Curriculum Vitæ
- Enrico Franconi -

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Date of Birth: Rome, Italy, 28 March 1962.
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Education

- Classical Liceum E.Q.Visconti, Rome: diploma, July 1980.
- University of Rome "La Sapienza": Master of Science degree in Physics – Dottore in Fisica – 110/110 cum laude, March 1987. The thesis consisted of research work on the Knowledge Representation models of the "Mosaico" system; work conducted at the CNR (National Research Council), Rome; supervisors: Dr. Michele Missikoff and Prof. Lucia Zanello.
- Languages. Italian written and spoken: native; English written and spoken: good; German written and spoken: fair.

Present appointment

Associate Professor at the Faculty of Computer Science, Free University of Bozen-Bolzano, Italy. The Faculty of Computer Science at the Free University of Bozen-Bolzano has been rated by the latest Italian Research Evaluation Exercise (CIVR-VTR `http://vtr2006.cineca.it`) in January 2006 the top Italian academic institution in the area of Information and Communication Science and Technology.

Director of the **KRDB Research Centre for Knowledge and Data** at the Free University of Bozen-Bolzano, Italy. The centre was founded by me in 2002 and currently it includes 33 members: 5 faculty staff members (me, prof. Werner Nutt, prof. Diego Calvanese, Dr. Alessandro Artale, Dr. Sergio Tessaris), 6 post-docs (Dr Jos de Bruijn, Dr Rosella Gennari, Dr Raffaella Bernardi, Dr Marijke Keet, Dr Alessandro Mosca, Mr Mariano Rodrigues), 15 PhD students, 7 research assistants. The Scientific Advisory Board of the KRDB Research Centre is composed by: Ron Brachman (Vice-president, Yahoo Research), Thomas Eiter (Professor, Technische Universitt Wien), Alon Halevy (Head, structured-data management research group, Google), Rick Hull (Research Manager, IBM Research), John Mylopoulos (Professor, Universit di Trento and University of Toronto). Web site: `http://www.inf.unibz.it/krdb`

Founder and currently deputy director at the Free University of Bozen-Bolzano of the **European Masters Program in Computational Logic**, an international distributed Master of Science degree, sponsored by the Erasmus Mundus programme of the European Union, in cooperation with the Technische Universität Dresden, Germany, the Universidade Nova de Lisboa, Portugal, the Technische Universität Wien, Austria, and the Universidad Politécnica de Madrid, Spain. The program, completely in English, involves studying one year at the Free University of Bozen-Bolzano, and completing the second year with a stay in one of the partner universities. This is one of the few European Masters of Science awarded since its first year of existence in 2004 by the European Union's Erasmus Mundus programme, which offers several scholarships to non-European students; the Erasmus Mundus programme is a co-operation and mobility programme which promotes the European Union as a centre of excellence in learning around the world by supporting European top-quality Masters Courses. Web site: `http://www.computational-logic.eu`. So far (from 2004 to 2010), the European Master had more than 90 successful students at the Free University of Bozen-Bolzano, while the whole consortium had around 230 students in total.

Previous appointments held

1987 Consultant at Tecnologie Innovative srl, Rome, for the development of a tool - written in Prolog - for AI-based multi-media courses, and for the

analysis and development of Financial Expert Systems.

1988 Consultant at Somios srl, Rome, for a preliminary study and analysis of a knowledge-based Simulation Dynamic System.

1988-1997 Research fellow at *Institute for the Scientific and Technological Research* (Istituto per la Ricerca Scientifica e Tecnologica, ITC-irst), Trento, Italy. ITC-irst is a research centre of the Autonomous Province of Trento. Member of the research groups headed by Dr. Oliviero Stock and by Prof. Fausto Giunchiglia. Research activity in Knowledge Representation, Formal Ontology, Computational Logic, Natural Language Semantics, Conceptual Modelling, and Information Systems.

1991-92 Guest scientist for three months at the Deutsches Forschungszentrum für Künstliche Intelligenz (DFKI) in Saarbrücken, Germany, within the WIP project, headed by Prof. Wolfgang Wahlster, under the supervision of Prof. Bernhard Nebel.

1998 Guest professor at the Dresden University of Technology, teaching the *Description Logics* winter semester course of the "Computational Logic International Masters Programme".

1998 Declined the offer of a permanent position as Lecturer at the Department of Computer Science, University of Otago, Dunedin, New Zealand.

1998-2002 **Senior Lecturer with tenure**, Department of Computer Science, University of Manchester, UK, within the Information Management Group.

1999 Guest Researcher at the Dipartimento di Informatica e Studi Aziendali of the University of Trento, Italy, July/August 1999.

2002-... **Associate Professor with tenure** at the Faculty of Computer Science, Free University of Bozen-Bolzano, Italy.

2005-2006 Pro-rector for research ("delegato alla ricerca") of the Free University of Bozen-Bolzano, Italy.

2006-2007 On sabbatical, visiting professor at the Universidad Nacional del Sur (UNS) in Bahia Blanca (Argentina), visiting professor at the University of Otago in Dunedin (New Zealand), and visiting researcher at the National ICT Australia (NICTA) in Sydney (Australia).

2002-... Founder and **director of the KRDB Research Centre for Knowledge and Data** at the Faculty of Computer Science of the Free University of Bozen-Bolzano, Italy. The centre was founded by me in 2002 and currently it includes 33 members. Web site: `http://www.inf.unibz.it/krdb`

2008 Visiting researcher for three months at the National ICT Australia (NICTA) in Sydney (Australia).

Education related Activities

1990-1998 Supervisor of 6 Master ("Laurea") Theses at various Italian Universities (Milano, Padova, Udine, Verona), primarily in Artificial Intelligence, Knowledge Representation, and Databases.

1996 Supporting Lecturer ("tutor") of the *Knowledge Engineering and Expert System* course (Ingegneria della Conoscenza e Sistemi Esperti) at the University of Trento, Italy, Diploma di Laurea in Ingegneria Informatica.

1996 Lecturer of the *Introduction to Prolog* course (Introduzione al Prolog) at the first Master on "Tecnologie Avanzate dell'Informazione e della Comunicazione" (Information and Communication Advanced Technologies), organised by the IIASS - International Institute for Advanced Scientific Studies, Vietri sul Mare SA, Italy, funded by the European Union.

1997 Lecturer of the *Database Design* and *Deductive Databases and Logic Programming* courses at the second Master on "Tecnologie Avanzate dell'Informazione e della Comunicazione" (Information and Communication Advanced Technologies), organised by the IIASS - International Institute for Advanced Scientific Studies, Vietri sul Mare SA, Italy, funded by the European Union.

1997 Lecturer of *Applied Logics for Information Systems and Artificial Intelligence* (Logica Applicata per Sistemi Informativi e Intelligenza Artificiale) within the *Applied Computer Science* (Informatica Applicata) programme at the University of Verona, Italy.

1998 Lecturer of the *Description Logics* winter semester course of the "Computational Logic International Masters Programme" at the Dresden University of Technology, Germany, sponsored by *Compulog Net* – the ESPRIT European Network of Excellence in Computational Logic.

2000 *External supervisor* of the PhD Thesis "*Logic Engineering: The Case of Hybrid and Description Logics*" by Carlos Areces at the Department of Mathematics and Computer Science, University of Amsterdam, Netherlands, supervisors Prof. Johann van Benthem and Prof. Maarten de Rijke.

