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Advances in Swarm Intelligence

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Preface

This book and its companion volumes, LNCS vols. 9712 and 9713, constitute the proceedings of the 7th International Conference on Swarm Intelligence (ICSI 2016) held during June 25–30, 2016, in Bali, Indonesia.

The theme of ICSI 2016 was “Serving Life with Intelligence and Data Science.” ICSI 2016 provided an excellent opportunity and/or an academic forum for academics and practitioners to present and discuss the latest scientific results and methods, innovative ideas, and advantages in theories, technologies, and applications in swarm intelligence. The technical program covered all aspects of swarm intelligence and related areas.

ICSI 2016 was the seventh international gathering in the world for researchers working on all aspects of swarm intelligence, following successful events in Beijing (ICSI-CCI 2015), Hefei (ICSI 2014), Harbin (ICSI 2013), Shenzhen (ICSI 2012), Chongqing (ICSI 2011), and Beijing (ICSI 2010), which provided a high-level academic forum for participants to disseminate their new research findings and discuss emerging areas of research. It also created a stimulating environment for participants to interact and exchange information on future challenges and opportunities in the field of swarm intelligence research. ICSI 2016 was held in conjunction with the International Conference on Data Mining and Big Data (DMBD 2016) at Bali, Indonesia, for sharing common mutual ideas, promoting transverse fusion, and stimulating innovation.

Bali is a famous Indonesian island with the provincial capital at Denpasar. Lying between Java to the west and Lombok to the east, this island is renowned for its volcanic lakes, spectacular rice terraces, stunning tropical beaches, ancient temples and palaces, as well as dance and elaborate religious festivals. Bali is also the largest tourist destination in the country and is renowned for its highly developed arts, including traditional and modern dance, sculpture, painting, leather, metalworking, and music. Since the late 20th century, the province has had a big rise in tourism. Bali received the Best Island Award from *Travel and Leisure* in 2010. The island of Bali won because of its attractive surroundings (both mountain and coastal areas), diverse tourist attractions, excellent international and local restaurants, and the friendliness of the local people. According to BBC Travel released in 2011, Bali is one of the world’s best islands, rank second after Greece!

ICSI 2016 received 231 submissions from about 693 authors in 42 countries and regions (Algeria, Australia, Austria, Bangladesh, Bolivia, Brazil, Brunei Darussalam, Canada, Chile, China, Colombia, Fiji, France, Germany, Hong Kong, India, Indonesia, Italy, Japan, Kazakhstan, Republic of Korea, Macao, Malaysia, Mexico, The Netherlands, New Zealand, Nigeria, Oman, Pakistan, Peru, Portugal, Russian Federation, Serbia, Singapore, South Africa, Spain, Chinese Taiwan, Thailand, Tunisia, Turkey, United Arab Emirates, USA) across six continents (Asia, Europe, North America, South America, Africa, and Oceania). Each submission was reviewed by at least two

reviewers, and on average 2.9 reviewers. Based on rigorous reviews by the Program Committee members and reviewers, 130 high-quality papers were selected for publication in this proceedings volume, with an acceptance rate of 56.28 %. The papers are organized in 22 cohesive sections covering major topics of swarm intelligence and related areas.

In addition to the contributed papers, the technical program of ICSI 2016 included three plenary talks by Prof. Gary G. Yen (Oklahoma State University, USA), Prof. Kay Chen Tan (National University of Singapore, Singapore), and Prof. Tshilidzi Marwala (The University of Johannesburg, South Africa). Besides the regular parallel sessions, the conference also had four special sessions on hot-spot topics, four tutorials, as well as poster sessions.

On behalf of the Organizing Committee of ICSI 2016, we would like to express sincere thanks to Peking University and Xian Jiaotong-Liverpool University for their sponsorship, and to Shenzhen University and Beijing Xinghui Hi-Tech Co. for its co-sponsorship, as well as to the IEEE Computational Intelligence Society, World Federation on Soft Computing, and International Neural Network Society, and IEEE Beijing Section for their technical co-sponsorship. We would also like to thank the members of the Advisory Committee for their guidance, the members of the international Program Committee and additional reviewers for reviewing the papers, and the members of the Publications Committee for checking the accepted papers in a short period of time. We are particularly grateful to the proceedings publisher Springer for publishing the proceedings in the prestigious series of *Lecture Notes in Computer Science*. Moreover, we wish to express our heartfelt appreciation to the plenary speakers, session chairs, and student helpers. In addition, there are still many more colleagues, associates, friends, and supporters who helped us in immeasurable ways; we express our sincere gratitude to them all. Last but not the least, we would like to thank all the speakers, authors, and participants for their great contributions that made ICSI 2016 successful and all the hard work worthwhile.

May 2016

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