

Preface

This volume contains the extended version of the papers presented at the Tenth International Conference on Principles of Knowledge Representation and Reasoning. Knowledge representation and reasoning (KR&R) lies at the crossroads between artificial intelligence research and modern information technology driven by the World Wide Web. Its ambition is to pave the road to the possibility of storing, retrieving, and exploiting human knowledge by means of computers in a rational and effective way. Its research methodology relies on a blending of logics, graphical representations, and formal languages, for representing and reasoning about human knowledge, beliefs, goals, and preferences; it also covers topics such as representing knowledge about time, space, and motion, engineering ontologies, and building useful knowledge-based systems. KR&R brings together both cognitive scientists and computer scientists of many breeds. Applications of KR&R have a tremendous potential because of the rise of new application areas such as the World Wide Web and bioinformatics, where the semantics of complex data needs to be captured formally and reasoned with by software systems.

KR&R conferences have established themselves as the premier forum for the dissemination of research related to the computational manipulation of knowledge. The conference series was launched in 1989, and since 1994 the venue has alternated between Europe and the Americas.

Traditional high standards have been maintained for this conference. This year has witnessed a marginal increase in the number of submitted papers as compared to KR2004 in Canada. In particular, 210 papers were submitted and 50 were accepted this year, compared with 199 submissions in KR2004. In comparison with KR&R conferences held in Europe,

161 papers were submitted and 56 accepted in 2002. This is a 30 percent increase over the last KR&R conference held in Europe. The selection of accepted papers would not have been possible without the invaluable help of our prestigious Program Committee. We also gratefully acknowledge the help of many external secondary reviewers.

Papers presented at the conference remain in the tradition of the field, covering various kinds of dedicated logics, languages and formalisms for representing space, time, action, decision, and belief, as well as new results on the representation of ontologies, the formalization of reasoning mechanisms such as belief revision, information merging, argumentation, and the like.

The conference program includes three invited plenary speakers. Jon Doyle has made significant contributions to the KR&R fields spanning several decades. Alon Halevy is changing the research landscape on topics that fall at the intersection between databases and artificial intelligence technologies. Alan Rector is among the most notable contributors in the area of medical informatics.

Like its predecessors, KR2006 benefits from a number of colocated events: The Eleventh International Workshop on NonMonotonic Reasoning, the International Workshop on Description Logics and the International Conference on Planning and Scheduling.

*Patrick Doherty & John Mylopoulos,
Program Chairs*

*Christopher Welty,
Conference Chair*

April, 2006