Preface

This volume contains the papers presented at the Fifth Israeli Symposium on the Theory of Computing and Systems (ISTCS'97), held in Bar Ilan University Ramat Gan, Israel, on June 17-19, 1997.

ISTCS is quite broad in scope. It is intended to encourage interaction among researchers active in the theoretical aspects of diverse fields such as: algorithms and data structures, coding theory, complexity theory, computability and automata, computational biology, computational geometry, computer communication, computer vision, cryptography and data security, databases, data compression, distributed and parallel computing, foundations of compiler technology, information retrieval, logics of programs, machine learning, natural language processing, program verification, robotics, semantics of programming languages, VLSI layout and design. Of special interest are novel techniques that build on the strengths of one discipline for the benefit of others.

The Symposium is part of the new Israeli Federated Computing Conference (IFCC). The IFCC includes also the Eighth Israeli Conference on Computer-Based Systems and Software Engineering (CBSE) held in Herzlia, Israel on June 18-19, 1997, and the Fifth Bar-Ilan Symposium on the Foundations of Artificial Intelligence (BISFAI) held in Bar Ilan University Ramat Gan, Israel on June 16-18, 1997.

Thirty-one papers were submitted in response to the Call for Papers, and twenty of them were selected for presentation. The selection was based on originality, quality and relevance to the field. The program committee was pleased with the overall quality of the accepted papers and, furthermore, felt that many of the papers not accepted were of fine quality. The papers included in this proceedings are preliminary reports on ongoing research and it is expected that most of these papers will appear in a more complete and polished form in scientific journals. We wish to thank all who submitted papers for consideration.

The program of ISTCS'97 includes also seven invited talks, by Noga Alon (Tel-Aviv University), Yossi Azar (Tel-Aviv University), Michael Kearns (AT&T Labs), Yuval Rabani (Technion), Prabhakar Raghavan (IBM Almaden Research Center), Ran Raz (Weizmann Institute), and Andrew Yao (Princeton University). We are grateful for their contribution.

The Program Committee consisted of:

Yonatan Aumann (Bar-Ilan University), Amotz Bar-Noy (Tel-Aviv University), Michael Ben-Or (Hebrew University), Avrim Blum (Carnegie Mellon University), Allan Borodin (University of Toronto), Andrei Broder (Digital Equipment Corporation), Jehoshua Bruck (Caltech), Eliezer Dekel (IBM Haifa Research Lab.), Shlomi Dolev (Ben-Gurion University), Dan Halperin (Tel-Aviv University), David Harel (Weizmann Institute), Guiseppe F. Italiano (University ca'Foscari of Venice), Zvi Kedem (New York University), Daphne Koller (Stanford University), Gadi M. Landau (Haifa University and Polytechnic University), Yishay Mansour (co-chair) (Tel-Aviv University), Shlomo Moran (Haifa University), Rafael Ostrovsky (Bellcore), Ronitt Rubinfeld (Cornell University), Baruch Schieber (co-chair) (IBM T.J. Watson Research Center), Moshe Y. Vardi (Rice University).

We are grateful to the program committee for their role in shaping the program of the Symposium, as well as the many colleagues who helped in the evaluation of the submitted papers.

The symposium is sponsored by Bar-Ilan University, Hebrew University, Technion, Tel Aviv University and Weizmann Institute, and co-sponsored by Algorithmic Research. IBM Israel. Intel Israel. Motorola Israel. News DataCom and 3COM Israel. The support of our sponsors is greatfully acknowledged. We would also like to thank IBM T.J. Watson Research Center and Tel Aviv University for all their logistic help.

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