

# Preface

This volume contains the proceedings of the 4th International Conference on Man–Machine Interactions, ICMMI 2015 which was held at Kocierz Pass, Poland, during October 6–9, 2015. The series of ICMMI conferences is organised biennially since 2009 by Institute of Informatics at the Silesian University of Technology and Institute of Theoretical and Applied Informatics, Polish Academy of Sciences, Gliwice, Poland. The first ICMMI was dedicated to the memory of Prof. Adam Mrózek, a distinguished scientist in the area of decision support systems in industrial applications and since 2009 the conference became a permanent fixture in the calendar of scientific meetings, bringing together academic and industrial researchers interested in all aspects of theory and practice of man–machine interactions.

Since the beginning, ICMMI become an international forum providing a unique opportunity to network and find potential collaborators, discuss and exchange innovative ideas, share information and knowledge. This year, ICMMI was organised under the technical co-sponsorship of the IEEE Poland Section ensuring high-quality technical programme of the conference. The interdisciplinary field of man–machine interaction covers the whole spectrum of technological aspects involved in interactions and communications between human users and machines. The discipline relies on novel techniques such as computer vision, speech technology, pattern recognition, expert systems, robotics and biomedical sensor applications. In this volume 6 invited and 54 contributed papers presenting a broad range of topics have been divided into the following sections: human–computer interfaces, robot control, embedded and navigation systems, bio-data analysis and mining, biomedical signal processing, image and motion data processing, decision support and expert systems, pattern recognition, fuzzy systems, algorithms and optimisation, computer networks and mobile technologies, and data management systems.

ICMMI 2015 conference attracted 172 authors from 15 different countries across the world. The review process was conducted by the Programme Committee members with the help of external reviewers. Each paper was subjected to at least two independent reviews. After the peer-review process, 54 high quality papers

were selected for publication in ICMMI 2015 proceedings. Here, we would like to thank all Programme Committee members and associated reviewers for their highly professional work, effort in reviewing papers and valuable comments.

ICMMI 2015 conference had a distinguished panel of keynote speakers. We would like to express our gratitude to Antonis Argyros, Juan Luis Fernández-Marínez, Karmeshu, Hanna Klauedel, Manoj Sharma and Sethu Vijayakumar who agreed to deliver keynote talks and invited papers.

We appreciate the help of the editorial staff at Springer Verlag, in particular we would like to thank Janusz Kacprzyk, the editor of the series, Holger Schape and Thomas Ditzinger who supported the publication of these proceedings in AISC series. We also wish to thank all those who contributed to the organisation of this conference, in particular we are grateful to the members of the Organising Committee for their hard work and efforts in making this conference successful.

Finally, we would like to thank all the authors and participants who contributed to the success of this event. We believe that ICMMI 2015 delivered a high-quality, informative and inspiring scientific programme. We hope that this volume provides an innovative and useful contribution into further research and developments in the field of man-machine interactions.

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