

Professor Boris Motik
Professor of Computer Science
Department of Computer Science
Oxford University
Wolfson Building
Parks Road
Oxford, OX1 3QD
United Kingdom
e-mail: boris.motik@cs.ox.ac.uk

Curriculum Vitae

Background

- Born in 1972 in Zagreb, Croatia
- Nationality: Croatian, British
- Foreign languages: fluency in speaking and writing in English and German, reasonable knowledge of Spanish

Education

March 2002 – January 2006. PhD degree in the group of Prof. Rudi Studer at the University of Karlsruhe, Germany, completed with honours.

February 1996 – December 1999. Master’s degree in computer science at the Faculty of Electrical Engineering and Computing at University of Zagreb, Croatia, GPA 5.00/5.00.

October 1991 – February 1996. Bachelor’s degree in electrical engineering at the Faculty of Electrical Engineering and Computing at University of Zagreb, Croatia, GPA 4.97/5.00. In the first, second, and third year I was presented with the faculty award “Josip Lončar” for being the best student of the year. After completing my studies I was granted the faculty award for overall record during all four years of undergraduate studies.

Awards

- Departmental teaching commendation for the academic year 2022/23
- Best SPC Reviewer award at ISWC 2023
- Distinguished paper award for “Foundations of Declarative Data Analysis Using Limit Datalog Programs” at IJCAI 2017 [54]
- Best application paper award for “Semantic Technologies for Data Analysis in Health Care” at ISWC 2016 [58]

- The 2013 Roger Needham award by the British Computer Society (BCS) for “a distinguished research contribution in computer science”
- Selected as one of “AI’s Ten to Watch” by IEEE Intelligent Systems, May/June 2008, pp. 16
- The 2007 Cor Baayen award by the European Research Consortium for Informatics and Mathematics (ERCIM) for “a most promising young researcher in computer science and applied mathematics”
- Best paper award for “On the Properties of Metamodeling in OWL” at ISWC 2005 [92]
- Faculty award “Josip Lončar” for overall record during all four years of undergraduate studies

Employment History

September 2008 – Present. Professor of Computer Science in the Department of Computer Science at Oxford University, Oxford, UK; associated with Somerville College as a Senior Research Fellow; was a University Lecturer from September 2008 until August 2014. I am working on various problems related to the theory and practice of knowledge representation and databases.

September 2007 – August 2008. Research Assistant in the Department of Computer Science at Oxford University, Oxford, UK, employed on the REOL project funded by Engineering and Physical Sciences Research Council (EPSRC), grant number EP/C537211/1. I was working on various extensions of OWL and related description logic formalisms.

February 2006 – August 2007. Research Fellow at the Computer Science Department of the University of Manchester, Manchester, UK, employed on the REOL project funded by Engineering and Physical Sciences Research Council (EPSRC), grant number EP/C537211/1. I was working on a number of problems related to the integration of knowledge representation formalisms (such as description logics) with conventional data management systems (such as relational databases).

March 2002 – January 2006. Research staff at the Forschungszentrum Informatik (Research Center for Information Technologies), Karlsruhe, Germany. I worked on my PhD thesis [162], as well as on the following research projects:

- January 2004 – January 2006: DIP, EU IST 507483. I developed the KAON2 ontology management tool, which I also used in my PhD thesis.
- September 2003 – December 2003: Semantic Web-enabled Web Services (SWWS), EU IST 2001-37134. I worked on the discovery of Web services.
- March 2002 – December 2003: Ontologging, EU IST 2000-28293. I developed the open-source KAON¹ ontology management suite. This was the precursor to the KAON2 tool that I developed as part of my PhD research.

¹<http://kaon.semanticweb.org/>

April 2001 – December 2001. Senior Developer/Team Leader, Vision GmbH, Munich, Germany (working in a subsidiary in Zagreb, Croatia). I was a leader of a team of five developers working in the Croatian subsidiary of Vision. We were responsible for numerous modules in the Vision’s product suite, such as a Web application for management of newspaper advertisements and tools for management of the publishing process. I advised the others on the issues of object-oriented design and was myself mainly working on a client application for Vision’s Production Server—the system for the management of the publication process. The projects required knowledge of Java, Swing, XML, and Web application development.

