

# Preface

This volume contains the proceedings of the Ninth Asian Symposium on Computer Mathematics (ASCM 2009), held at the JAL Resort Sea Hawk Hotel, Fukuoka, Japan, December 14–17, 2009, and the proceedings of the Tenth Asian Symposium on Computer Mathematics (ASCM 2012), held at the Chinese Academy of Sciences, Beijing, China, October 26–28, 2012. In both conferences, the contributed papers were selected by the Program Committee for presentation at the symposium and went through a standard refereeing process after the symposium. Both Program Committees had strong Asian participation, and the reviewing process was aided by reviewers from around the world.

The ASCM 2009 was jointly held with the Third International Conference on Mathematical Aspects of Computer and Information Sciences (MACIS 2009). The invited speakers at the joint conference were Markus Rosenkranz, Toshinori Oaku, Kokichi Sugihara, and Lihong Zhi. The ASCM 2012 had three excellent plenary talks delivered by Erich Kaltofen, Markus Püschel, and Josef Schicho. This volume also contains the extended abstracts provided by Erich Kaltofen and Josef Schicho after the symposium.

In addition to the regular sessions, both ASCM 2009 and ASCM 2012 had organized sessions presenting research of selected topics. The three organized sessions of ASCM 2009 were “Digitizing Mathematics: From Pen and Paper to Digital Content” organized by Volker Sorge and Alan P. Sexton, “Validated Numerical Computation” by Mitsuhiro Nakao, and “Computational Algebraic Number Theory” by Guenael Renault. The four organized sessions of ASCM 2012 were “On the Latest Progress in Verified Computation” organized by Lihong Zhi, “Computational Geometry” by Jin-San Cheng, “Parametric Polynomial Computations” by Yosuke Sato, and “Differential and Difference Algebra” by Chun-Ming Yuan.

We would like to express our gratitude to all those who have contributed to the present volume and the organization of ASCM 2009 and ASCM 2012. We thank the authors of the papers for contributing their work and the conference participants for their presence. We also thank the organizers of the organized sessions for presenting selected research topics and the invited speakers for accepting our

invitations. We are very grateful to the Program Committee members and the reviewers for their time and efforts in evaluating the submissions before and after each conference. We especially thank both teams for the local arrangements, who made the conferences successful and enjoyable. Last but not least, we thank Ziming Li for his valuable assistance in the conference organization and the publication of the proceedings. ASCM 2009 thanks Math-for-industry and Mathematical Research Center for Industrial Technology at Kyushu University, Ehime Campus Information Service, Cybernet, Japan Society for Symbolic and Algebraic Computation, Maplesoft, and JAL Hotels for their financial support. ASCM 2012 gratefully acknowledges the generous support of the Academy of Mathematics and Systems Science and the Key Laboratory of Mathematics Mechanization at the Chinese Academy of Sciences, the National Natural Science Foundation of China, Maplesoft, Cybernet Systems China.

Previous ASCM meetings were held in Beijing, China (1995), Kobe, Japan (1996), Lanzhou, China (1998), Chiang Mai, Thailand (2000), Matsuyama, Japan (2001), Beijing, China (2003), Seoul, Korea (2005), and Singapore, Singapore (2007). We hope that the ASCM continues to serve as a forum for participants to present original research, learn of research progress and developments, and exchange ideas and views on doing mathematics using computers.

Beijing, May 2014  
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Computer Mathematics

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