

Preface

Welcome to the proceedings of the 17th International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP 2017), held in Helsinki, Finland, during August 21–23, 2017. ICA3PP 2017 was hosted by Aalto University and co-hosted by Xidian University, ISN – State Key Laboratory of Integrated Services Networks of Xidian University, Federation of Finnish Learned Societies, TEKES – the Finnish Funding Agency for Innovation, and the National 111 Project on Mobile Internet Security of China (Xidian University). The conference would not have been possible without the support of the hosts, Nokia for their Gold Patron support, the research community, and many other stakeholders.

ICA3PP 2017 was in its 17th year, which started out as a conference devoted to research on algorithms and architectures for parallel processing. Previous iterations of this conference include ICA3PP 2016 (Granada, Spain, December 2016), ICA3PP 2015 (Zhangjiajie, China, November 2015), ICA3PP 2014 (Dalian, China, August 2014), ICA3PP 2013 (Vietri sul Mare, Italy, December 2013), ICA3PP 2012 (Fukuoka, Japan, September 2012), ICA3PP 2011 (Melbourne, Australia, October 2011), ICA3PP 2010 (Busan, Korea, May 2010), ICA3PP 2009 (Taipei, Taiwan, June 2009), ICA3PP 2008 (Cyprus, June 2008), ICA3PP 2007 (Hangzhou, China, June 2007), ICA3PP 2005 (Melbourne, Australia, October 2005), ICA3PP 2002 (Beijing, China, October 2002), ICA3PP 2000 (Hong Kong, China, December 2000), ICA3PP 1997 (Melbourne, Australia, December 1997), ICA3PP 1996 (Singapore, June 1996), and ICA3PP 1995 (Brisbane, Australia, April 1995).

ICA3PP is now recognized as a mainstream event covering the many dimensions of parallel algorithms and architectures, encompassing fundamental theoretical approaches, practical experimental projects, and commercial/industry applications. As computing systems and applications permeate every aspect of our daily life, the role of computing systems and the underlying components (e.g., applications) will be increasingly critical in ensuring the stability of our society. This conference provides a forum for academics and practitioners from different countries and (sub) disciplines to exchange ideas for improving the efficiency, performance, reliability, security, and interoperability of computing systems and applications.

This year, the conference received 93 submissions. Each submission was reviewed by three or more experts in the relevant areas for each paper, on the basis of their significance, novelty, technical quality, presentation, and practical impact. After an intense post-review discussion by the Program Committee, 25 papers were selected for presentation at the conference and included in this Springer volume (i.e., acceptance rate of 26.8%). In addition to the regular paper presentations, the program of the conference included eight keynote speeches from, esteemed scholars in the area, namely: Prof. Elisa Bertino, Purdue University, USA; Prof. Francisco Herrera, University of Granada, Spain; Dr. Anand Prasad, NEC Corporation, Japan; Prof. Laurence T. Yang, St. Francis Xavier University, Canada; Prof. Shiwen Mao,

Auburn University, Auburn AL, USA; Prof. Jinjun Chen, Swinburne University of Technology, Australia; Mr. Tatu Ylönen, SSH Communications Security, USA and Lauri Oksanen, Vice President of Research and Technology, Nokia Bell Labs, Finland. We were extremely honored to have them as the conference keynote speakers.

The ICA3PP 2017 program also included four workshops, namely: the 4th International Workshop on Data, Text, Web, and Social Network Mining (DTWSM 2017), the 5th International Workshop on Parallelism in Bioinformatics (PBio 2017), the First International Workshop on Distributed Autonomous Computing in Smart City (DACSC 2017), and the Second International Workshop on Ultrascale Computing for Early Researchers (UCER 2017). We would like to express our sincere appreciation to the workshop chairs: Prof. Jun Liu, Prof. Zheng Yan, Dr. Miguel A. Vega-Rodríguez, Dr. José M. Granado-Criado, Dr. Alvaro Rubio-Largo, Dr. Sergio Santander-Jiménez, Prof. Wendong Wang, Dr. Yan Chen, Prof. Riku Jäntti, Dr. Yu Xiao, Prof. Jesus Carretero, Prof. Pedro Alonso, Dr. Juan Durillo, and Dr. Fabrizio Marozzo.

ICA3PP 2017 was also made possible by the behind-the-scene effort of selfless individuals and organizations who volunteered their time and energy to ensure the success of this conference. We would like to acknowledge the track chairs of the conference for their hard and excellent work in organizing the Program Committee. We are grateful to all Program Committee members for their great efforts in reading, reviewing, discussing, and finally selecting the papers. We also thank all external reviewers for assisting the Program Committee in their particular areas of expertise.

We also thank the honorary chair, Prof. Xinbo Gao, Xidian University, China, for his support in the conference organization. We would like to emphasize our gratitude to the general chairs, Prof. Zheng Yan, Prof. Witold Pedrycz, and Prof. Geoffrey Fox; and the program chairs, Dr. Shadi Ibrahim, Prof. Kim-Kwang Raymond Choo, and Prof. Florin Pop, for their generous support and leadership that ensured the success of the conference. We also appreciate Miss Wenxiu Ding's assistance with the conference organization. Thanks also go to the: panel chair, Yan Zhang; publicity chair, Prof. Raimo Kantola; Steering Committee, Prof. Yang Xiang, Prof. Weijia Jia, Prof. Yi Pan, Prof. Laurence T. Yang, and Prof. Wanlei Zhou; Web chairs, Mr. Mingjun Wang and Mr. Mohsin Muhammad.

Lastly, the conference would not have been possible without the contributing authors and all conference attendees, as well as the staff at Springer, who assisted in producing the conference proceedings, and the developers and maintainers of EasyChair.

August 2017

Shadi Ibrahim
Kim-Kwang Raymond Choo
Zheng Yan
Witold Pedrycz

Algorithms and Architectures for Parallel Processing
17th International Conference, ICA3PP 2017, Helsinki,
Finland, August 21-23, 2017, Proceedings
Ibrahim, S.; Choo, K.-K.R.; Yan, Z.; Pedrycz, W. (Eds.)
2017, XXIII, 829 p. 330 illus., Softcover
ISBN: 978-3-319-65481-2