March 2000 – March 2001. Software Developer, Trilogy, Austin, Texas, USA.

- I worked in a team of two developers on the requirements gathering and design of an automated build system. We applied the PSP/TSP project management methodology.
- I worked in a team of four developers on a client application for the management of corporate data. I developed a generic GUI framework and applied it to a pricing information maintenance subsystem, and I also took part in HCI design. The project required knowledge of Java and Swing.
- I worked alone on reengineering the C++ version of the pricing engine and implementing it in Java. The product was integrated into Trilogy’s product suite and successfully deployed at several customers. The project required knowledge of database technologies (SQL, JDBC) and profiling techniques (OptimizeIt).

February 1996 – February 2000. I worked as a teaching assistant at the Polytechnic School of Zagreb, Croatia, where I participated in lecturing the following subjects: Electronic Components, Electronic Circuits, and Fundamentals of Electrical Engineering.

June 1989 – February 2000. During high school and undergraduate studies, I worked for a small company developing accounting database applications in Clipper/DBASE. After graduating from university, I started my own small company called “Infimum” that further developed and maintained these applications. My programs were installed in numerous small and medium-sized companies in Croatia, such as The Plitvice Lakes National Park.² The work required extensive interaction with clients and strong organisation skills. I shut down the company before I had left for USA.

Freelance Software Projects

Parallel to my regular employment, I worked on several software projects on a freelance basis.

January 2002 – February 2002. Croatian Mine Action Center, Zagreb, Croatia, working on the EU-sponsored project “Airborne Minefield Area Reduction (ARC)”, EU-IST-2000-25300. I developed a real-time image acquisition system for high-resolution cameras. The work required careful code optimisation and knowledge of C++, MFC, and Windows 98/2000. I was the only designer and programmer.

²<http://www.np-plitvicka-jezera.hr/>

September 1998 – February 2000. Vision GmbH, Munich, Germany. I was the only software designer and developer on several projects.

- Process manager for Fast-CGI (FCGI) protocol and FCGI client extensions for IIS and Apache Web servers. The project required knowledge of C++, Windows NT, Solaris, Linux, TCP/IP, and network programming.
- Validating XML Editor. The project required knowledge of Windows NT, MFC, C++, and XML.
- An XML-to-PDF converter that reads XML and renders it into a PDF file. The project required knowledge of advanced 2D computer graphics, C++, and Windows NT.

May 1998 – February 1999. VideoCon GmbH, Munich, Germany. I worked in a team of several developers on the following components of a remote surveillance system:

- Windows 9x/NT based user interface (C++, MFC),
- optimisation and reengineering of image decoder,
- reengineering of communication module for ISDN and TCP/IP, and
- COM library allowing access to various components from Visual Basic.

This was a technically demanding project (especially the communication module) because of the multiplatform development (servers on Linux and clients on Windows9x/NT), requiring a detailed knowledge of networking. Apart from the image decoder, I was the primary architect and author of the mentioned modules.

June 1998 – August 1998. Cromerica (a USA-based company with a subsidiary in Zagreb, Croatia). I designed and implemented a COM interface for a fax server. I worked alone and have used C++ and ATL.

January 1998 – May 1998. I worked in a team of two developers on a program for designing stamps. The project required intimate knowledge of 2D computer graphics, MFC, C++, and Windows 95.

Professional Expertise

Programming languages: C/C++, Java, SQL/OQL, Pascal, Clipper, Fortran, JavaScript

Operating systems: Windows 9x/NT/XP (with excellent knowledge of Win32 API),
Unix (Linux and Solaris) with reasonable knowledge of
Unix APIs

Technologies: MFC, COM, TCP/IP, ATL, CORBA, JDBC, Servlets, JSP,
ISAPI, XML, databases, Swing, UML

Methodologies: Rational Unified Process, Personal Software Process,
Team Software Process, Design Patterns

In 1997, with Julijan Šribar as a coauthor, I published in Croatia a book called *C++ Demystified* [161]. The book presents the ins and outs of the C++ language, and it also provides a brief introduction to object-oriented design and methodology. It was voted the best software engineering book published in Croatia in 1997 by the Croatian IT magazine Bug.³ Ever since the first edition was published, the book has been used at several Croatian universities as a textbook for courses on C++ and programming.

