

Preface

Versatile and effective techniques for knowledge representation and reasoning (KRR) are essential for the development of successful intelligent systems. Many representatives of next-generation KRR systems are founded on graph-based knowledge representation formalisms and leverage graph-theoretical notions and results. The goal of the workshop series on Graph Structures for Knowledge Representation and Reasoning (GKR) is to bring together researchers involved in the development and application of graph-based knowledge representation formalisms and reasoning techniques.

This volume contains the revised selected papers of the fourth edition of GKR, which took place in Buenos Aires, Argentina, on July 25, 2015. Like the previous editions, held in Pasadena, USA (2009), Barcelona, Spain (2011), and Beijing, China (2013), the workshop was associated with IJCAI (the International Joint Conference on Artificial Intelligence), thus providing the perfect venue for a rich and valuable exchange.

The scientific program of this workshop included many topics related to graph-based knowledge representation and reasoning such as argumentation, conceptual graphs, RDF, representations of constraint satisfaction problems and many more. All in all, the fourth edition of the GKR workshop was very successful. The papers coming from diverse fields all addressed various issues for knowledge representation and reasoning and the common graph-theoretic background allowed to bridge the gap between the different communities. This made it possible for the participants to gain new insights and inspiration.

We are grateful for the support of IJCAI and we would also like to thank the Program Committee of the workshop for their hard work in reviewing papers and providing valuable guidance to the contributors. But, of course, GKR 2015 would not have been possible without the dedicated involvement of the contributing authors and participants.

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