Proceedings of the

6^{th} International Workshop on Knowledge Representation meets Databases (KRDB'99)

KR DB

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Edited by:
Enrico Franconi and Michael Kifer

Linköpings universitet, Sweden

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Preface

The 6^{th} International KRDB Workshop continues the tradition of annual international workshops devoted to facilitate cross-fertilisation between the fields of knowledge representation (KR) and databases (DB), started in 1994. Previous workshops were held in conjunction with various AI or databases conferences: KRDB'94, Saarbrücken, Germany; KRDB'95, Bielefeld, Germany; KRDB'96, Budapest, Hungary (in conjunction with ECAI'96); KRDB'97, Athens, Greece (in conjunction with VLDB'97); KRDB'98, Seattle, WA, USA (in conjunction with SIGMOD/PODS'98). KRDB'99 is being held in Linköping (Sweden) July 29-30 as affiliate event with the International Joint Conference on Artificial Intelligence (IJCAI'99, Stockholm, 3-6 August 1999), and the International Workshop on Description Logics (DL'99, Linköping, July 30 - August 1 1999).

Both databases and knowledge bases are used to model, store, and access information. Research in KR traditionally concentrated around formalisms that are designed to deal with relatively small knowledge bases, but are highly expressive and provide powerful reasoning services. In contrast, DB research mainly dealt with efficient storage, retrieval, and sharing large amounts of data. In these applications, data representation and query languages were relatively simple, and reasoning played only a minor role. This distinction between the requirements in KR and DB is vanishing rapidly. On one hand, to be useful in realistic applications, a modern KR system must be able to handle large data sets. This suggests that techniques developed in the DB area could be useful for knowledge bases. On the other hand, the information stored in DBs is becoming more complex, thus requiring intelligent retrieval and reasoning techniques.

The KRDB Workshops are designed to provide a forum for exchanging ideas among DB and KR researchers. The advantage of the KRDB Workshops is their informal setting, which allows for detailed discussion between researchers. Equally important is the KRDB tradition of stimulating the discussion between researchers and practitioners. This year's KRDB has a rich program, which features a joint session with DL'99 and two speakers: Moshe Y. Vardi (Rice University, TX, USA) on *Model Checking and Finite Model Theory in the different contexts of (computational) Logics, Knowledge Representation, and Database Theory*, and Ray Reiter (University of Toronto, Canada) on *Modelling Transactions for Incomplete Relational Databases*. A tutorial will be offered by Natasha Alechina (University of Nottingham, UK) on *(Modal) logics for semi-structured data*.

We thank all the Program Committee members and the additional reviewers who provided thoughtful and detailed reviews. We thank our sponsors: the European ESPRIT *Compulog* Network of Excellence in Computational Logic, and the "Foundations of Data Warehouse Quality" (*DWQ*) European ESPRIT IV Long Term Research (LTR) Project. We are also indebted to the excellent local organising team, chaired by Patrick Lambrix; and of course to the originators of the KRDB Workshops series and members of the Executive Committee: Franz Baader, Manfred Jeusfeld, and Werner Nutt.

The members of KRDB'99 Program Committee are: Elisa Bertino, University of Milano, Italy; Anthony Bonner, University of Toronto, Canada; Alex Borgida, Rutgers University, USA; Mokrane Bouzeghoub, INRIA-Rocquencourt, France; Jan Van den Bussche, University of Limburg, Belgium; Diego Calvanese, University of Rome "La Sapienza", Italy; Vinay Chaudhri, SRI International, USA; Jan Chomicki, Monmouth University, USA; Rick Hull, Lucent Technologies, USA; Mathias Jarke, Aachen University of Technology, Germany; Georg Lausen, University of Freiburg, Germany; John Mylopoulos, University of Toronto, Canada; Werner Nutt, DFKI, Germany; Luigi Palopoli, University of Calabria, Italy.
In addition, Maurizio Lenzerini and Ralph Müller kindly agreed to help with the review process, which was instrumental in preparing a quality program for the workshop.

We hope that this collection of papers will be useful to the readers interested in databases and AI.

Enrico Franconi and Michael Kifer *(chairs)*.