Research-Related Information

Research Funding as Principal Investigator

- AnaLOG: Datalog Extensions for the Analysis of Static and Streaming Data; Engineering and Physical Sciences Research Council (EPSRC) EP/P025943/1; £639,838; from 1/4/2018 to 31/3/2021. This an extension of the MaSI³ Early Career fellowship funded myself and one research assistant.
- Oracle External Research Office grant; £55,088.90. This is an unrestricted grant whose goal is to support my research and foster collaboration with Oracle.
- Knowledge Exchange Seed Fund; £5,000.
- Personalised Broadcasting Policy Management using Semantic Technologies; Engineering and Physical Sciences Research Council (EPSRC) Impact Acceleration Account (IAA) EP/K503769/1; £53,786; from 1/1/2016 to 31/12/2016. This project funded one research assistant.
- RDFox: A Parallel, Scalable, Main-Memory Database; Engineering and Physical Sciences Research Council (EPSRC) Impact Acceleration Account (IAA) EP/K503769/1; £30,268.96; from 1/4/2015 to 20/9/2015. This project funded one research assistant.
- MaSI³: A Massively Scalable Intelligent Information Infrastructure; Engineering and Physical Sciences Research Council (EPSRC) EP/K00607X/1; £817,862; from 1/1/2013 to 31/12/2017. This Early Career fellowship funded myself and one research assistant.

Research Funding as Leading Proposal Author

- ExODA: Integrating Description Logics and Database Technologies for Expressive Ontology-Based Data Access; Engineering and Physical Sciences Research Council (EPSRC) EP/H051511/1; £704,521; from 1/4/2011 to 31/3/2014. Although I was officially a co-investigator, I was the leading proposal author and, together with Prof Ian Horrocks, I managed the project on a day-to-day basis. The project funded three research assistants.
- HermiT: Reasoning with Large Ontologies; Engineering and Physical Sciences Research Council (EPSRC) EP/F065841/1; £480,412; from 15/8/2008 to 14/2/2012. I was a named researcher on the project since the grant was awarded before I got my academic post; however, I wrote the proposal and managed the project on a day-to-day basis. The project funded two research assistants.

³<http://www.bug.hr/>

- ReaSem: Practical Reasoning Support for Semantic Technologies; Deutsche Forschungsgemeinschaft (DFG); €210,000; from 1/6/2006 to 30/11/2009. I was the co-author of the proposal and the project funded one research assistant.

Research Funding as Co-Investigator

- ED³: Enabling Analytics over Diverse Distributed Datasources; Engineering and Physical Sciences Research Council (EPSRC) EP/N014359/1; £866,527; from 1/2/2016 to 31/1/2019. The project is funding two research assistants.
- DBOnto: Bridging Databases and Ontologies; Engineering and Physical Sciences Research Council (EPSRC) EP/L012138/1; £1,263,746; from 29/1/2014 to 28/1/2019. This is a platform grant.
- Optique: Scalable End-user Access to Big Data; European Commission (EC) 318338; €841,929; from 1/11/2012 to 31/10/2016. The project is funding two research assistants.
- Score!: Scalable and Complete Reasoning with Incomplete Ontology Reasoners; Engineering and Physical Sciences Research Council (EPSRC) EP/J020214/1; £555,708; from 7/1/2013 to 6/1/2016. The project funded two research assistants.
- ConDOR: Consequence-Driven Ontology Reasoning; Engineering and Physical Sciences Research Council (EPSRC) EP/G02085X/1; £359,707; from 1/7/2009 to 30/6/2012. The project funded a research assistant and a PhD student.

Work on International Standards

I have made numerous key technical contributions to the Web Ontology Language (OWL) 2 published by the World Wide Web Consortium,⁴ and am one of the editors on five main technical documents.