2000 *External supervisor* of the PhD Thesis *Modélisation conceptuelle et optimisation des requêtes dans une interface en langue naturelle pour des bases de données* by David Rudloff at the LIIA (Laboratoire d'Informatique et d'Intelligence Artificielle) of the Ecole Nationale Supérieure des Arts et Industries de Strasbourg, France.

2000 Lecturer of the *Logics and Databases* (CT481) Master course at the Department of Computation, UMIST University, Manchester, UK.

2001 Lecturer of the "Description Logics and Ontologies" course within the PhD program at the Computer Science department of the University of Milan, Italy.

2002 Lecturer of the *Description Logics* course within the International Doctoral school of Technology and Science of Aalborg University, Denmark.

2002 Lecturer of the "Description Logics for Conceptual Design, Information Access, and Ontology Integration: Research Trends" within the PhD program "Representation Formalisms for Ontologies" at the Copenhagen Business School, Denmark.

1998-2002 The following teaching activities have been carried on as part of my teaching duties as Senior Lecturer at the Department of Computer Science, University of Manchester.

- Personal tutor of 17 1st year Undergraduate students (1998/1999, 1999/2000, 2000/2001).
- Supervisor of 7 Master projects and 10 Undergraduate projects (1998/1999, 1999/2000, 2000/2001).
- Supervisor of two PhD Theses by Anand Kamble and Andrei Lopatenko on Knowledge Representation and Databases (2000-2003, 2002-2005).
- Internal examiner of the PhD Research Thesis of Gary Ng (2000).
- Lecturer of the *Advanced Knowledge Based Systems* (CS341) 3rd year Undergraduate course (1999).
- Lecturer of the *Advanced Database Models and Languages* (CS336) 3rd year Undergraduate course (2000, 2002).
- Lecturer of the *Advanced Database Technologies* (CS636) Master in Advanced Computer Science course (2000, 2001, 2002).
- Lecturer of the *Data Modelling and databases* (CS530) Master in Computer Science course (2001).
- Various support activities for other courses:

CS231 Fundamentals of Databases: lectures, laboratories, example classes (1998/1999, 1999/2000, 2000/2001); 2nd year compulsory UG course.

CS102 Discrete Mathematics: example classes, tutorial and exam marking (1999/2000, 2000/2001); 1st year compulsory UG course.

CS235 Software Engineering 2: lecture (1999/2000); 2nd year compulsory UG course.

2002-... The following teaching activities have been carried on as part of my teaching duties as Associate Professor at the Faculty of Computer Science, Free University of Bozen-Bolzano.

- Supervisor of a PhD Thesis by Paolo Dongilli on Knowledge Representation and Databases (2004-2008).

- Supervisor of a PhD Thesis by Marijke Keet on Knowledge Representation and Bioinformatics (2005-2007).
- External examiner of the PhD Research Thesis of Yuan An at the University of Toronto (Canada) (2007).
- Supervisor of a PhD Thesis by Inanç Seylan on Logic and Databases (2008-2010).
- Supervisor of a PhD Thesis by Paolo Guagliardo on Logic and Databases (2010-2012).
- Supervisor of a PhD Thesis by Volha Kerhet on Logic and Databases (2010-2012).
- External examiner of the PhD Research Thesis of Héctor Pérez-Urbina at the University of Oxford (UK) (2010).
- Supervisor of several Undergraduate and Master projects and theses (2002-).
- Lecturer of the *Logic* 2nd year undergraduate course (2002 2003, 2004, 2005, 2007, 2008).
- Lecturer of the *Databases and Data Modelling* 2nd year undergraduate course (2002, 2003, 2004).
- Lecturer of the *Knowledge Representation* master course (2004, 2005, 2007, 2008).
- Lecturer of the *Computer Systems Architecture* 1st year undergraduate course (2007, 2008).
- Lecturer of the *Seminars in Knowledge Representation* master course (2007).

• Founder and currently deputy director at the Free University of Bozen-Bolzano of the **European Masters Program in Computational Logic**, an international distributed Master of Science degree, sponsored by the Erasmus Mundus programme of the European Union, in cooperation with the Technische Universität Dresden, Germany, the Universidade Nova de Lisboa, Portugal, the Technische Universität Wien, Austria, and the Universidad Politécnica de Madrid, Spain. Web site: `http://www.computational-logic.eu`.

• Published on the web a complete introductory course on Description Logics, including slides, course material, reference literature `<http://www.inf.unibz.it/ franconi/dl/course/>`. The course is adopted by more than 20 university courses around the world every year, and it has an average of 1,500 unique accesses every month. The course was first published online in 1998.

Research Projects

1983-84 Coordinator of the master students research grant funded by the Univ. of Rome "La Sapienza": *Computer Education and Artificial Intelligence.*

1987-89 Co-investigator of the research project "Onion: A memory supporting Dynamic Data Structures", based on a particular connectionist model of Boltzmann Machine. The project was conducted at the G-18 Lab, headed by Prof. Maurizio Bonori, Physics Dept., Univ. of Rome "La Sapienza", supported by the Natl. Inst. for Nuclear Physics (INFN).

1989-94 ITC-irst Scientific Coordinator of the Italian National Research Council (CNR) funded project "Sistemi Informatici e Calcolo Parallelo", area "Hybrid Systems". Co-members are: University of Rome (Prof. Maurizio Lenzerini, coordinator), CNR-IP, Rome (C. Castelfranchi), CNR-Computational Linguistics Institute, Pisa (A. Cappelli), CNR-LADSEB, Padova (N. Guarino), Quinary SpA, Milano (L. Spampinato). Goal of the project was the study and the development of hybrid knowledge representation systems, based on Description Logics. The YAK knowledge representation system – developed by me – was chosen as the final prototype of the project. ITC-irst was funded for 50,000,000 Italian lire (25,800 Euro) per year (total: 5 years).

1994-96 ITC-irst Principal Investigator of the Italian National Research Council (CNR) project "*Ontological and Linguistic Tools for Conceptual Modelling*" (Strumenti ontologico-linguistici per la modellazione concettuale). Co-members are: Università di Trento (R. Poli), Ladseb-CNR, Padova (N. Guarino), Università di Modena (F. Bonfatti), ILC-CNR, Pisa (A. Cappelli), Università di Torino (L. Lesmo). Goal of the project is the study of ontological and linguistic tools for the domain analysis phase within the conceptual design of data and knowledge bases. ITC-irst activity was funded for 4,000,000 Italian lire (2,000 Euro) per year (total: 2 years).

1994-1998 *Contact person* for the ITC-irst node of the ESPRIT funded European Network of Excellence *Compulog Net*, in computational logics. Goal of Compulog-Net is the study of the foundations of an integrated software tool for the development of knowledge based systems, by extending the logic programming paradigm with enrichments from areas such as databases, artificial intelligence, knowledge representation and logics.

1996 Principal Investigator of the ITC-irst project *Conceptual Modelling and Intelligent Integration of Information* (Modellazione Concettuale ed Integrazione Intelligente dell'Informazione). Goal of the project was the study and implementation of description logics based techniques for conceptual modelling, aggregation, and intelligent integration of information and their evaluation in some experimental applicative contexts, in the domains of databases and natural language semantic interpretation.

