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Volume Editors

Wenfei Fan
University of Edinburgh
School of Informatics
Appleton Tower, Crichton Street
Edinburgh EH8 9 LE, Scotland, UK
E-mail: wenfei@inf.ed.ac.uk

Zhaohui Wu
Zhejiang University
College of Computer Science and Technology
Hangzhou, Zhejiang, China
E-mail: wzh@cs.zju.edu.cn

Jun Yang
Duke University
Department of Computer Science
Durham, North Carolina 27708-0129, USA
E-mail: junyang@cs.duke.edu

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Foreword by Conference Chairs

WAIM 2005 is the latest edition of the International Conference on Web-Age Information Management. Built on the successes of the past five WAIM conferences, WAIM 2005 takes another significant step in making WAIM conference a high-caliber international conference in the area of Web information management and database management. This year, WAIM received 486 submissions from 20 countries and regions.

In response to the record number of paper submissions WAIM 2005 received, the Program Co-chairs, Wenfei Fan and Zhaohui Wu, and the members of the Program Committee worked extremely hard to review all the submitted papers and select the best ones for inclusion in the conference proceedings. Their hard work has produced an excellent technical program for WAIM 2005. The Program Committee, together with Industrial Track Chair Phil Bohannon, Exhibition and Demo Chair Ying Jianwei, Tutorial Chair X. Sean Wang, and Panel Chair Jeffrey Xu Yu, has put together a very high-quality conference program. Jun Yang, the Publication Chair of WAIM 2005, also worked diligently to produce the conference proceedings.

The success of the conference would not have been possible without the hard work of many people and their contributions are greatly appreciated. Qinming He and Xiaohong Jiang are our local arrangement co-chairs. Ling Chen is the financial and registration chair. Xiaofang Zhou, Floris Geerts and Haixun Wang are the publicity co-chairs. Our special thanks go to the two Webmasters of the conference website, Yu Zhang and Mengya Tang, for their tremendous effort in facilitating the entire paper submission/reviewing process and in keeping the website running smoothly. We would also like to thank the Database Society of China Computer Federation, the Natural Science Foundation of China, Y. C. Tang Disciplinary Development Fund of Zhejiang University, and Oracle China for sponsoring WAIM 2005.

We would like to join the Program Committee and the entire database community in paying our tribute to Hongjun Lu, who passed away in March this year. Among his many outstanding contributions to the database community, Hongjun was instrumental in founding the WAIM conference and ensuring its success. He was heavily involved in the early preparation of WAIM 2005. Even when he became very ill, he still paid close attention to the progress of WAIM 2005 preparation. We owe it to him to make WAIM a premier conference in the database community.

Finally, we would like to use this opportunity to thank X. Sean Wang, who succeeded Hongjun as the Steering Committee Liaison to WAIM 2005, for his able guidance.

October 2005

Changjie Tang, Weiyi Meng
Conference Co-chairs
WAIM 2005

Foreword by Program Chairs

This volume contains the proceedings of the Sixth International Conference on Web-Age Information Management (WAIM), held in Hangzhou, China on October 11–13, 2005. This year we are pleased to have a particularly strong program: the Program Committee selected 48 papers for presentation and inclusion in the proceedings, and 50 short papers for inclusion in the proceedings, from 486 submissions, a record number, from 20 countries and regions. Acceptance into the conference proceedings was extremely competitive. The contributed papers span the range of traditional database topics as well as issues of emerging interest in connection with Web databases and services. The Program Committee worked hard to select these papers through a detailed two-phase review process and extensive discussion via a conference management tool, and put together a diverse and exciting program.

In addition to the research track, we had 20 submissions to the industrial track, which focuses on the early dissemination of prototype and system development experience. The Industrial Committee, chaired by Philip Bohannon, selected 3 papers for presentation and inclusion in the proceedings, and 1 short paper for inclusion in the proceedings. The Industrial program is a key component of this year's conference.

Papers accompanying each of the invited talks, by Peter Buneman (keynote), Hai Zhu and Hai Jin, are included in this volume.

The success of WAIM 2005 is a concrete step toward establishing the status of WAIM as one of the leading international forums for database researchers, practitioners, developers and users to explore cutting-edge ideas and theories, and to exchange techniques, tools and experiences.

The Program Committee and the Industrial Committee thank all those who submitted their best work to the conference. On their behalf, we thank their colleagues, listed separately, who helped in the review process, and the sponsoring organizations, the Database Society of the China Computer Federation, the Natural Science Foundation of China, Y. C. Tang Disciplinary Development and Fund of Zhejiang University, and Oracle China. We also thank the local organizers and volunteers in Hangzhou for their effort and time to help make the conference a success.

As program co-chairs we would like to thank the members of the Program Committee for the hard work they put in both in writing the detailed reviews and for their participation in the active discussions. We also thank them for bearing with the primitive conference management tool. In particular, we would like to extend our special thanks to Gao Cong, Irini Fundulaki, Floris Geerts, Anastasios Kementsietsidis, Weiyi Meng, Changjie Tang, X. Sean Wang and Stratis D. Viglas, who worked extremely hard to conduct the first phase of the review process; each of them reviewed at least 60 submissions, and their efforts

are essential to the quality of the program. We are grateful to Weiyi Meng, X. Sean Wang, Stratis D. Viglas, and Jeffrey Xu Yu for their valuable help in leading and monitoring the discussions on our behalf. We also thank Jun Yang for his work in preparing the proceedings. Finally, we are deeply indebted to Yu Zhang and Mengya Tang, the Web Masters, who took on tremendous pain and extra work, and ably modified, extended and maintained the conference management tool; for three long months they worked until late night every day, seven days a week; the necessary extension of the tool also received help from Kun Jing, Chengchao Xie, Shiqi Peng, Heng Wang, Cheng Jin and Ruizhi Ye; without their hard and effective work the online discussions would not have been possible, among other things.

October 2005

Wenfei Fan, Zhaohui Wu
Program Committee Co-chairs
WAIM 2005

Dedication: Hongjun Lu (1945–2005)



On behalf of the Program Committee, it is with sincere gratitude and great sorrow that we would like to dedicate WAIM 2005 proceedings to Hongjun Lu, who left us on March 3, 2005. Hongjun was not only an excellent researcher and highly productive scholar of the database community, but also a wonderful colleague and dear friend. For many years, he has been the ambassador for database research to China, and tremendously fostered the growth of this community. Among other things, Hongjun initiated, organized and monitored WAIM conferences in the past 5 years, and he was personally involved in the early stage of WAIM 2005 organization despite his health condition. Together with all the authors and all the members of the Program Committee, we would like to dedicate the proceedings to Hongjun as a tribute!

October 2005

Wenfei Fan, Zhaohui Wu
Program Committee Co-chairs
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WAIM 2005 is organized by Zhejiang University (Hangzhou, China) in cooperation with the Database Society of China Computer Federation. It was also sponsored by Natural Science Foundation of China and Oracle China.

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