

Preface

This volume contains a selection of the papers accepted for oral presentation at the 16th Conference of the Spanish Association for Artificial Intelligence (CAEPIA 2015), held in Albacete (Spain), during November 9–12, 2015. This was the 16th biennial conference in the CAEPIA series, which was started in 1985. Previous editions took place in Madrid, Alicante, Málaga, Murcia, Gijón, Donostia, Santiago de Compostela, Salamanca, Seville, La Laguna, and Madrid.

This time, CAEPIA was coordinated with various symposia, each one corresponding to a main track in Artificial Intelligence (AI) research: II Symposium on Evolutionary Algorithms and Metaheuristics (JAEM), II Symposium on Information Fusion and Ensembles (FINO), V Symposium of Fuzzy Logic and Soft Computing (LODISCO), VII Symposium of Theory and Applications of Data Mining (TAMIDA) and the Symposium on Artificial Intelligence Technology Transfer (TTIA). Furthermore, five workshops devoted to specific topics in AI research were associated with CAEPIA 2015: First Workshop in Big Data and Scalable Data Analytics (BIGDADE), Workshop on Social Robotics and Human–Robot Interaction (RSIM), Workshop on Intelligent Systems and Environment (SIMAB), Workshop on Linked Data Usage in Spanish: Present and Future (UDEEPF), and the Third Workshop on Intelligent Metaheuristics on Logistics Planning (MILP). We would like to highlight that two of these events (LODISCO and BIGDADE) could not have been organized without the collaboration of two thematic research networks funded by the Spanish Government (MINECO): the Network on Fuzzy Logic and Soft Computing (Red Temática en Lógica Difusa y Soft Computing), LODISCO (TIN2014-56381-REDT) and the Network on Big Data and Scalable Data Analysis (Red Temática en Big Data y Análisis de Datos Escalables), BIGDADE (TIN2014-56425-REDT).

CAEPIA is a forum open to worldwide researchers to present and discuss their last scientific and technological advances in AI. Its main aims are to facilitate the dissemination of new ideas and experiences, to strengthen the links among the different research groups, and to help spread new developments to society. All perspectives — theory, methodology, and applications — are welcome. Apart from the presentation of technical full papers, the scientific program of CAEPIA 2015 included three invited lectures, a Doctoral Consortium and, as a follow-up to the success achieved with CAEPIA 2013, a special session on outstanding recent papers (Key Works) already published in renowned journals or forums.

With the aim of maintaining CAEPIA as a high-quality conference, and following the model of current demanding AI conferences, the CAEPIA review process runs under the double-blind model. The number of submissions received by CAEPIA and associated tracks was 175; however, in order to produce a high-quality volume with selected papers, the authors were requested to mark their paper as candidate to be published in the LNAI volume. This decision, made by the authors, plays an important role as quality filter, and thus only 49 of the 175 submissions attained this mark.

These 49 papers were carefully peer-reviewed by three members of the CAEPIA Program Committee with the help of additional reviewers from the associated symposia and workshops. The reviewers judged the overall quality of the submitted papers, together with their originality and novelty, technical correctness, awareness of related work, and quality of presentation. The reviewers stated their confidence in the subject area in addition to detailed written comments. On the basis of the reviews, the program chairs made the final decisions. After the review process, 31 out of the 49 marked papers were accepted for oral presentation and publication in this volume. This selection contains papers from the CAEPIA main track, LODISCO, JAEM, TAMIDA, FINO, SIMAB, BIGDADE, UDEEPPF and RSIM.

The three distinguished invited speakers at CAEPIA 2015 were Pedro Meseguer (CSIC, Spain), Nuria Oliver (Telefónica I+D, Spain) and Manuela Veloso (Carnegie Mellon University, USA). They presented three very interesting topics on current AI research: “Constraint Programming: A Powerful Technology for AI” (Meseguer), “Towards Data-Driven Models of Human Behavior” (Oliver) and “Human–Robot Interaction in Symbiotic Autonomous Mobile Service Robots” (Veloso).

The Doctoral Consortium (DC) was specially designed for the interaction between PhD students and senior researchers. AEPIA and the organization of CAEPIA will recognize the best PhD work submitted to the DC with a prize, as well as the best student and conference paper presented at CAEPIA 2015. Furthermore, for the first time, and with the aim of promoting the presence of women in AI research, a new prize was set at CAEPIA 2015: the *Frances Allen* award, which is devoted to the two best AI PhD Thesis presented by a woman during the last two years.

The editors would like to thank everyone who contributed to CAEPIA 2015 and associated events: the authors of the papers, the members of the Scientific Committees, additional reviewers, the invited speakers, etc. Thanks are also due to Jacinto Arias and Javier Cózar, who designed the website of the CAEPIA conference, managed it, and compiled the proceedings. Final thanks go to the Organizing Committee, our local sponsors (UCLM, DSI, ESII and I3A), the EasyChair and Springer teams, and AEPIA for their support.

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