1996 Member of the ITC-irst project *Large Multimedia Libraries*, whose aim is the study of advanced solutions for the management of large multimedia libraries in the Public Administration. Within this project, co-author of the document for the reorganisation of the information system of the "Commissione Terrorismo e Stragi del Senato della Repubblica" committee of Italian Parliament.

1996-99 Principal Investigator of the European ESPRIT-4 Long Term Research (LTR) project *Foundations of Data Warehouse Quality* "**DWQ**", No. 22469. Co-partners are: *National Technical University of Athens (NTUA), Greece* – Prof. Yannis Vassiliou (coordinator), Prof. Timos Sellis; *DFKI Saarbrücken, Germany* – Dr. Werner Nutt; *INRIA Rocquencourt, France* – Prof. Eric Simon, Prof. Mokrane Bouzeghoub; *RWTH University Aachen, Germany* – Prof. Matthias Jarke, Prof. Franz Baader; *Università di Roma 'La Sapienza', Italy* – Prof. Maurizio Lenzerini. The goal of the DWQ project is to develop a semantic foundation that will allow the designers of data warehouses to link the choice of deeper models, richer data structures and rigorous implementation techniques to quality-of-service factors in a systematic manner, thus improving the design, the operation, and the evolution of data warehouse applications. Our research covers multidimensional modelling and reasoning tasks associated with aggregation. It focuses on integrating time, space, numerical data, and aggregates into multidimensional conceptual data modelling formalisms based on techniques derived from description logics. My research is funded for 42,000 Euro per year (total: 3 years).

1997-98 Principal Investigator in the Italian Space Agency (ASI) funded project "Integrazione ed Accesso a Basi di Dati Eterogenee" (*Integration and Access to Heterogeneous Databases*). Project partners are the leading Italian research groups in knowledge representation applied to databases. The goal of this project is to study and develop methodologies, techniques, algorithms, and software modules specifications for the integration of and the access to heterogeneous databases. The research activity will be evaluated in its wholeness in a experimental domain of data in the space sciences, including images, spectra and other data products from a wide range of space-based missions. My research is funded for 30,000,000 Italian lire (15,500 Euro) per year (total: 2 years).

1997-98 Scientific Coordinator of the ITC-irst coordinated project on "*Conceptual Modelling and Databases*", leading to a methodology for the organisation, the classification, and the conceptual modelling of scientific databases, and to a tool supporting the flexible access to data in different modalities with the aid of the information schema. This project is in cooperation with the scientific department of CSM (Centro Sviluppo Materiali), Pomezia, Roma, an industry interested in developing tools for managing and reusing corporate technical knowledge.

1997-98 Principal Investigator of the Italian National Research Council (CNR) special project "Strumenti ontologici per l'organizzazione e l'integrazione di conoscenze eterogenee" (*Ontological tools for the management and the integration of heterogeneous knowledge*). The project studies theories and tools, derived from the field of formal ontology, for applications in information systems. My research is funded for 8,000,000 Italian lire (4,100 Euro) per year (total: 2 years).

1999-2000 Co-leader of the workpackage *Reasoning* within the European ESPRIT *AgentLink* Network of Excellence on Agent-based Computing, Special Interest Group on *Intelligent Information Agents*, Working Group WG-1 on *Agent-Based Data and Knowledge Management*. The goal is to study existing metadata and domain standards in electronic commerce, digital libraries and the web, and to develop a general and well founded approach for the design of reusable conceptualisations (i.e., ontologies) which can be combined with reasoning services at a higher conceptual and formal level.

1999-2002 Co-Investigator of the British Engineering and Physical Sciences Research Council (EPSRC) project in the Distributed Information Management (DIM) programme "Flexible source integration in distributed knowledge-based query processing for bioinformatic information sources" (TAMBIS-II, EPSRC GR/M76607). TAMBIS aims to aid researchers in biological science by providing a single access point for biological information sources round the world. The access point will be a single interface (via the World Wide Web) which acts as a single information source. It will find appropriate sources of information for user queries and phrase the user questions for each source, returning the results in a consistent manner which will include details of the information source. The research is funded for 60,000 Euro per year (total: 3 years).

2000-2001 Principal Investigator of the British Engineering and Physical Sciences Research Council (EPSRC) project *Knowledge Representation meets Databases: Tools for Conceptual Modelling and Query Management* (KRDB, EPSRC GR/R04348/01). The aim of the project is to devise and evaluate algorithms, methodologies, techniques, and interaction paradigms to build a tool for conceptual modelling and query management of complex data repositories, based on a framework with solid formal foundations. We wish that this will contribute to a better understanding of the cross-fertilisations between the Knowledge Representation and Database technologies. The research is funded for 90,000 Euro and it lasts 18 months.

2002-2005 *Principal investigator* of the 5th framework European RTD project "**SeWAsIE**" – *SEmantic Webs and AgentS in Integrated Economies*, a 3 years project funded by the European Commission. SeWAsIE will design and implement an advanced search engine enabling intelligent access to heterogeneous data sources on the web via semantic enrichment to provide the

basis of structured secure web-based communication. Partners are: University of Modena, Italy; University of Roma "La Sapienza", Italy; Confederazione Nazionale dell'Artigianato e della Piccola e Media Impresa, CNA SERVIZI Modena, Italy; IBM Italia SpA, Italy; Technical University of Aachen – RWTH, Germany; Thinking Networks AG, Aachen, Germany. My research is funded 260,000 Euro for 3 years.

2004-2007 *Principal investigator* of the 6th Framework European Network of Excellence "**KnowledgeWeb**", a 4 years Network of Excellence project funded by the European Commission. Knowledge Web began on January 1st, 2004. Supporting the transition process of Ontology technology from Academia to Industry is the main and major goal of Knowledge Web. Partners are: University of Innsbruck, Ecole Polythechnique Federale de Lausanne, France Telecom, Freie Universitat Berlin, Institut National de Recherche en Informatique et en Automatique, Informatics and Telematics Institute (Greece), Learning Lab Lower Saxony, National University of Ireland Galway, The Open University, Universidad Politecnica de Madrid, University of Karlsruhe, University of Liverpool, University of Manchester, University of Sheffield, University of Trento, Vrije Universiteit Amsterdam, Vrije Universiteit Brussels. My research is funded for 220,000 Euro for four years.

2004-2007 *Principal investigator* of the 6th Framework European Network of Excellence "**Interop**" – *Interoperability Research for Networked Enterprises Applications and Software*, a 3 years Network of Excellence project funded by the European Commission. The Interop Network of Excellence aims to create the conditions of an innovative and competitive research in the domain of Interoperability for Enterprise Applications and Software. This project is an association of 50 partners from 15 countries coming from numerous sectors spanning academic institutions, research centres, industrial stakeholders and standards communities. My research is funded for 60,000 Euro for three years.

2005-2008 *Co-investigator* of the 6th Framework European STREP FET basic research project "**Tones**" – *Thinking ONtologiES*, a 3-years project funded by the European Union. The aim of the project is study and develop automated reasoning techniques for both offline and online tasks associated with ontologies, either seen in isolation or as a community of interoperating systems, and devise methodologies for the deployment of such techniques, on the one hand in advanced tools supporting ontology design and management, and on the other hand in applications supporting software agents in operating with ontologies. Partners are: University of Roma "La Sapienza" (Italy), University of Manchester (UK), Technische Universitaet Dresden (Germany), Technische Universitaet Hamburg-Harburg (Germany). The project is funded at our site for 320,000 Euro for 3 years.