- [1] Boris Motik, Peter F. Patel-Schneider, and Bijan Parsia. OWL 2 Web Ontology Language: Structural Specification and Functional-Style Syntax, 27 October 2009. W3C Recommendation.
- [2] Peter F. Patel-Schneider and Boris Motik. OWL 2 Web Ontology Language: Mapping to RDF Graphs, 27 October 2009. W3C Recommendation.
- [3] Boris Motik, Peter F. Patel-Schneider, and Bernardo Cuenca Grau. OWL 2 Web Ontology Language: Direct Semantics, 27 October 2009. W3C Recommendation.
- [4] Boris Motik, Bernardo Cuenca Grau, Ian Horrocks, Zhe Wu, Achille Fokoue, and Carsten Lutz. OWL 2 Web Ontology Language: Profiles, 27 October 2009. W3C Recommendation.
- [5] Boris Motik, Bijan Parsia, and Peter F. Patel-Schneider. OWL 2 Web Ontology Language: XML Serialization, 27 October 2009. W3C Recommendation.

⁴<http://www.w3.org/TR/owl-overview/>

Patents

- *Parallel materialisation of a set of logical rules on a logical database.* Boris Motik, Yavor Nenov, Ian Horrocks. Filed October 31, 2013. US Patent Number 3,063,670
- *Natural Language Question Answering System and Method Based on Deep Semantics.* Boris Motik, Sergio Antonio Berná Niñerola, Pablo Castellanos Garcia, Carlos González-Cadenas. Filed June 28, 2011. US Patent Number 2011/0320,187
- *Method and apparatus for efficient delta pricing.* Thomas J. Carter III, Meetesh M. Karia, August R. Buerkle, Boris Motik, Ramanathan Ramadass, Reuben Swartz. US Patent 9,519,907 B2

Invited Presentations

- *A Survey of Incremental Reasoning Algorithms for Datalog Variants.* Invited talk at the 2016 Stream Reasoning Workshop, December 8, 2016, Berlin, Germany
- *RDFox—A Modern Materialisation-Based RDF System.* Invited talk at the 10th Int. Workshop on Scalable Semantic Web Knowledge Base Systems (SSWS 2014), October 20, 2014, Riva del Garda, Trentino, Italy
- *Building an Efficient OWL 2 DL Reasoner.* Invited talk at the 3rd Workshop on Practical Aspects of Automated Reasoning (PAAR 2012), June 30, 2012, Manchester, UK
- *Parameterized Complexity and Fixed-Parameter Tractability of Description Logic Reasoning.* Invited talk at the 18th Int. Conference on Logic for Programming Artificial Intelligence and Reasoning (LPAR 2012), March 10–15, 2012, Mérida, Venezuela
- *Combining Description Logics, Description Graphs, and Rules.* Invited talk at the 18th Int. Conference on Conceptual Structures (ICCS 2010), July 26–30, 2010, Kuching, Malaysia
- *Combining Description Logics, Description Graphs, and Rules.* Invited talk at the 7th Int. Symposium on Frontiers of Combining Systems (FroCoS 2009), September 16–18, 2009, Trento, Italy
- *Semantics and Reasoning Algorithms for a Faithful Integration of Description Logics and Rules.* Keynote speech at the 2008 Int. Conf. on Web Reasoning and Rule Systems (RR 2008), October 31–November 2, 2008, Karlsruhe, Germany
- *SPARQL, Rules and OWL?* Panel at the OWL: Experiences and Directions Workshop 2007 (OWLED 2007), June 6–7, 2007, Innsbruck, Austria
- *Adding Constraints to OWL.* Invited talk at the 2nd Int. Workshop on Scalable Semantic Web Knowledge Base Systems (SSWS 2006), November 5, 2006, Athens, GA, USA
- *My Top Ten Things To Do for more Empirically Successful Computerized Reasoning.* Panel at the Workshop on Empirically Successful Computerized Reasoning, August 21, 2006, Seattle, WA, USA

- *Integrating DLs with Logic Programming*. Invited talk at the Workshop on Model Checking and Semantic Web Rule Languages, October 27–28, 2006, Freiburg, Germany
- *Description Logics and Disjunctive Datalog—More Than just a Fleeting Resemblance?* Invited talk at 4th Workshop on Methods for Modalities (M4M-4), December 1–2, 2005, Berlin, Germany

