Preface

These are the proceedings of the 16th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems, IPMU 2016. The conference was held during June 20–24, 2016, in Eindhoven, The Netherlands: one of the vibrant hi-tech hot spots of Europe. The IPMU conference is organized every two years with the aim of bringing together scientists working on methods for the management of uncertainty and aggregation of information in intelligent systems.

Since 1986, the IPMU conference has been providing a forum for the exchange of ideas between theoreticians and practitioners working in these areas and related fields. In addition to the many contributed scientific papers, the conference has in the past attracted prominent plenary speakers, including the Nobel Prize winners Kenneth Arrow, Daniel Kahneman, and Ilya Prigogine. Another important feature of the conference is the presentation of the Kampé de Fériet Award for outstanding contributions to the field of uncertainty and management of uncertainty. Past winners of this prestigious award were Lotfi A. Zadeh (1992), Ilya Prigogine (1994), Toshiro Terano (1996), Kenneth Arrow (1998), Richard Jeffrey (2000), Arthur Dempster (2002), Janos Aczel (2004), Daniel Kahneman (2006), Enric Trillas (2008), James Bezdek (2010), Michio Sugeno (2012), and Vladimir N. Vapnik (2014). This year, the recipient was Joseph Y. Halpern from Cornell University, USA.

IPMU 2016 had a rich scientific program. Four invited overview talks (tutorials) were given on the first day, identifying the challenges and discussing the various methods in the field of information processing and the management of uncertainty. Further, the program consisted of five invited plenary talks, 13 special sessions, 127 contributed papers that were authored by researchers from 34 different countries, industry round tables, and discussion panels. The plenary presentations were given by the following distinguished researchers: Chris Dyer (Carnegie Mellon University, USA), Joseph Y. Halpern (Cornell University, USA), Katharina Morik (Technische Universität Dortmund, Germany), Peter P. Wakker (Erasmus University Rotterdam, The Netherlands), and Ronald R. Yager (Iona College, USA). All contributed papers underwent the same review process and were judged by at least two reviewers; 90 % of the papers were reviewed by three or more referees, and some papers by as many as five referees. Furthermore, all papers were scrutinized by the program chairs, meaning that each paper was studied by three to six independent researchers. The review process also respected the usual conflict-of-interest standards, so that all papers received blinded, independent evaluations.

Organizing a conference like IPMU 2016 is not possible without the assistance, dedication, and support of many people and institutions. We want to thank our industry sponsors, the institutional sponsors, and the material sponsors. Our sponsor chair, Paul Grefen, did an excellent job in attracting the interest and support from industry for the success of IPMU 2016. We are also particularly grateful to the organizers of sessions on dedicated topics that took place during the conference—these special sessions have

always been a characteristic element of the IPMU conference. Special thanks go to Joao Sousa, who helped evaluate and select the special session proposals. The help of the members of the international Program Committee as well as multiple reviewers was essential in safeguarding the scientific quality of the conference. The local Organizing Committee is very grateful for the efforts of multiple student volunteers who provided practical support during the conference.

Finally, we gratefully acknowledge the technical support of several organizations and institutions, notably the IEEE Computational Intelligence Society, the European Society for Fuzzy Logic and Technology (EUSFLAT), and the Netherlands Research School for Information and Knowledge Systems (SIKS). Last, but not least, our greatest gratitude goes to the authors who submitted their work and presented it at the conference!

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