2009-2010 Principal investigator of the Italian side of the joint research project "Technologies for Conceptual Modelling and Intelligent Query Formulation"

funded by the Executive Programme of the Scientific and Technological Co-operation between the Republic of South Africa and the Italian Republic. The aim of the project is to devise and evaluate algorithms, methodologies, techniques, and interaction paradigms to build a tool for conceptual modelling and query management of complex data repositories, and to experiment them in the context of medical and bio-diversity South African data banks. The research cooperation is funded 45,000 Euro for 3 years.

2009-2011 *Principal investigator* of the 7th Framework European large-scale integrating project (IP) "**Ontorule**" – *ONTOlogies meet business RULEs*, a 3-years project funded by the European Union. Ontorule aims at developing a methodological, theoretical and technological platform for the mutually aware acquisition, management, and use of ontologies and business rules. This is achieved by considering semantically well-founded combinations of rules and ontologies, together with efficient methodologies for their integrated processing. Partners are: ILOG (France), University of Innsbruck (Austria), Ontoprise (Germany), Open University (UK), Vienna University of Technology (Austria), and other technological partners. My research is funded for 576,000 Euro for 3 years.

2010-2012 *Principal investigator* of the 7th Framework European ICT Marie Curie research exchange action on a Network for Enabling Networked Knowledge "**NET2**". Partners are: National University of Ireland; Universität Koblenz-Landau, Germany; Technische Universiteit Delft, The Netherlands; Technische Universität Wien, Austria; Universidad de Chile, Santiago de Chile; University of South Africa, Pretoria; Shanghai Jiao Tong University, China. My exchange activity is funded for 65,000 Euro for 3 years.

Activities in Scientific Committees

- **Chair** of Scientific Committees:
  - Chair of the workshop on *Events, Actions and Plans: Representation, Reasoning and Applications*, ITC-irst Trento, Italy, October 23-24 1994.
  - General Chair of the 1998 *International Workshop on Description Logics* (DL'98), Trento, Italy, June 6-8 1998. Co-editor of the proceedings, published by ITC-irst, Trento, Italy, Ref. No. 9805-03; also electronically available as CEUR Publication Vol. 11, RWTH Aachen, Germany. Co-author of a report on the workshop in the *Journal of Logic and Computation* (JLC), 9(3):449–456, 1999, Oxford University Press. The workshop received sponsorships from the Italian National Research Council (CNR) and COMPULOG ESPRIT

European Network of Excellence for a total of 3,500 Euro. Web page: <http://www.dl.kr.org/dl98/>.

- Publicity Chair of *6th International Conference on Principles of Knowledge Representation and Reasoning* (KR'98), Trento, Italy, June 2-5 1998. Web page: <http://www.kr.org/kr98/>.
- Co-organiser of the *AAAI'99 Fall Symposium on Modal and Temporal Logics based Planning for Open Networked Multimedia Systems*, North Falmouth, Cape Cod MA, USA, November 5-7, 1999.
- General co-Chair, together with Prof. Michael Kifer (University at Stony Brook, USA), of the *6th International Workshop on Knowledge Representation Meets Databases* (KRDB'99), Linköping, Sweden, July 29-30, 1999; KRDB'99 is an affiliate event with IJCAI'99 and DL'99. Co-editor of the proceedings, published by Linköping University, Sweden, July 1999; also electronically available as CEUR Publication, Vol. 21, RWTH Aachen, Germany, July 1999. The workshop is sponsored by the COMPULOG ESPRIT European Network of Excellence for a total of 2,000 Euro. Web page: <http://www.cs.man.ac.uk/img/krdb99/>.
- Co-editor of the special issue on *Methods for Modalities* of the Logic Journal of the IGPL, a Journal on Pure and Applied Logic, vol. 8, no. 3, May 2000, Oxford University Press.
- Chair of the Programme Committee of the *12th European Summer School in Logic, Language and Information* (ESSLLI'2000), Birmingham, UK, August 2000. The summer school has been highly successful, attracting around 500 students from Europe and elsewhere. The school has developed into an important meeting place and forum for discussion for students and researchers interested in the interdisciplinary study of Logic, Language and Information. ESSLLI'2000 is organised under the auspices of the European Association for Logic, Language and Information (FoLLI). Web page: <http://www.folli.uva.nl/Esslli/2000/esslli-2000.html>.
- General Chair of the *International Workshop on Foundations of Models for Information Integration* (FMII'2001), the 10th workshop in the series "Foundations of Models and Languages for Data and Objects" (FMLDO), Viterbo, near Rome, Italy, 16-18 September 2001, in conjunction with VLDB'2001 and KRDB'2001. The main principle of this workshop series is to focus on one selected theme different from year to year, and to offer the opportunity for in-depth exchange of ideas and experiences between the best database researchers in the area. FMII'2001 will enjoy the talks of three invited speakers: Amr El Abbadi, Serge Abiteboul, and Tamer Özsu. Web page: <http://www.fmldo.org/FMII-2001/>.
- Co-chair of the Organising Committee of the 9th International Symposium on Temporal Representation and Reasoning (TIME-2002),

Manchester (UK), 4-6 July 2002.

  - Co-chair the 2003 International Workshop on Description Logics (DL'2003), 5-7/9/2003 in Rome, Italy.
  - Co-chair the Dagstuhl Seminar on Logic Based Information Agents, in Schloss Dagstuhl, Germany, 18-24/4/2004.
  - Chair of the organising committee of the 13th Italian Symposium on Advanced Database Systems (SEBD-2005); Brixen-Bressanone, Italy, 20-22/6/2005.
  - Chair of the 2nd International Workshop on Exchange and Integration of Data (EID-2006), Brixen-Bressanone, Italy, 9-11/6/2006.
  - Co-chair of the program committee of the International Conference on Rules and Rule Markup Languages for the Semantic Web (RuleML-2006), Athens GA, USA, 9-10/11/2006.
  - General chair of the 4th Annual European Semantic Web Conference (ESWC-2007), in Innsbruck, Austria, 3-7/6/2007.
  - Co-chair of the 2007 International Description Logics workshop (DL-2007), in Brixen-Bressanone BZ, Italy, 8-10/6/2007.
  - Co-chair of the 2009 Reasoning Web Summer School, in Brixen-Bressanone, Italy September 2009.

- Founder member of the *AI*IA Italian Association for Artificial Intelligence* (Associazione Italiana per l'Intelligenza Artificiale) (1989-...).

- Former member of the *Advisory Board* of *KR, Inc.*, Jon Doyle (MIT, Boston MA, USA) president. KR, Inc. is a charitable organisation incorporated in the state of Massachusetts of the United States of America concerned with fostering research and communication on knowledge representation and reasoning. Its primary activities include organising the series of *Conferences on Principles of Knowledge Representation and Reasoning*.

- Current member of the Advisory Committee of the World Wide Web Consortium (W3C). The W3C was created in October 1994 to lead the World Wide Web to its full potential by developing common protocols and standards that promote its evolution and ensure its interoperability. The Advisory Committee reviews proposals for new Activities and proposed Recommendations.

- Referee activity in more than 100 international peer-reviewed conferences and journals.

- Expert evaluator for project proposals submitted to the British Engineering and Physical Sciences Research Council (EPSRC), to The Netherlands Organisation for Scientific Research (NWO) division Physical Sciences, and to the Austrian public funding scheme FIT-IT at the Austrian Research Promotion Agency FFG.

