Proceedings of the

1998 International Workshop on Description Logics (DL'98)

Povo – Trento, Italy
June 6–8, 1998

Edited by:
Enrico Franconi, Giuseppe De Giacomo, Robert M. MacGregor, Werner Nutt, Christopher A. Welty

ITC-irst, Ref. No. 9805-03

Also electronically available as CEUR Publication at
http://SunSITE.Informatik.RWTH-Aachen.DE/Publications/CEUR-WS/Vol-11/

The *Editorial Office* of the Istituto Trentino di Cultura (ITC) publishes every year a list of all technical publications co-authored by **ITC-irst** researchers, including abstracts and full bibliographical notes. Exchange of publications is appreciated.

Copies of this publication or of the list of currently available publications can be ordered directly from:
Istituto Trentino di Cultura
Editorial Office
I-38050 Povo, Trento – Italy
Tel.: +39 (461) 314-312 • Fax: +39 (461) 314-591
email: prdoc@itc.it • URL: http://www.itc.it

Contents

Systems Comparison

Systems

Preface

The main effort of research in knowledge representation is providing theories and systems for expressing structured knowledge and for accessing and reasoning with it in a principled way. Description Logics are a powerful class of knowledge representation languages which are presently considered to be the most important formalism unifying and giving a logical basis to the well known traditions of Frame-based systems, Semantic Networks and KL-ONE-like languages, Object-Oriented representations, Semantic data models, and Type systems.

The 1998 International Workshop on Description Logics (DL'98) continues the tradition of international workshops devoted to discussing developments and applications of knowledge representation formalisms based on Description Logics. The workshop is sponsored by Principles of Knowledge Representation and Reasoning Incorporated, IRST-ITC – Trento, CNR – Italian National Research Council, European ESPRIT Compulog Network of Excellence in Computational Logic, European ESPRIT Long Term Research project DWQ, "Casa della Cultura del Vino" – Trento, and IFIP TC-12 Artificial Intelligence.

The Description Logics Workshops are designed to provide a means for researchers in Description Logics to gather together in a less formal setting than a conference. Attendance at the workshop is by invitation only. Most attendees were selected on the basis of papers submitted to the workshop. The main draw of the Description Logics Workshops is detailed discussion between researchers rather than the presentation of results. The organizers of the 1998 Description Logics Workshop have attempted to continue this tradition by structuring the workshop as a series of discussion topics led by either an invited speaker, a discussant, or a panel, and that allows for discussion between all participants, not just those who have submitted a paper on the topic.

The proposed discussion topics for the workshop are: Description Logics and Logics, Description Logics and the World Wide Web, Foundations, Applications, Extensions, Knowledge Representation and Ontology, Systems Comparison. The session on "Knowledge Representation and Ontology" is a joint session with FOIS'98, the colocated conference on Formal Ontology and Information Systems.

DL'98 hosts a Description Logics systems comparison session. Systems have been compared on the basis of benchmarks which have been prepared in order to emphasize the best out of each system. This first round of the comparison at DL'98 serves mostly as an evaluation and discussion of the benchmark testing set, and it is not intended to be the last word on a possible ranking. We have four aims:

- To reach a consensus on a corpus of benchmarks for Description Logics systems, which may become an agreed standard.
- Bringing people together with a common interest in implementation work on various Description Logics.
- Giving the implementors of reasoners for the considered logics the opportunity to demonstrate their systems and to make them better known. Some of the system description papers appear in the proceedings.
- There are many reasoning methods for Description Logics. We propose a comparison, with no winners or prizes, of these approaches.

We hope that this collection of papers will be useful to the interested readers.

Enrico Franconi *(chair)*
Giuseppe De Giacomo
Robert M. MacGregor
Werner Nutt
Christopher A. Welty

DL'98 Workshop Program

Friday June 5		
19.00 - 21.00	Opening Reception at the Wine Culture House (Casa della Cultura del Vino)	
Saturday June 6		
14.00 - 14.10	Workshop introduction	
14.10 - 16.10	SESSION on "Description Logics and Logics" I Invited talk: Maarten De Rijke, "Modal Logics" Invited talk: Erich Grädel, "Guarded fragments of FOL"	
Coffee break		
16.30 - 18.00	SESSION on "Description Logics and Logics" II Discussant: Franz Baader	
Sunday June 7		
9.00 - 11.00	SESSION on "Description Logics and the World Wide Web" Discussant: Alex Borgida Panel with Diego Calvanese, Patrick Lambrix, Deborah McGuinness, Daniele Nardi, Chris Welty	
Coffee break		
11.20 - 13.00	SESSION on "Foundations" Discussant: Francesco M. Donini	
Lunch		
14.20 - 16.00	SESSION on "Systems Comparison" I Discussants: Ian Horrocks and Peter F. Patel-Schneider	
Coffee break		
16.20 - 18.00	SESSION on "Systems Comparison" II	
18.15 - ...	Bus to visit a wine cellar and social dinner at "La Torre"	
Monday June 8		
9.00 - 10.40	SESSION on "Applications" Discussant: Ralf Möller	
Coffee break		
11.00 - 12.40	SESSION on "Extensions" Discussant: Lin Padgham	
Lunch		
14.00 - 14.30	Bus to joint session with FOIS'98	
14.45 - 15.50	SESSION on "Knowledge Representation and Ontology" I Invited talk: David Israel	
Coffee break		
16.10 - 17.25	SESSION on "Knowledge Representation and Ontology" II Panel with Alex Borgida, Tony Cohn, David Israel, Maurizio Lenzerini	
17.25 - 17.30	Concluding remarks	
17.30 - 18.00	Discussion about DL'99	
Tuesday June 9		
9.00 - 15.00	Walk in the Dolomites	
15.00 - 19.00	Visit to wine cellars	