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Knowledge Engineering and Knowledge Management

21st International Conference, EKAW 2018 Nancy, France, November 12–16, 2018 Proceedings

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Preface

This volume contains the proceedings of the 21st International Conference on Knowledge Engineering and Knowledge Management (EKAW 2018), held in Nancy, France, November 12–16, 2018.

The special theme of EKAW 2018 was "Knowledge and AI." We were indeed calling for papers describing algorithms, tools, methodologies, and applications that exploit the interplay between knowledge and artificial intelligence (AI) techniques, with a special emphasis on knowledge discovery.

While the interplay between AI and knowledge engineering and management is not new, recent advances in both disciplines have created new challenges, research efforts, and opportunities. The special topic of this year has therefore given us the chance to emphasize the importance of knowledge engineering and knowledge management with the help of AI, as well as for AI, and to welcome papers about methods, tools, and methodologies relevant to: knowledge and AI, knowledge discovery, knowledge management, knowledge engineering and acquisition, social and cognitive aspects of knowledge representation, and applications in specific domains.

In addition to this specific focus, EKAW covered its traditional topics ranging from all aspects of eliciting, acquiring, modeling, and managing knowledge, to the construction of knowledge-intensive systems and services for the Semantic Web, knowledge management, e-business, natural language processing, intelligent information integration, personal digital assistance systems, and a variety of other related topics.

For the main conference we invited submissions for research papers presenting novel methods, techniques, or analysis supported by appropriate evaluations, as well as in-use papers describing novel applications of knowledge management and engineering in real environments and experience reports. We also invited submissions of position papers describing novel and innovative ideas, or problem analyses that are still in an early stage but may guide future research in the area.

In addition to the regular conference submission, resulting in a Springer conference proceedings paper contained in this book, the authors of the best EKAW papers were invited to submit an extended version of their papers to a *Semantic Web Journal* (IOS Press) special issue to be published in 2019. The extended papers will go through a new review process and it should be noted that the journal follows an open review process, providing for a very transparent evaluation of the submissions.

Overall, we received 142 abstract submissions of which 104 were in the end accompanied by a valid paper submission and included in the review process. The reviewing was performed by a Program Committee of 114 researchers in the field and the two program chairs. Each paper received at least three reviews (often four), and we specifically thank the reviewers for engaging in lively discussions, especially when there were conflicting opinions on papers. In total, 36 submissions were accepted by the Program Committee (34% overall acceptance rate), out of which 31 for a full presentation and five for a shorter presentation. All the 36 accepted papers are included

in this volume as full-length papers. There are 31 research papers, four in-use papers and one is a position paper.

To complement the program, we invited four distinguished keynote speakers:

- Jérôme Lang (Université Paris Dauphine, France) gave a talk entitled "Incomplete Knowledge and Collective Decision-Making".
- Marie-Francine Moens (KU Leuven, Belgium) gave a talk entitled "The Discovery of Spatial Knowledge from Images and Language".
- Simone Paolo Ponzetto (University of Mannheim, Germany) gave a talk titled "Entity-Centric Information Access for High-End Semantic Applications".
- Andrea Tettamanzi (Université Côte d'Azur, France) gave a talk titled "Guess What You Don't Know: Towards an Evolutionary Epistemology of Ontology Learning."

The program chairs of EKAW 2018 were Catherine Faron Zucker from Université Côte d'Azur, France, and Chiara Ghidini from Fondazione Bruno Kessler, Italy.

The EKAW 2018 program also included a Doctoral Consortium that gave PhD students an opportunity to present their research ideas and results in a stimulating environment, to get feedback from mentors who are experienced research scientists in the community, to explore issues related to academic and research careers, and to build relationships with other PhD students from around the world. The Doctoral Consortium was intended for students at each stage of their PhD. All accepted presenters had an opportunity to present their work to an international audience, to be paired with a mentor, and to discuss their work with experienced scientists from the research community. The Doctoral Consortium was organized by Francesco Osborne from Open University Milton Keynes, UK, and Laura Hollink from Centrum Wiskunde and Informatica, The Netherlands.

In addition to the main research tracks, EKAW 2018 hosted one satellite workshop and two tutorials.

Workshop:

- Symbolic Methods for Data-Interlinking, organized by Miguel Couceiro from Université de Lorraine, Nancy, France, and Jérôme David from Université Pierre-Mendès-France, Grenoble, France

Tutorials:

- Learning from Knowledge Graphs, organized by Fabrizio Riguzzi, Elena Bellodi, Riccardo Zese and Giuseppe Cota from Università di Ferrara, Italy
- Catching up with Ontological Engineering to Git-commit and Beyond, organized by Alba Fernández-Izquierdo, Ahmad Alobaid and María Poveda-Villalón, Universidad Politécnica de Madrid, Spain

The workshop and tutorial program was chaired by Manuel Atencia, Université Grenoble Alpes, Inria, LIG, France, and Marieke van Erp, KNAW Humanities Cluster, The Netherlands.

Finally, EKAW 2018 also featured a demo and poster session. We encouraged contributions that were likely to stimulate critical or controversial discussions about any of the areas of the EKAW conference series. We also invited developers to showcase their systems and the benefit they can bring to a particular application. The

demo and poster program of EKAW 2018 was chaired by Phillipp Cimiano from CITEC/Bielefeld University, Germany, and Olivier Corby from Université Côte d'Azur, Inria, CNRS, I3S, France. The conference organization also included Raphaël Troncy, EURECOM, France, as the sponsorship chair, Anne-Lise Charbonnier, Inria Nancy Grand Est, France, took care of local arrangements, Cassia Trojhan, IRIT, Université de Toulouse, France, acted as Web chair, and together with Jérémie Nevin, LORIA, Inria, Université de Lorraine, France, as proceedings chairs. Amedeo Napoli and Yannick Toussaint, LORIA, Inria, Université de Lorraine, France, were the general chairs of EKAW 2018.

Thanks to everybody, including attendees at the conference, for making EKAW 2018 a successful event.

November 2018

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