- Member of the editorial board of the Journal of Applied Logic (JAL), published by Elsevier.
- Member of the editorial board of the AAAI Press, which co-publishes books with MIT Press.
- Member of the Scientific Program Committees:
  - Italian Association for Artificial Intelligence (AI*IA) workshop on *Temporal Reasoning*, Parma, Italia, 28/9/1994.
  - IJCAI-95 workshop on *The Next Generation Of Plan Recognition Systems*, Montreal, Canada, 20/8/1995.
  - Italian Association for Artificial Intelligence (AI*IA) 1996 workshop on *Access, Extraction and Integration of Knowledge*, Napoli, Italia, 28/9/1996.
  - 1996 *International Workshop on Description Logics* (DL'96), Boston MA, USA, 2-4/11/1996. Co-editor of the proceedings, published by AAAI Press - American Association for Artificial Intelligence, TR-WS-96-05, Cambridge MA, USA.
  - 1997 *International Workshop on Description Logics* (DL'97), Paris, France, 27-29/9/1997. Co-editor of the proceedings, published by Université Paris-Sud, Centre d'Orsay, Laboratoire de Recherche en Informatique LRI, URA-CNRS 410.
  - *7th European/Japanese Conference on Information Modeling and Knowledge Bases* (EJIMKB'97), Toulouse, France, 27-30/5/1997.
  - *2nd International and Interdisciplinary Workshop Intelligent Information Integration* (I^3'98), Brighton, UK, 25/8/1998, associated with the 13th European Conference on Artificial Intelligence (ECAI'98).
  - International Workshop *Methods for Modalities* (M4M), Amsterdam, 6-7/5/1999.
  - *CAiSE'99 Workshop on Design and Management of Data Warehouses*, Heidelberg, Germany, 14-15/6/1999.
  - *Third International and Interdisciplinary Workshop on Intelligent Information Integration*, (I^3'99), associated with IJCAI'99, Stockholm, 31/7/1999.
  - *International Conference on Conceptual Modeling* (ER'99), Paris, France, 15-18/11/1999.
  - *14th European Conference on Artificial Intelligence* (ECAI'2000), Berlin, Germany, 20-25/8/2000.
  - *7th International Workshop on Knowledge Representation meets Databases* (KRDB'2000), Berlin, Germany, 21-22/8/2000, associated with ECAI'2000 and DL'2000.

- *8th International Workshop on Knowledge Representation meets Databases* (KRDB-2001), Roma, Italia, 15/9/2001, associated with VLDB-2001 and FMII-2001.
- Workshop on Formal Ontology, Knowledge Representation and Intelligent Systems for the World Wide Web (SemWeb@KR02), Tolouse (France), 19-20/4/2002, colocated with KR-2002.
- 9th International Workshop on Knowledge Representation meets Databases (KRDB-2002), Toulouse (France), 21/4/2002, colocated with KR-2002.
- British National Conference on Databases (BNCOD-2002), Sheffield (UK), 17-19/7/2002.
- 18th American National Conference on Artificial Intelligence (AAAI-2002), Edmonton, Alberta, Canada, 28/7-1/8/2002.
- Workshop on Foundations for the Semantic Web, at the European Summer School in Logic, Language and Information (ESSLLI-2002), 5-16/8/2002, Trento Italy.
- Workshop on Ontologies for multi-agent systems, at the 13th International Conference on Knowledge Engineering and Knowledge Management (EKAW-2002), Siguenza (Spain), 1-4/10/2002.
- Second International Workshop on Evolution and Change in Data Management (ECDM-2002), Tampere, Finland, 11/10/2002, in conjunction with the 21st International Conference on Conceptual Modelling - ER 2002.
- Italian National Database Conference (SEBD-2003), Cosenza, Italy, 24-27/6/2003.
- Joint 10th international symposium on "Temporal Representation and Reasoning" and 4th International Conference on Temporal Logic (TIME-ICTL-2003), Cairns, Queensland, Australia, 8-10/7/2003.
- 5th International Workshop on Design and Management of Data Warehouses (DMDW'2003), 8/9/2003, in conjunction with the 29th International Conference on Very Large Databases (VLDB 2003), in Berlin, Germany.
- Int. Conf. on Logic for Programming, Artificial Intelligence and Reasoning (LPAR'2003), 22-26/9/2003, in Almaty, Kazakhstan.
- 10th International Workshop on Knowledge Representation meets Databases (KRDB'2003), in Hamburg, Germany, 15-18/9/2003.
- 3rd workshop on Methods for Modalities (M4M-3), 22-23/9/2003, in Nancy, France.
- XXIII International Conference of the Chilean Computer Science Society (SCCC'2003), in Chillan, Chile, 3-8/11/2003.

- 2nd CoLogNET-ElsNET Symposium on Questions and Answers: Theoretical and Applied Perspectives, Amsterdam, NL, on 18/12/2003.
- 1st European Semantic Web Symposium (ESWS-2004), Heraklion, Greece, on 10-12/5/2004.
- 13th International World Wide Web Conference (WWW2004) for the Semantic Web area; in New York (US) 17-22/5/2004.
- 2004 International Workshop on Description Logics (DL'2004), Whistler, British Columbia, Canada, 6-8/6/2004.
- 11th International Symposium on Temporal Representation and Reasoning (TIME-2004), Caen, France, 7/2004.
- 2nd Workshop on Principles and Practice of Semantic Web Reasoning (PPSWR-2004), St. Malo, France, 6-10/9/ 2004.
- Workshop on The Model-Driven Semantic Web: Enabling Knowledge Representation and MDA; Technologies to Work Together (MDSW-2004), Monterey CA, USA, 20-24/9/2004.
- 14th International World Wide Web Conference (WWW-2005) for the Semantic Web area; Chiba, Japan, 10-14/5/2005.
- 12th International Symposium on Temporal Representation and Reasoning (TIME-2005), Burlington, Vermont, USA, 23-25/5/2005.
- International Workshop on Principles and Practice of Semantic Web Reasoning (PPSWR'05), Dagstuhl, Germany, 11-16/9/2005.
- International Conference on Ontologies, Databases and Applications of SEmantics (ODBASE'05), Cyprus, 31/10-4/11/2005.
- 3rd International Workshop on Regulatory Ontologies (WORM'05), Cyprus, 31/10-4/11/2005.
- International Workshop on OWL: Experiences and Directions, Galway, Ireland, 11-12/11/2005.
- International Workshop on Methods for Modalities (M4M'05), Berlin, Germany, 1-2/12/2005.
- 2nd Italian Semantic Web Workshop Semantic Web Workshop (SWAP'05), Trento, Italy, 15-16/12/2005.
- International Workshop on Inconsistency and Incompleteness in Databases (IIDB-2006), Munich, Germany, 26/3/2006.
- 2006 International Workshop on Description Logics (DL'2006), the Lake District, UK, 30/5-1/6/2006.
- 10th International Conference on Principles of Knowledge Representation and Reasoning (KR-2006), the Lake District, UK, 2-5/6/2006.
- 3rd European Semantic Web Conference (ESWS-2006) Budva, Montenegro, on 11-14/6/2006.