Reviewing Activities

I was a program committee member at the following conferences and workshops:

- Program Committee Member of the Wild Track at The 21st Int. Conference on Knowledge Representation and Reasoning (KR 2024), November 2–8, 2023, Hanoi, Vietnam
- Senior Program Committee Member at The 23rd Int. Semantic Web Conference (ISWC 2024), November 11–15, 2024, Live! Casino & Hotel, MD, USA.
- Program Committee Member at The 33rd Int. Joint Conference on Artificial Intelligence (IJCAI 2024), August 3–9, 2024, Jeju, South Korea.
- Program Committee Member at The 21st Int. Extended Semantic Web Conference (ESWC 2024), May 22–30, 2024, Hersonissos, Greece.
- Program Committee Member at The 2023 Stream Reasoning Workshop (SRW 2023), December 4–6, 2023, Lyon, France.
- Program Committee Member of the Recently Published Research Track at The 20th Int. Conference on Knowledge Representation and Reasoning (KR 2023), September 2–8, 2023, Rhodes, Greece
- Senior Program Committee Member at The 22nd Int. Semantic Web Conference (ISWC 2023), November 6–10, 2023, Athens, GA, USA.
- Program Committee Member at The 32nd Int. Joint Conference on Artificial Intelligence (IJCAI 2023), August 19–25, 2023, Capetown, South Africa.
- Senior Program Committee Member at The 20th Int. Extended Semantic Web Conference (ESWC 2023), May 28–June 1, 2023, Hersonissos, Greece.
- Program Committee Member at The 2023 Web Conference (WWW 2023), April 30–May 4, 2023, Austin, TX, USA
- Senior Program Committee Member at The 21st Int. Semantic Web Conference (ISWC 2022), October 23–27, 2022, Hangzhou, China. I was awarded the Best SPC Reviewer award.
- Program Committee Member at The 31st Int. Joint Conference on Artificial Intelligence (IJCAI 2022), July 23–29, 2022, Vienna, Austria. I was awarded a certificate of appreciation for submitting reviews that were deemed in the top 3% according to quality.
- The Stream Reasoning Workshop (SR 2021), October 4–6, 2021, Milan, Italy

- Senior Program Committee Member at The 20th Int. Semantic Web Conference (ISWC 2021), October 24–28, 2021, Virtual Conference
- Senior Program Committee Member at The 30th Int. Joint Conference on Artificial Intelligence (IJCAI 2021), August 21–26, 2021, Montreal, QC, Canada
- Program Committee Member of the Demonstrations Track at The 35th AAAI Conference on Artificial Intelligence (AAAI 2021), February 2–9, 2021, Virtual Conference
- Program Committee Member of the Applied Research Track at The 29th ACM Int. Conf. on Information and Knowledge Management (CIKM 2020), October 19–23, 2020, Galway, Ireland
- Senior Program Committee Member of the Research Track at the 19th Int. Semantic Web Conference (ISWC 2020), November 2–6, 2020, Athens, Greece
- The 4th Int. Joint Conf. on Rules and Reasoning (RuleML+RR 2020), Industry Track, June 23–July 1, 2020, Oslo, Norway
- Workshop on Scalable Knowledge Base Engineering (SKALE 2020) at ISWC 2020, November 2–6, 2015, Athens, Greece
- The 13th Int. Workshop on Scalable Semantic Web Knowledge Base Systems (SSWS 2020) at ISWC 2020, November 2–6, 2015, Athens, Greece
- Senior Program Committee Member at The 29th Int. Joint Conf. on Artificial Intelligence and the 17th Pacific Rim Int. Conf. on Artificial Intelligence (IJCAI-PRICAI 2020), July 11–17, 2020, Yokohama, Japan
- Senior Program Committee Member at The 24th European Conference on Artificial Intelligence (ECAI 2020), June 8–12, 2020, Santiago de Compostela, Spain
- Senior Program Committee Member of the Research Track and a Program Committee Member of the Demonstrations Track at The 34th AAAI Conference on Artificial Intelligence (AAAI 2020), February 7–12, 2020, New York, NY, USA
- Program Committee Member at The 28th Int. Joint Conference on Artificial Intelligence (IJCAI 2019), August 10–16, 2019, Macao, China
- The 33rd AAAI Conference on Artificial Intelligence (AAAI 2019), January 27–February 1, 2019, Honolulu, HI, USA
- The 17th Int. Semantic Web Conference (ISWC 2018), Doctoral Consortium, October 8–12, 2018, Monterey, CA, USA
- Program Committee Member at The 27th Int. Joint Conference on Artificial Intelligence (IJCAI 2018), July 13–19, 2017, Stockholm, Sweden
- The 32nd AAAI Conference on Artificial Intelligence (AAAI 2018), February 2–7, 2018, New Orleans, LA, USA

