algorithms, embeddings and metric space methods, mathematical programming methods, coloring and partitioning, cuts and connectivity, geometric problems, game theory and applications, network design and routing, packing and covering, scheduling, 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 20 contributed papers selected by the APPROX Program Committee out of 50 submissions, and 21 contributed papers selected by the RANDOM Program Committee out of 51 submissions.

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APPROX 2005

Matthew Andrews, Lucent Bell Labs
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 Moses Charikar, Princeton University
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 Howard Karloff, AT&T Labs – Research
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RANDOM 2005

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 Funda Ergun, Simon Fraser University
 Johan Håstad, KTH Stockholm
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 Angelika Steger, ETH Zurich
 Luca Trevisan, UC Berkeley (Chair)

and the external subreferees Scott Aaronson, Dimitris Achlioptas, Mansoor Alicherry, Andris Ambainis, Aaron Archer, Nikhil Bansal, Tugkan Batu, Gerard Ben Arous, Michael Ben-Or, Eli Ben-Sasson, Petra Berenbrink, Randeep Bhatia, Nayantara Bhatnagar, Niv Buchbinder, Shuchi Chawla, Joseph Cheriyan, Roe Engelberg, Lance Fortnow, Tom Friedetzky, Mikael Goldmann, Daniel Gottesman, Sam Greenberg, Anupam Gupta, Venkat Guruswami, Tom Hayes, Monika Henzinger, Danny Hermelin, Nicole Immorlica, Piotr Indyk, Adam Kalai, Julia Kempe, Claire Kenyon, Jordan Kerenidis, Sanjeev Khanna, Amit Kumar, Ravi Kumar, Nissan Lev-Tov, Liane Lewin, Laszlo Lovasz, Elitza Maneva, Michael Mitzenmacher, Cris Moore, Michele Mosca, Kamesh Munagala, Noam Nisan, Ryan O'Donnell, Martin Pal, Vinayaka Pandit, David Peleg, Yuval Rabani, Dror Rawitz, Danny Raz, Adi Rosen, Ronitt Rubinfeld, Cenk Sahinalp, Alex Samorodnitsky, Gabi Scalosub, Leonard Schulman, Roy Schwartz, Pranab Sen, Mehrdad Shahshahani, Amir Shpilka, Anastasios Sidiropoulos, Greg Sorkin, Adam Smith, Ronen Shaltiel, Maxim Sviridenko, Amnon-Ta-Shma, Emre Telatar, Alex Vardy, Eric Vigoda, Da-Wei Wang, Ronald de Wolf, David Woodruff, Hsin-Lung Wu, and Lisa Zhang.

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