- 14th Italian Symposium on Advanced Database Systems (SEBD-2006) Portonuovo AN, Italy, on 18-21/6/2006.
- 21st National (USA) Conference on Artificial Intelligence (AAAI-2006), Boston, USA, 16-20/7/2006.
- 2nd Summer School on Reasoning Web (Reasoning Web 2006), Lisbon, Portugal, 4-8/9/2006.
- European Conference on Logics in Artificial Intelligence (JELIA-2006), Liverpool, UK, 13-15/9/2006.
- 7th ACM International Workshop on Web Information and Data Management (WIDM-2006), Bremen, Germany, 10/11/2006.
- 4th Semantic Web and Databases Workshop (SWDB-2007), Vienna, Austria, 9/2007.
- 5th European Semantic Web Conference (ESWC-2008), Tenerife, Spain, 1-5/6/2008.
- 20th European Summer School in Logic, Language and Information (ESSLLI-2008) for the Logic and Computation area, Hamburg, Germany, 4-15/8/2008.
- 11th Intl. Conference on Principles of Knowledge Representation and Reasoning (KR-2008), Sydney, Australia, 16-19/9/2008.
- Logic in Databases workshop (LID-2008), Rome, Italy, 19-20 May 2008.
- 5th European Semantic Web Conference (ESWC-2008), Tenerife, Spain, 1-5 June 2008.
- 25th International Conference on Data Engineering (ICDE-2009), Shanghai, China, March 29 - April 4, 2009.
- 32nd Annual Conference on Artificial Intelligence (KI-2009), Paderborn, Germany, 15-18 September 2009.
- 21st International Joint Conference on Artificial Intelligence (IJCAI-2009), Pasadena CA, USA, 11-17 July 2009.
- 17th Italian Symposium on Advanced Database Systems (SEBD-2009), Camogli, Genova, Italy, 21-24 June 2009.
- Workshop on Controlled Natural Language (CNL-2009), Marettimo Island, Italy, 8-10 June 2009.
- Alberto Mendelzon Workshop on Foundations of Data Management (AMW-2009), Arequipa, Peru, May 12–15, 2009.
- 2010 International Workshop on Description Logics (DL-2010), Waterloo, Canada, 4-7 May 2010.
- 12th International Conference on the Principles of Knowledge Representation and Reasoning (KR-2010), Toronto, Canada, 9-13 May 2010

Invited Talks at scientific events

- Invited Speaker on *Temporal Description Logics* at the Workshop on *Combinations of Temporal and Modal Logics '98* (CMTL'98), Manchester Conference Centre, Manchester, UK, 16 December, 1998.
- Invited Speaker on *Conceptual Modelling with Temporal Description Logics* at the *British Colloquium for Theoretical Computer Science*, sponsored by EPSRC, London Mathematical Society, and Microsoft Research, University of Keele, UK, 15 April 1999.
- Invited Speaker on *Temporal Description Logics* at the *6th International Symposium on Temporal Representation and Reasoning* (TIME'99), Orlando, Florida, USA, May 1-2, 1999.
- Invited Speaker at the Dagstuhl Seminar on *Logics for Emerging Applications of Databases*, 16-21 July 2000, Schloß Dagstuhl, Germany, organised by J. Chomicki, R. van der Meyden, G. Saake.
- Invited Speaker on *Conceptual Modelling with Description Logics* at the *8th International Conference on Conceptual Structures* (ICCS-2000), 14-18 August 2000, Darmstadt, Germany.
- Invited Speaker, together with Prof. Gio Wiederhold, on *Ontology-driven Information Integration* at the *Information Integration Workshop at CERN*, 19 June 2000, Geneva, Switzerland.
- Invited Speaker on *Tools for Knowledge Engineering* at the 2° workshop *Methods for Modalities* (M4M-2), 29-30 Novembre 2001, Amsterdam, Olanda.
- Tutorial on "Description Logics for Conceptual Design, Information Access, and Ontology Integration: Research Trends" at the 1st International Semantic Web Conference (ISWC-2002), Chia, Sardinia (Italy), 9-12th June 2002.
- Invited Speaker on "(Description) Logics for Information Modelling and Access" at the Fifth International Conference on Flexible Query Answering Systems (FQAS-2002), Copenhagen, Denmark, October 27 - 29, 2002.
- Invited speaker at the Workshop on Logic-based Methods for Information Integration, Vienna, Austria, on 23 August 2003.
- Invited tutorial at the 2nd Italian Semantic Web Workshop Semantic Web Workshop (SWAP'05), Trento, Italy, 15-16/12/2005.
- Invited speaker at the 25th ACM Symposium on Principles of Database Systems (PODS-2006) Chicago IL, on 26-28/6/2006.

- Invited speaker at the 3rd workshop on Logic and MultiAgent Systems (LAMAS-2007), the University of Otago in Dunedin, New Zealand, 15-16/2/2007.
- Keynote speaker at the 26th International Conference on Conceptual Modeling (ER-2007), in Auckland, New Zealand, 5-9/11/2007.
- Joint invited speaker at both the 4th Workshop on Ontologies-based Techniques for DataBases in Information Systems and Knowledge Systems (ODBIS-2008) and the International Workshop on New Trends in Information Integration (NTII-2008), colocated with VLDB-08 in Auckland, New Zealand, 23 August 2008.
- Invited tutorial at the 34th International Conference on Very Large Data Bases (VLDB-2008), in Auckland, New Zealand, 23-28 August 2008.
- Invited speaker at the Knowledge Representation Ontology Workshop (KROW-2008), colocated with KR-08 in Sydney, Australia, 17 September 2008.

Implemented Systems

YAK YAK is a fully implemented knowledge representation description logics based system. YAK is written in pure common-lisp with an optional graphical interface – featuring display and browsing capabilities – running in several different platforms. The YAK system has been developed initially as the KR module of the AlFresco natural language system, a multi-modal dialogue prototype for the exploration of Italian art history. Now it is a stand-alone, robust, documented and portable piece of software, used within other AI knowledge-based projects. The YAK project ended in 1991. YAK is being used as main module for the multimedia presentation system Beheim, at the Erlangen University, Germany. The aim of the system is to explore the information regarding the oldest globe of the world – the Beheim globe (1492). YAK has been licensed to 15 international research centres.

CRACK The aim of the CRACK project is the research and the development of a knowledge representation system based on description logics. The CRACK language differentiates itself from previous knowledge representation systems for its high expressivity and its provably sound and complete reasoning procedures. The greatest motivation for the CRACK project is the possibility of having a modular system, where the expressivity of the language could be extended, without re-implementing the control part of the system. The CRACK project ended in 1998. Among the various installations of CRACK in different research institutes, it is relevant the

use of CRACK as the main reasoning module for a *process modelling* application in the domain of chemical plants, developed by the Technical University of Aachen (RWTH), Germany.

i•com The i•com tool supports the conceptual design phase of an information system, and in particular of an integration information system such as a data warehouse. i•com allows for the specification of multiple Entity/Relationship (ER) and UML diagrams and inter- and intra-schema (OCL-like) constraints. i•com adopts an extended conceptual data model, enriched with multidimensional aggregations and very expressive constraints. i•com is fully integrated with a very powerful Description Logics reasoning server which acts as a background inference engine: complete logical reasoning is employed by the tool to verify the specification, infer implicit facts, and manifest any inconsistencies. The tool is an evolution of part of the conceptual modelling demonstrators suite developed within the European ESPRIT Long Term Research *Data Warehouse Quality* (DWQ) project. i•com has been chosen for the final demonstration of the DWQ project (Paris, France, November 1999), it has been demonstrated at ACM-SIGMOD'2000 (Dallas TX, USA), and it has been further developed within the KnowledgeWeb and Tones European projects.

coDBz The coDBz project studies the problem of efficient query processing in a network of databases, possibly with different schemas, interconnected by means of mapping rules at the schema level. The system has been demonstrated at the 30th International Conference on Very Large Data Bases (VLDB 2004).

