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# Graph-Theoretic Concepts in Computer Science

38th International Workshop, WG 2012  
Jerusalem, Israel, June 26-28, 2012  
Revised Selected Papers



Springer

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# Preface

The 38th International Workshop on Graph-Theoretic Concepts in Computer Science (WG 2012) took place in Ramat-Rachel on the outskirts of Jerusalem, Israel, during June 26–28, 2012. There were 74 participants coming from five continents, 14 different countries mostly from Europe.

The workshop continues a tradition of 37 previous WG workshops. Since 1975, WG has taken place 21 times in Germany, four times in The Netherlands, twice in Austria, France and the Czech Republic, and once in Greece, Italy, Norway, Slovakia, Switzerland, and the UK. This year, WG 2012 took place in Israel for the first time. The workshop aims to unite theory and practice by demonstrating how graph theoretic concepts can be applied to various areas in computer science, and by extracting new graph theoretic problems from applications. The goal is to present new and recent research results as well as to identify and explore directions of future research.

WG 2012 received 78 submissions, three of which were withdrawn for various reasons before finalizing the review process. Each submission was carefully reviewed by at least three members of the Program Committee. The Committee accepted 29 papers to be presented at the workshop. Unfortunately, there were several high-quality papers that had to be rejected for lack of time slots. The workshop program was enriched by three interesting invited talks by outstanding researchers: Dieter Rautenbach (Ulm, Germany), David Peleg (Rehovot, Israel), and Amitava Bhattacharya (Mumbai, India). The talk by Amitava Bhattacharya was dedicated to the memory of Uri N. Peled and was sponsored by the Caesarea Rothschild Institute at the University of Haifa.

Greetings were given by Daniel Hershkowitz, Minister of Science of the State of Israel, and a mathematician himself who has published many papers in linear algebra, matrix theory, and their relationship with combinatorics and graph theory.

In order to encourage more young scientists taking part in the workshop, for the first time in the tradition of WG, there was a Student Poster Session, where six posters were presented. The criterion for presentation of a poster was that it must be based on a research paper accepted to a refereed computer science or mathematics conference during the past year. We found the experience to be very positive and it met our expectations. The Best Student Paper Award was given to Marek Cygan, Marcin Pilipczuk, and Michał Pilipczuk for the paper “On Group Feedback Vertex Set Parameterized by the Size of the Cutset.” The scientific program of the workshop was complemented by two sightseeing tours. One tour was to the Old City of Jerusalem, revealing the history of Jerusalem related to the places visited. This guided walking tour from Jaffa Gate to the Western Wall included a visit to the Church of the Holy Sepulchre, the Jewish Quarter, and a walk through the Western Wall Tunnels. For those not too tired,

the tour ended with a Sound and Light Spectacular Show at the Tower of David at night. At the conclusion of the scientific program, a second (optional) tour taking participants overnight to the Dead Sea, including swimming (well, to be more accurate floating there), visiting the Botanical Gardens at Kibbutz Ein Gedi, exploring Massada, and hiking to the waterfalls and streams of Nahal David. We succeeded to exhaust everyone!

We would like to thank all who contributed to the success of WG 2012: the authors who submitted very high quality papers, the speakers, the Program Committee members for their devotion, and the referees. Special thanks to the Local Organizing Committee: first of all Danielle Friedlander, who worked tirelessly during the months of preparation and the final execution of the wonderful arrangements and coordination, and second to Hananel Hazan, who was our ever present technology assistant and guy Friday. Without their work, WG 2012 could not have been such a success. Our tour guides in Jerusalem were Donna Goldberg and Daniel Barkai. Donna (who happens to have a masters degree in computer science) continued with us to the Dead Sea, Massada, and Nachal David where she pushed us to our limits. Thanks also to Ruth Touito and Elad Cohen for their assistance.

Special thanks for the sponsoring organizations: University of Haifa, the Caesarea Rothschild Institute for Interdisciplinary Applications of Computer Science, I-Core – Israeli Center of Excellence in Algorithms, and Springer.

August 2012

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