

Gerth Stølting Brodal
Stefano Leonardi (Eds.)

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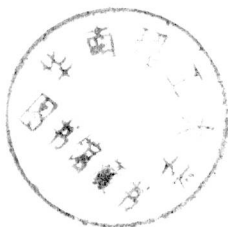


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Preface

This volume contains the 75 contributed papers and the abstracts of the three invited lectures presented at the 13th Annual European Symposium on Algorithms (ESA 2005), held in Palma de Mallorca, Spain, October 3–6, 2005. The three distinguished invited speakers were Giuseppe F. Italiano, Cristopher Moore and Joseph (Seffi) Naor.

Since 2002, ESA has consisted of two tracks, with separate program committees, which dealt respectively with

- the design and mathematical analysis of algorithms (the “Design and Analysis” track);
- real-world applications, engineering and experimental analysis of algorithms (the “Engineering and Applications” track).

Previous ESAs in the current two track format were held in Rome, Italy (2002); Budapest, Hungary (2003); and Bergen, Norway (2004). The proceedings of these symposia were published as Springer’s LNCS volumes 2461, 2832, and 3221 respectively.

Papers were solicited in all areas of algorithmic research, including but not limited to algorithmic aspects of networks, approximation and on-line algorithms, computational biology, computational geometry, computational finance and algorithmic game theory, data structures, database and information retrieval, external memory algorithms, graph algorithms, graph drawing, machine learning, mobile computing, pattern matching and data compression, quantum computing, and randomized algorithms. The algorithms could be sequential, distributed, or parallel. Submissions were especially encouraged in the area of mathematical programming and operations research, including combinatorial optimization, integer programming, polyhedral combinatorics, and semidefinite programming.

Each extended abstract was submitted to one of the two tracks. The extended abstracts were read by at least three referees each, and evaluated on their quality, originality, and relevance to the symposium. The program committee of the Design and Analysis track met at the “Universitat Politècnica de Catalunya” on June 4–5, 2005. The Engineering and Applications track held an electronic program committee meeting. The Design and Analysis track selected 55 out of 185 submissions. The Engineering and Applications track selected 20 out of 59 submissions.

The program committees of the two tracks consisted of:

Design and Analysis track

Dimitris Achlioptas	Microsoft Research
Michael Bender	Stony Brook
Alberto Caprara	Bologna
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Andrew Goldberg	Microsoft Research
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ESA 2005 was held along with the fifth Workshop on Algorithms in Bioinformatics (WABI 2005), the third workshop on Algorithmic Methods and Models for Optimization of RailwayS (ATMOS 2005), and the third Workshop on Approximation and Online Algorithms (WAOA 2005) in the context of the combined conference ALGO 2005. The conference started right after the Solar Eclipse of October 3rd, 2005. The organizing committee of ALGO 2005 consisted of:

Carme Alvarez
Josep Lluís Ferrer (Co-chair)
Llorenç Huguet
Magdalena Payeras

Jordi Petit
Maria Serna (Co-chair)
Oriol Serra
Dimitrios M. Thilikos

all from the Universitat Politècnica de Catalunya, Barcelona.

ESA 2005 was sponsored by EATCS (the European Association for Theoretical Computer Science), the Universitat Politècnica de Catalunya, the Universitat de les Illes Balears, and the Ministerio de Educación y Ciencia. The EATCS sponsorship included an award of EUR 500 for the author of the best student paper at ESA 2005. The winner of this prize was Piotr Sankowski for his paper *Shortest Paths in Matrix Multiplication Time*. The best student paper was jointly awarded by both Track A and Track B program committees.

Gerth Stølting Brodal and Stefano Leonardi would like to thank Guido Schäfer for his assistance in handling the submitted papers and these proceedings.

We hope that this volume offers the reader a selection of the best current research on algorithms.

July 2005

Gerth Stølting Brodal and Stefano Leonardi

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