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Approximation, Randomization, and Combinatorial Optimization

Algorithms and Techniques

7th International Workshop on Approximation Algorithms for Combinatorial Optimization Problems, APPROX 2004 and 8th International Workshop on Randomization and Computation, RANDOM 2004
Cambridge, MA, USA, August 22-24, 2004
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Foreword

This volume contains the papers presented at the *7th International Workshop on Approximation Algorithms for Combinatorial Optimization Problems* (APPROX 2004) and the *8th International Workshop on Randomization and Computation* (RANDOM 2004), which took place concurrently at Harvard University, Cambridge, on August 22–24, 2004. APPROX focuses on algorithmic and complexity issues surrounding the development of efficient approximate solutions to computationally hard problems, and this year's workshop was the seventh in the series after Aalborg (1998), Berkeley (1999), Saarbrücken (2000), Berkeley (2001), Rome (2002), and Princeton (2003). RANDOM is concerned with applications of randomness to computational and combinatorial problems, and this year's workshop was the eighth in the series following Bologna (1997), Barcelona (1998), Berkeley (1999), Geneva (2000), Berkeley (2001), Harvard (2002), and Princeton (2003).

Topics of interest for APPROX and RANDOM are: design and analysis of approximation algorithms, inapproximability results, approximation classes, online problems, small space and data streaming algorithms, sub-linear time algorithms, embeddings and metric space methods in approximation, math progamming in approximation algorithms, coloring and partitioning, cuts and connectivity, geometric problems, network design and routing, packing and covering, scheduling, game theory, 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 19+18 contributed papers, selected by the two program committees from 54+33 submissions received in response to the call for papers.

We would like to thank all of the authors who submitted papers, the members of the program committees

APPROX 2004

Chandra Chekuri, Bell Laboratories
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RANDOM 2004

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and the external subreferees Udo Adamy, Dorit Aharonov, Ernst Althaus, Javed Aslam, Nikhil Bansal, Therese Beidl, Petra Berenbrink, Joan Boyar, Gruia Calinescu, Kamalika Chaudhuri, Bernard Chazelle, Jiangzhuo Chen, Marek Chrobak, Colin Cooper, Erik Demaine, Nikhil Devanur, Thomas Erlebach, Martin Farach-Colton, Sándor Fekete, Tom Friedetzky, Rajiv Gandhi, Mordecai Golin, Oded Goldreich, Alex Hall, Refael Hassin, Stefan Hougardy, Piotr Indyk, Wojtek Jawor, Mark Jerrum, Lujun Jia, Valentine Kabanets, Marek Karpinski, Tali Kaufman, Julia Kempe, Claire Kenyon, Tracy Kimbrel, Robert Kleinberg, Adam Klivans, Jochen Könemann, Stavros Kolliopoulos, Madhular Korupolu, Robert Krauthgamer, Kofi Laing, Matt Levine, Moshe Lewenstein, Guolong Lin, Yi-Kai Liu, Stefano Lonardi, Marco Lübbecke, Mohammad Mahdian, Russ Martin, Daniele Micciancio, Mike Molloy, Cris Moore, Elchanan Mossel, Ian Munro, Assaf Naor, Moni Naor, Kirk Pruhs, Harald Räcke, Balaji Raghavachari, Vijaya Ramachandran, Dana Randall, April Rasala, Mauricio Resende, Gaby Scalosub, Guido Schäfer, Amir Shpilka, Dana Shapira, Riccardo Silvestri, Dan Spielman, Nicolas Stier, Leen Stougie, Martin Strauss, Maxim Sviridenko, Hisao Tamaki, Prasad Tetali, Santosh Vempala, Eric Vigoda, Anil Vullikanti, Dan Wang, Enav Weinreb, Gerhard Woeginger, Nick Wormald, Alex Zelikovsky and Yan Zhang.

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August 2004

Sanjeev Khanna and Dana Ron, Program Chairs
Klaus Jansen and José D.P. Rolim, Workshop Chairs

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