- The 16th Int. Semantic Web Conference (ISWC 2017), In-Use Track, Industry Track, and Doctoral Consortium, October 21–25, 2017, Vienna, Austria
- Program Committee Member at The 26th Int. Joint Conference on Artificial Intelligence (IJCAI 2017), August 19–25, 2017, Melbourne, Vic, Australia
- The 30th Int. Workshop on Description Logics (DL 2017), July 18–21, 2017, Montpellier, France
- TABLEAUX 2017, September 25–29, 2017, Brasília, Brasil
- The 31st AAAI Conference on Artificial Intelligence (AAAI 2017), February 4–9, 2017, San Francisco, CA, USA
- The 15th Int. Semantic Web Conference (ISWC 2016), October 17–21, 2016, Kobe, Japan
- The Stream Reasoning Workshop (SR 2016) at ISWC 2016, October 17–18, 2016, Kobe, Japan
- Doctoral Consortium at the 15th Int. Semantic Web Conference (ISWC 2016), October 17–21, 2016, Kobe, Japan
- The 30th AAAI Conference on Artificial Intelligence (AAAI 2016), February 12–17, 2016, Phoenix, AZ, USA
- The 11th Int. Workshop on Scalable Semantic Web Knowledge Base Systems (SSWS 2015) at ISWC 2015, October 11–15, 2015, Bethlehem, PA, USA
- The 14th Int. Semantic Web Conference (ISWC 2015), October 11–15, 2015, Bethlehem, PA, USA
- The 9th Int. Conference on Web Reasoning and Rule Systems (RR 2015), August 4–6, 2015, Berlin, Germany
- Program Committee Member at The 24th Int. Joint Conference on Artificial Intelligence (IJCAI 2015), July 25–31, 2015, Buenos Aires, Argentina
- TABLEAUX 2015, September 15–19, 2015, Wroclaw, Poland
- The 29th AAAI Conference on Artificial Intelligence (AAAI 2015), January 25–29, 2015, Austin, TX, USA
- The 21st European Conference on Artificial Intelligence (ECAI 2014), August 18–22, 2014, Prague, Czech Republic
- The 8th Int. Conference on Web Reasoning and Rule Systems (RR 2014), September 15–17, 2014, Athens, Greece
- The 14th Int. Conference on Knowledge Representation and Reasoning (KR 2014), July 20–24, 2014, Vienna, Austria

