

# Preface

This Springer Proceedings in Mathematics and Statistics (PROMS) volume is based on a fully refereed selection of full papers submitted after the end of the very successful Applications of Computer Algebra (ACA) conference that took place on July 20–23, 2015 in Kalamata, Greece. This ACA meeting continued a long tradition (the first one started in 1995 and it has continued in yearly based series) and was organized as a series of Special Sessions. There were 16 Special Sessions plus a Poster Session organized at ACA 2015. The ACA Working Group is responsible for approving the Special Sessions via proposals submitted from potential organizers. These 16 sessions covered a wide range of topics within the conference scope: (a) Computer algebra in quantum computing and quantum information theory (b) Human–Computer Algebra Interaction (c) Computer Algebra in Education (d) Computer Algebra in Coding Theory and Cryptography (e) Computational differential and difference algebra (f) Algebraic and Algorithmic Differential and Integral Operator (g) Symbolic summation and integration: algorithms, complexity, and applications (h) Algebraic Graph Theory and its Applications (i) Applied and Computational Algebraic Topology (j) Non-standard Applications of Computer Algebra (k) Polynomial System Solving, Gröbner Basis, and Applications (l) Computational aspects and mathematical methods for finite fields and their applications in information theory (m) Polytopes in Algebra and Computation (n) Gröbner Bases, Resultants and Linear Algebra (o) Computer Algebra Methods for Matrices over Rings and (p) Open Source Software and Computer Algebra.

The papers in this PROMS volume cover all the sessions and they showcase the kind of quality papers presented at the meeting.

The ACA Working Group and the ACA 2015 session organizers did a tremendous work for selecting and scheduling the 162 contributions presented at ACA 2015. Our particular thanks are due to the members of the Local Organizing Committee for handling the local arrangements. The conference’s Advisory Committee, Stanly Steinberg, Michael Wester, and Eugenio Roanes-Lozano, and the Scientific Committee (the ACA working group) also deserve special thanks.

The process of deciding the accepted papers to accept was not easy due to the high quality of submissions, thus we are especially grateful to the expert referees. Finally, we would like to express our most sincere thanks to the PROMS staff at Springer for their tireless efforts and continuous support in helping us publish this volume.

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