Quelo The Quelo project studies the problem of supporting the user in the task of formulating a precise query – which best captures her information needs – even in the case of complete ignorance of the vocabulary of the underlying information system holding the data. Our intelligent interface is driven by means of appropriate automated reasoning techniques over an ontology describing the domain of the data in the information system.

Publications

My current **h-index** is **26**, and my current **g-index** is **45** (`http://www.harzing.com/pop.htm`).

According to CiteSeer, I'm the $4{,}546^{th}$ most cited author in Computer Science (`http://citeseer.ist.psu.edu/allcitedn.html`).

Academic Journal Papers

[1] Enrico Franconi, Bernardo Magnini, and Oliviero Stock. Prototypes in a hybrid language with primitive descriptions. *Computer and Mathematics with Applications*, 23(6-9):543–556, March-May 1992. Pergamon Press.

[2] Enrico Franconi. Extending hybridity within the YAK knowledge representation system. *AI*IA Notizie, rivista dell'Associazione Italiana per l'Intelligenza Artificiale* (Italian Association for Artificial Intelligence journal), 5(2):55–58, June 1992.

[3] Enrico Franconi. A treatment of plurals and plural quantifications based on a theory of collections. *Minds and Machines*, 3(4):453–474, November 1993. Kluwer Academic.

[4] Franz Baader, Enrico Franconi, Bernhard Hollunder, Bernhard Nebel, and Hans-Juergen Profitlich. An empirical analysis of optimization techniques for terminological representation systems. *Applied Intelligence*, 4(2):109–132, April 1994. Kluwer Academic.

[5] Alessandro Artale, Enrico Franconi, Nicola Guarino, and Luca Pazzi. Part-whole relations in object-centered systems: An overview. *Data and Knowledge Engineering* (DKE), 20(3):347–383, 1996. North-Holland, Elsevier.

[6] Alessandro Artale and Enrico Franconi. A Temporal Description Logic for Reasoning about Actions and Plans. *Journal of Artificial Intelligence Research* (JAIR), 9:463–506, December 1998. Morgan Kaufmann.

[7] Enrico Franconi, Giuseppe De Giacomo, Ian Horrocks, Deborah L. McGuinness, Werner Nutt, Peter F. Patel-Schneider and Christopher A. Welty. Report on the 1998 International Workshop on Description Logics (DL'98). *Journal of Logic and Computation* (JLC), 9(3):449–456, 1999. Oxford University Press.

[8] Enrico Franconi and Ulrike Sattler. A Data Warehouse Conceptual Data Model for Multidimensional Aggregation: a preliminary report. *AI*IA Notizie, rivista dell'Associazione Italiana per l'Intelligenza Artificiale* (Italian Association for Artificial Intelligence journal), 12(1):9-21, March 1999.

[9] Alessandro Artale and Enrico Franconi. Representing a Robotic Domain using Temporal Description Logics. *Journal of Artificial Intelligence for Engineering Design, Analysis and Manufacturing* (AIEDAM), 13(2):105-117, April 1999. Cambridge University Press.

[10] Carlos Areces, Enrico Franconi, Rajeev Goré, Maarten de Rijke and Holger Schlinghoff. Use Your Logic. *Logic Journal of the IGPL*, a Journal on Pure and Applied Logic, 8(3):231–237, May 2000. Oxford University Press.

[11] Alessandro Artale and Enrico Franconi. A Survey of Temporal Extensions of Description Logics. *Annals of Mathematics and Artificial Intelligence* (AMAI), 30(1-4) 2001, Baltzer - Kluwer Academic, 2001.

[12] Alessandro Artale and Enrico Franconi. Temporal ER Modelling with Description Logics: A Preliminary Report. *AI*IA Notizie, rivista dell'Associazione Italiana per l'Intelligenza Artificiale* (Italian Association for Artificial Intelligence journal). 14(1), March 2001.

[13] Brandon Bennett, Clare Dixon, Michael Fisher, Enrico Franconi, Ian Horrocks, Ullrich Hustadt and Maarten de Rijke. Combinations of Modal Logics. *Artificial Intelligence Review journal* (AIR), Kluwer Academic Publishers, volume 17, number 1, pages 1-20, March 2002.

[14] E. Franconi. Description logics for conceptual design, information access, and ontology integration: Research trends. *"Networks" journal of the philosophy of Artificial Intelligence and Cognitive Science, special issue on the Semantic Web*, 2, 2003.

[15] M. Peim, E. Franconi, and N. Paton. Estimating the quality of answers when querying over description logic ontologies. *Data and Knowledge Engineering*, 47, 2003.

[16] A. Artale, C. Dixon, M. Fisher, and E. Franconi. Temporal representation and reasoning. *J. of Logic and Computation*, 14(1–4), 2004.

[17] E. Franconi. Using ontologies. *IEEE Intelligent Systems*, 19(1), 2004.

[18] Leo Bertossi, Loreto Bravo, Enrico Franconi, Andrei Lopatenko The complexity and approximation of fixing numerical attributes in databases under integrity constraints. *Information Systems* journal, Volume 33, Issues 4-5, June-July 2008, Pages 407-434.

Conference Contributions, refereed

[19] Roldano Cattoni and Enrico Franconi. Walking through the semantics of frame-based description languages: A case study. In Z. W. Ras, M. Zemankova, and M. L. Emrich, editors, *Methodologies for Intelligent Systems, 5 (ISMIS'90)*, pages 234–241, Knoxville, TN, 1990. North-Holland.

[20] Enrico Franconi. Extending hybridity within the YAK knowledge representation system. In B. Nebel, C. Peltason, and K. von Luck, editors, *Proc. of the 2 nd International Workshop on Terminological Logics*, pages 43–46, Schloss Dagstuhl, Germany, May 1991. DFKI, Saarbrücken.

[21] Enrico Franconi. A short presentation of YAK, a hybrid knowledge representation system. In C. Peltason, K. von Luck, and C. Kindermann, editors, *Proc. of the Terminological Logic Users Workshop*, pages 174–177, Berlin, Germany, October 1991. Department of Computer Science, Technische Universität Berlin.

[22] Manfred Gehrke, Gerrit Burkert, Peter Forster, and Enrico Franconi. Natural language processing and description logics. In C. Peltason, K. von Luck, and C. Kindermann, editors, *Proc. of the Terminological Logic Users Workshop*, pages 162–164, Berlin, Germany, 1991. Department of Computer Science, Technische Universität Berlin.

[23] Juergen Allgayer and Enrico Franconi. Collective entities and relations in concept languages. In *Workshop Notes of the ECAI Workshop on Theoretical Foundations of Knowledge Representation and Reasoning*, pages 1–5, Vienna, Austria, August 1992.

[24] Juergen Allgayer and Enrico Franconi. A semantic account of plural entities within a hybrid representation system. In *Proc. of the 5 th International Symposium on Knowledge Engineering*, pages 305–312, Seville, Spain, October 1992. Published by Rank Xerox Española.