- The 12th Int. Semantic Web Conference (ISWC 2013), October 21–25, 2013, Sydney, NSW, Australia
- The 22nd Int. World Wide Web conference (WWW 2013), May 13–17, 2013, Rio de Janeiro, Brazil
- Senior Program Committee Member at The 23rd Int. Joint Conference on Artificial Intelligence (IJCAI 2013), August 3–9, 2013, Beijing, China
- External Review Committee Member at The 32nd ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (PODS 2013), June 23–28, 2013, New York, NY, USA
- The 10th IEEE Consumer Communications and Networking Conference (IEEE 2013), January 11–14, 2013, Las Vegas, NV, USA
- OWL: Experiences and Directions (OWLED 2012), Workshop at ESWC 2012, May 27–28, 2012, Heraklion, Crete
- The 25th Int. Workshop on Description Logics (DL 2012), June 7–10, 2012, Rome, Italy
- The 20th European Conference on Artificial Intelligence (ECAI 2012), August 27–31, 2012, Montpellier, France
- External Review Committee Member at The 31st ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (PODS 2012), May 20–25, 2012, Scottsdale, AZ, USA
- The 21st Int. World Wide Web conference (WWW 2012), April 16–20, 2012, Lyon, France
- The 10th Int. Semantic Web Conference (ISWC 2011), October 23–27, 2011, Bonn, Germany
- The 19th Int. Conference on Conceptual Structures (ICCS 2011), July 25–29, 2011, Derby, UK
- The 5th Int. Conference on Web Reasoning and Rule Systems (RR 2011), August 29–30, 2011, Galway, Ireland
- The 24th Int. Workshop on Description Logics (DL 2011), July 13–16, 2011, Barcelona, Spain
- The 22nd Int. Joint Conference on Artificial Intelligence (IJCAI 2011), July 16–22, 2011, Barcelona, Spain
- The 4th Int. Conference on Web Reasoning and Rule Systems (RR 2010), September 22–24, 2010, Brixen–Bressanone, Italy
- The 23rd Int. Workshop on Description Logics (DL 2010), May 4–7, 2010, Waterloo, ON, Canada

- The 19th European Conference on Artificial Intelligence (ECAI 2010), August 16–20, 2010, Lisbon, Portugal
- The 7th Extended Semantic Web Conference (ESWC 2010), May 30–June 3, 2010, Heraklion, Greece
- The 24th AAAI Conference on Artificial Intelligence (AAAI 2010), July 11–15, 2010, Atlanta, GA, USA
- The 19th Int. World Wide Web Conference (WWW 2010), April 26–30, 2009, Raleigh, NC, USA
- The 5th Int. Workshop on Scalable Semantic Web Knowledge Base Systems (SSWS 2009) at ISWC 2009, October 25–29, 2009, Washington DC, USA
- The 8th Int. Semantic Web Conference (ISWC 2009), October 25–29, 2009, Washington DC, USA
- The 21st Int. Joint Conference on Artificial Intelligence (IJCAI 2009), July 11–17, 2009, Pasadena, CA, USA
- The 18th Int. World Wide Web conference (WWW 2009), April 20–24, 2009, Madrid, Spain
- OWL: Experiences and Directions (OWLED 2008 EU), Workshop at ISWC 2008, October 26–27, 2008, Karlsruhe, Germany
- The 7th Int. Semantic Web Conference (ISWC 2008), October 26–30, 2008, Karlsruhe, Germany
- The 4th Int. Workshop on Scalable Semantic Web Knowledge Base Systems (SSWS 2008) at ISWC 2008, October 26–30, 2008, Karlsruhe, Germany
- Workshop on Practical Aspects of Automated Reasoning (PAAR 2008), August 10, 2008, Sydney, Australia
- The 2nd Int. Conference on Web Reasoning and Rule Systems (RR 2008), October 31–November 2, 2008, Karlsruhe, Germany
- The 18th European Conference on Artificial Intelligence (ECAI 2008), July 21–25, 2008, Patras, Greece
- The 23rd AAAI Conference on Artificial Intelligence (AAAI 2008), July 13–17, 2008, Chicago, IL, USA
- The 5th Int. European Semantic Web Conference (ESWC 2008), June 1–5, 2008, Tenerife, Spain
- The 3rd Int. Workshop on Scalable Semantic Web Knowledge Base Systems (SSWS 2007) at the OTM conferences, Portugal, November 25–30, 2007, Vilamoura, Algarve

