Preface

The International Symposium on Experimental Robotics (ISER) is a series of biennial symposia which began in 1989, and is sponsored by the International Foundation of Robotics Research (IFRR). ISER emphasizes experimental work while providing the robotics community with a forum for presenting research driven by creative ideas, bold visions, new systems, and novel applications of robotics. The tradition in ISER is to foster scholarly work that either addresses validation of theoretical paradigms through careful experimentation or contributes to the creation of novel experimental platforms that in turn inspire new theoretical developments. The ISER symposia are conceived to bring together in a small group setting researchers from around the world who are at the forefront of experimental robotics research, to assess and share their views and ideas about the state of the art, and to discuss promising new avenues for future research exploration in experimental robotics. The ISER meetings are organized around oral and interactive technical presentations in a single-track format.

The Fourteenth Symposium was held during June 15–18, 2014 in Marrakech and Essaouira, Morocco. The symposium was chaired by M. Ani Hsieh (Drexel University, USA), Oussama Khatib (Stanford University, USA), and Vijay Kumar (University of Pennsylvania, USA). The local organizing committee was chaired by Philippe Bidaud (ONERA French Aerospace Lab/University Pierre et Marie Curie, France) and Said Zeghloul (University of Poitiers, France). The International Steering Committee for ISER is chaired by Oussama Khatib and includes Marcelo Ang (Singapore), Herman Bruyninckx (Belgium), Alicia Casals (Spain), Raja Chatila (France), Peter Corke (Australia), John Craig (USA), Jaydev Desai (USA), Paolo Dario (Italy), Greg Dudeck (Canada), Vincent Hayward (Canada, France), Gerd Hirzinger (Germany), Yoshihiko Nakamura (Japan), Paul Newman (UK), Daniela Rus (USA), Kenneth Salisbury (USA), Bruno Siciliano (Italy), Sanjiv Singh (USA), James Trevelyan (Australia), Tsuneo Yoshikawa (Japan), and Alex Zelinsky (Australia).

The program of the Fourteenth Symposium included 59 technical papers, selected from open submission through a review process organized by the

International Steering Committee. The symposium contributions report on a variety of new theoretical and experimental results, and point to new visions and trends in the field. The topics of the technical sessions covered a broad spectrum of experimental robotics research activities. This year 19 papers were presented in interactive format on electronic displays. The symposium sessions were Locomotion; Haptics; Manipulation; Perception; Human–robot Interaction; Mapping and Localization; Mechanisms; Perception and Planning; Sensor Networks; Many Robot Systems. The program also included a plenary talk delivered remotely by Michel L'Hour who is the Scientific and Technical Advisor for UNESCO's Department of Underwater Archaeological Research and Underwater General Curator of Heritage and Vincent Creuze from CNRS/University of Montpellier. Lastly, the Fourteenth Symposium also featured the Robotics Workshop: Trends and Challenges which was organized by Fatima Bouyahia (University of Cadi Ayyad, Morocco), Nabil Elmarzouqi (University of Cadi Ayyad, Morocco), Abdellah Ait Ouahman (University of Cadi Ayyad, Morocco), Med Amine Laribi (University of Poitiers, France), Sad Zeghloul, Philippe Bidaud, and Oussama Khatib. The workshop brought together robotics experts and Moroccan master and Ph.D. students and researchers in areas related to robotics for a full day of engaging talks and discussions.

This volume includes the complete collection of the contributions presented at the symposium, with authoritative introductions to each section by the chairs of the corresponding sessions. We are grateful to the authors and the participants who have all contributed to the success of this symposium by bringing an outstanding program, excellent technical presentations, and stimulating and insightful discussions. We would like also to express our thanks and gratitude to the local organizing team that created the perfect environment for fostering technical discussions and promoting intellectual debates in a relaxed setting.

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