[25] Franz Baader, Enrico Franconi, Bernhard Hollunder, Bernhard Nebel, and Hans-Juergen Profitlich. An empirical analysis of optimization techniques for terminological representation systems. In Bernhard Nebel, Charles Rich, and William Swartout, editors, *Proc. of the 3 rd International Conference on Principles of Knowledge Representation and Reasoning (KR'92)*, pages 270–281, Cambridge, MA, October 1992. Morgan Kaufmann.

[26] Enrico Franconi. Collective entities and relations in concept languages. In *Working Notes of the AAAI Fall Symposium "Issues in Description Logics: Users Meet Developers"*, pages 31–35, Cambridge, MA, October 1992.

[27] Alessandro Artale and Enrico Franconi. A unified framework for representing time, actions and plans. In F. D. Anger, H. W. Guesgen, and J. van Benthem, editors, *Proceedings of the IJCAI'93 Workshop on Spatial and Temporal Reasoning*, pages 193–217, Chambery, France, August 1993.

[28] Alessandro Artale and Enrico Franconi. A unified framework for representing time, actions and plans. In Amedeo Napoli, editor, *Proceedings*

of the IJCAI'93 Workshop on Object-Based Representation System, pages 32–44, Chambery, France, August 1993.

[29] Enrico Franconi and Juergen Allgayer. A treatment of plurals and plural quantifications based on a theory of collections. In Nicola Guarino and Roberto Poli, editors, *Proceedings of the International Workshop on Formal Ontology*, pages 219–249, Padova, Italy, March 1993. LADSEB-CNR.

[30] Enrico Franconi, Alessandra Giorgi, and Fabio Pianesi. Tense and aspect: a mereological approach. In *Proc. of the 13 th International Joint Conference on Artificial Intelligence (IJCAI'93)*, pages 1222–1228, Chambery, France, August 1993. Morgan Kaufmann.

[31] Alessandro Artale and Enrico Franconi. A unified framework for representing time, actions and plans. In Amedeo Cesta and Salvatore Gaglio, editors, Proceedings of the *Italian Planning Workshop 1993 (IPW'93)*, pag. 167–172, Rome, Italy, September 1993. Published by CNR, the Italian National Research Council.

[32] Alessandro Artale and Enrico Franconi. A computational account for a description logic of time and action. In Jon Doyle, Erik Sandewall, and Pietro Torasso, editors, *Proc. of the 4 th International Conference on Principles of Knowledge Representation and Reasoning (KR'94)*, pages 3–14, Bonn, Germany, May 1994. Morgan Kaufmann.

[33] Alessandro Artale, Enrico Franconi, and Claudio Bettini. Homogeneous concepts in a temporal description logic. In Franz Baader, Maurizio Lenzerini, Werner Nutt, and Peter F. Patel-Schneider, editors, *Proceedings of the 1994 International Workshop on Description Logics* (DL'94), number D-94-10 in DFKI Reports, pages 36–41. DFKI, Saarbrücken, May 1994.

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[35] Enrico Franconi and Vania Rabito. A relation-based description logic. In Franz Baader, Maurizio Lenzerini, Werner Nutt, and Peter F. Patel-Schneider, editors, *Proceedings of the 1994 International Workshop on Description Logics* (DL'94), number D-94-10 in DFKI Reports, pages 62–66. DFKI, Saarbrücken, May 1994.

[36] Enrico Franconi. Description logics for natural language processing. In *Working Notes of the 1994 AAAI Fall Symposium on "Knowledge Representation for Natural Language Processing in Implemented Systems"*, pages 37–44, New Orleans, Lousiana, November 1994. Presented also at the European Research Conference "Logic, Language and Information", organized by the European Science Foundation (ESF); Espinho, Portugal, December 1994.

[37] Alessandro Artale and Enrico Franconi. Hierarchical plans in a description logic of time and action. In Mathias Bauer, Sandra Carberry, and Diane Litman, editors, *Proceedings of the IJCAI'95 Workshop on The Next Generation Of Plan Recognition Systems*, pages 13–17, Montreal, Canada, August 1995.

[38] Alessandro Artale and Enrico Franconi. Hierarchical plans in a description logic of time and action. In Alex Borgida, Maurizio Lenzerini, Daniele Nardi, and Bernhard Nebel, editors, *Proceedings of the 1995 International Description Logics* (DL'95), pages 131–139, Rome, Italy, June 1995.

[39] Paolo Bresciani, Enrico Franconi, and Sergio Tessaris. Implementing and testing expressive description logics: a preliminary report. In Veronica Dahl, Gerard Ellis, Andrew Fall, and Robert Levinson, editors, *Proceedings of the International KRUSE Symposium " Knowledge Retrieval, Use, and Storage for Efficiency"*, pages 28–39, Santa Cruz CA, USA, August 1995.

[40] Paolo Bresciani, Enrico Franconi, and Sergio Tessaris. Implementing and testing expressive description logics: a preliminary report. In Alex Borgida, Maurizio Lenzerini, Daniele Nardi, and Bernhard Nebel, editors, *Proceedings of the 1995 International Workshop on Description Logics* (DL'95), pages 131–139, Rome, Italy, June 1995.

[41] Paolo Bresciani, Enrico Franconi, and Sergio Tessaris. Implementing and testing expressive description logics (position paper). In Andrew Ireland, editor, *Proceedings of the Second Workshop on Automated Reasoning "Bridging the Gap between Theory and Practice"*, pages 17–18, Sheffield, UK, April 1995.

[42] Paolo Bresciani and Enrico Franconi. Description logics for information access. In Daniele Nardi, Enrico Franconi and Nicola Guarino, editors, Proceedings of the *AI*IA Italian Association for Artificial Intelligence workshop on "Knowledge Access, Extraction, and Integration"*, Napoli, Italy, September 1996.

[43] Alessandro Artale and Enrico Franconi. Open problems with Part-Whole relations. In Lin Padgham, Enrico Franconi, Manfred Gehrke, Deborah L. McGuinness, and Peter F. Patel-Schneider, editors, *Proceedings of the 1996 International Workshop on Description Logics* (DL'96). Published by AAAI Press, TR-WS-96-05, Cambridge, MA, November 1996.

[44] Enrico Franconi. Logical form and knowledge representation: towards a reconciliation. In *Proc. of the AAAI Fall Symposium on "Knowledge Representation Systems based on Natural Language"*, Boston MA, November 1996.

[45] Enrico Franconi. Software Asset Classification and Retrieval with Description Logics: the Intelligent Reuse Assistant. Proc. of the *Joint*

*TABOO/AI*IA workshop on "Knowledge Representation and Object-Oriented Software Engineering Techniques"*, Bologna, Italy, April 1997.

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[48] Alessandro Artale and Enrico Franconi. Introducing Temporal Description Logics. Invited paper in the *Proceedings of the sixth International Symposium on Temporal Representation and Reasoning* (TIME'99), Orlando FL, USA, May 1999. IEEE Computer Society Press.

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[50] Alessandro Artale and Enrico Franconi. Temporal ER Modeling with Description Logics. Proc. of the 7th *Conferenza Nazionale su Sistemi Evoluti per Basi di Dati* (SEBD'99), the Italian Database Conference, pag. 357–369, Como, Italy, June 1999.

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