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# Wireless Algorithms, Systems, and Applications

First International Conference, WASA 2006  
Xi'an, China, August 15-17, 2006  
Proceedings

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# Preface

The papers in this volume were presented at the First Annual International Conference on Wireless Algorithms, Systems, and Applications (WASA 2006), held on August 15-17, 2006, in Xi'an, China. The Program Committee selected 63 papers from a large number of submissions.

WASA 2006 was motivated by the recent advances in cutting-edge electronic and computer technologies that have paved the way for the proliferation of ubiquitous infrastructure and infrastructureless wireless networks. The objective of this conference was to address the research and development efforts of various issues in the area of algorithms, systems and applications for current and next-generation infrastructure and infrastructureless wireless networks. The conference was structured to provide a forum for researchers and practitioners, from the academic, industrial and governmental sectors, with a unique opportunity to discuss and express their views on the current trends, challenges, and state-of-the-art solutions addressing various issues related to current and next generation wireless networks.

WASA 2006 was the result of the hard work of a large group of renowned researchers from around the world. We would like to take this opportunity to thank all the Executive Committee members and the Technical Committee members. We would also like to express our gratitude towards our keynote speakers and panelists.

We would like to thank the Program Co-chairs, Xiuzhen Cheng of The George Washington University, Wei Li of The University of Toledo, and Taieb Znati of University of Pittsburgh, for their dedicated efforts towards the success of this conference. Our thanks are also due to the Finance Chair Xudong Hu of the Chinese Academy of Sciences, the Local Chair Jianshe Zhang of Xi'an Jiaotong University, and the Publication Chair Fang Liu of The George Washington University.

Finally, we would like to express our special gratitude to our sponsors, The Chinese Academy of Sciences, The Operations Research Society of China, and Xi'an Jiaotong University, and the IEEE Technical Committee on Distributed Processing. Last, but not the least, we thank all the attendees for making this conference a success.

June 2006

Dingzhu Du and Wei Zhao  
General Co-chairs  
WASA 2006

# Message from the Program Co-chairs

Welcome to the proceedings of the 2006 International Conference on Wireless Algorithms, System, and Applications (WASA 2006). This year's conference was the first conference in its series to address visionary approaches and future research directions dealing with effective and efficient state-of-the-art algorithm design and analysis, reliable and secure system development and implementations, experimental study and test bed validation, and new application exploration in wireless networks.

In just its first year, WASA received a large number of quality submissions from 19 countries. Each submission was assigned by the Program Co-chairs to obtain at least three reviews. Accepted papers represent state-of-the-art work in the area of algorithms, systems and applications for current and next-generation infrastructure and infrastructureless wireless networks, including mobility, localization, topology control, security, broadcast/multicast routing, data management, MAC, pervasive computing, modeling and system design. The conference was organized into 2 keynote sessions and 12 technical sessions. Also, we had a panel session with panellists invited from the National Science Foundation of the United States and academia. Two keynote speakers were invited from academia to provide a comprehensive and balanced view of a variety of issues engaged in wireless networking.

We are grateful to all those individuals whose dedicated work made WASA 2006 a successful and valuable conference. We would like to express our sincere gratitude to the TPC members for their excellent job in handling the review process, to all the panelists for their participation, and to the General Co-chairs Ding-Zhu Du and Wei Zhao for their support and hard work. We would also like to express our appreciation to all the authors for their contributions.

June 2006

Xiuzhen Cheng, Wei Li, and Taieb Znati  
Program Co-chairs  
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