

Preface

This book contains a number of original scientific papers that were selected after a peer-review process for presentation at the 8th International Symposium “Information Fusion and Intelligent Geographical Information Systems (IF&IGIS’2017).” The symposium was held from 10 to 12 May 2017 in Shanghai, China, with a specific focus this year on solving vital issues at the intersection of geoinformational and maritime research fields. This symposium was organized by the SPIIRAS Hi Tech Research and Development Office Ltd, St. Petersburg, Russia, with support of the Shanghai Maritime University, China.

The main goal of the IF&IGIS’2017 symposium was to bring together leading world experts in the field of spatial information integration and intelligent geographical information systems (IGIS) to exchange cutting-edge research ideas and experiences, to discuss perspectives on the fast-paced development of geospatial information theory, methods, and models, to demonstrate the latest achievements in IGIS, and for applying these research concepts to real-world use cases. The full papers, selected by the International Program Committee of IF&IGIS’2017, address fundamentals, models, technologies, and services of IGIS in the geoinformational and maritime research fields including underwater acoustics, radio-location, maritime navigation safety, marine energy, logistics, environmental management, as well as other modeling and data-driven matters critical to the effectiveness of information-fusion processes and intelligent geographical information systems.

The paper-submission process of the symposium attracted 44 abstracts from 20 countries; 26 papers were selected at the first step of a blind-review process for presentation at the conference. After the second step of the review process, the Program Committee accepted 19 full papers contributed by authors from 10 countries for presentation and publication in this book. In accordance with subjects of the accepted papers, 5 parts of the book were formed: (1) data modeling, integration, fusion, and analysis in IGIS; (2) maritime traffic-control methods; (3) IGIS integration with acoustic, remote-sensing, and radar systems; (4) ports and maritime transportation and logistics; and (5) IGIS for land-based research. Special guests of the symposium were two invited speakers this year who provided us with high-profile lectures on information fusion and intelligent geographical information

systems: Prof. George Vouros from the Department of Digital Systems, University of Piraeus, Greece, and Prof. Bo Huang from the Department of Geography and Resource Management, The Chinese University of Hong Kong.

The success of the symposium is, undoubtedly, a result of the combined and dedicated efforts of sponsors, organizers, reviewers, and participants. We are also grateful to several colleagues from the Shanghai Maritime University that have been very helpful in organizing the whole event, special thanks to Prof. Yongxing Jin, Xiong Hu, Qinyou Hu, Tianhao Tang and Huafeng Wu. We acknowledge the Program Committee members for their help with the review process. Our thanks go to all participants and authors of the submitted papers as well. We are also very grateful to our sponsors—International Maritime Lecturers Association (IMLA), Computer Applications Committee of CSNAME, Key Laboratory of Geographic Information Science Ministry of Education, Shanghai Power Supply Society, and Shanghai Federation of Pudong R&D Institutions—for their generous support. Finally, we also extend our deep gratitude to Springer’s publishing team, managed by Dr. Christian Witschel and Anand Manimudi Chozhan, for their professionalism, help, and focus on the success of this collaborative effort.

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Vasily Popovich
Manfred Schrenk
Jean-Claude Thill
Christophe Claramunt
Tianzhen Wang

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