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Algorithms and Techniques

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and 13th International Workshop, RANDOM 2009
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Proceedings

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Preface

This volume contains the papers presented at the 12th International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX 2009) and the 13th International Workshop on Randomization and Computation (RANDOM 2009), which took place concurrently at the HP Auditorium in UC Berkeley, USA, during August 21–23, 2009. APPROX focuses on algorithmic and complexity issues surrounding the development of efficient approximate solutions to computationally difficult problems, and was the 12th in the series after Aalborg (1998), Berkeley (1999), Saarbrücken (2000), Berkeley (2001), Rome (2002), Princeton (2003), Cambridge (2004), Berkeley (2005), Barcelona (2006), Princeton (2007), and Boston (2008). RANDOM is concerned with applications of randomness to computational and combinatorial problems, and was the 13th 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), and Boston (2008).

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, 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, randomized complexity theory, pseudorandomness and derandomization, random combinatorial structures, random walks/Markov chains, expander graphs and randomness extractors, probabilistic proof systems, error-correcting codes, average-case analysis, property testing, computational learning theory, and other applications of approximation and randomness.

The volume contains 25 contributed papers, selected by the APPROX Program Committee out of 56 submissions, and 28 contributed papers, selected by the RANDOM Program Committee out of 57 submissions.

We would like to thank all of the authors who submitted papers and the members of the Program Committees:

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The invited talk this year was dedicated to the memory of Rajeev Motwani from Stanford University who died in tragic circumstances on June 5, 2009. Throughout his career Rajeev made fundamental contributions to many areas of computer science including foundations, search and retrieval, databases, privacy, robotics, and more. Some of the most striking contributions were algorithmic in nature, in many branches of the field. The talk was given by Prabhakar Raghavan who is the head of Yahoo! Research and was a close friend and collaborator of Rajeev.

Finally, many thanks to Parvaneh Karimi-Massouleh for editing the proceedings.

August 2009

Irit Dinur
Klaus Jansen
Joseph (Seffi) Naor
José D.P. Rolim

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