- The 6th Int. Semantic Web Conference (ISWC 2007), November 11–15, 2007, Busan, Korea
- Workshop on Building and Applying Ontologies at the Semantic Web (BAOSW 2007) at the 13th Portuguese Conference on Artificial Intelligence (EPIA 2007), December 3–3, Guimarães , Portugal
- IEEE/WIC/ACM Int. Joint Conf. on Web Intelligence (WI 2007), November 2–5, 2007, Silicon Valley, USA
- OWL: Experiences and Directions (OWLED 2007), Workshop at ESWC 2007, June 6–7, 2007, Innsbruck, Austria
- The 6th Int. Conf. on Ontologies, DataBases, and Applications of Semantics (ODBASE 2007), October 28–November 2, 2007, Spain
- The 4th Int. European Semantic Web Conference (ESWC 2007), June 3–7, 2007, Innsbruck, Austria
- Reviewer at The 20th Int. Joint Conference on Artificial Intelligence (IJCAI 2007), January 6–12, 2007, Hyderabad, India
- The 2nd Int. Workshop on Scalable Semantic Web Knowledge Base Systems (SSWS 2006), November 5, 2006, Athens, GA, USA
- The 2nd Int. Workshop on Meta-modelling and Ontologies (WoMM 2006), October 12–13, 2006, Karlsruhe, Germany
- The 2nd Int. Conference on Rules and Rule Markup Languages for the semantic Web (RuleML 2006), November 9–10, 2006, Athens, GA, USA
- OWL: Experiences and Directions (OWLED 2006), Workshop at ISWC 2006, November 10–11, 2006, Athens, GA, USA
- The 5th Int. Semantic Web Conference (ISWC 2006), November 5–9, 2006, Athens, GA, USA
- The 12th Int. Conf. on Artificial Intelligence: Methodology, Systems, Applications (AIMSA 2006), September 13–15, 2006, Varna, Bulgaria
- Workshop on Reasoning on the Web (RoW2006) at 15th International World Wide Web Conference (WWW 2006), May 22, 2006, Edinburgh, UK
- The 3rd Int. European Semantic Web Conference (ESWC 2006), June 11–14, 2006, Budva, Serbia and Montenegro
- OWL: Experiences and Directions (OWLED 2005), Workshop at ISWC 2005, November 11–12, 2005, Galway, Ireland
- The 4th Int. Semantic Web Conference (ISWC 2005), November 6–10, 2005, Galway, Ireland

- The 4th Int. Conf. on Ontologies, DataBases, and Applications of Semantics (ODBASE 2005), October 31–November 4, 2005, Agia Napa, Cyprus
- Workshop on Building and Applying Ontologies for the Semantic Web (BAOSW 2005) at the 12th Portuguese Conference on Artificial Intelligence (EPIA 2005), December 5–8, Covilhã, Portugal
- Workshop on Protégé with Rules at 8th Int. Protégé Conference, July 18–21, 2005, Madrid, Spain
- IEEE/WIC/ACM Int. Joint Conf. on Web Intelligence (WI 2005), September 19–22, 2005, in Compiègne University of Technology, France
- IADIS Int. Conf. on WWW/Internet (ICWI 2005), October 19–22, 2004, Lisbon, Portugal
- IEEE/WIC/ACM Int. Joint Conf. on Web Intelligence (WI 2004), September 20–24, 2004, Beijing, China
- IADIS Int. Conf. on WWW/Internet (ICWI 2004), October 6–9, 2004, Madrid, Spain
- The 11th Int. Conf. on Artificial Intelligence: Methodology, Systems, Applications (AIMSA 2004), September 2–4, 2004, Varna, Bulgaria
- The 1st Workshop on Ontologies and their Applications, September 28, 2004, São Luís, Maranhão, Brazil

I was also a reviewer for the following journals:

- Artificial Intelligence
- Journal of Artificial Intelligence Research
- Annals of Mathematics and Artificial Intelligence
- ACM Transactions on Databases Systems
- Communications of the ACM
- Journal of Logic and Computation
- IEEE Intelligent Systems
- IEEE Transactions on Knowledge and Data Engineering
- IEEE Internet Computing
- IEEE Access
- Journal of Automated Reasoning
- Journal of Web Semantics

- International Journal on Semantic Web and Information Systems
- AI Communications
- Information Sciences
- Knowledge and Information Systems
- International Journal of Semantic Computing
- Journal of Universal Computer Science
- Journal of Applied Logic
- Journal of Applied Non-Classical Logics
- Journal of Brazilian Computer Society, Special Issue on Ontology Issues and Applications
- Journal on Data Semantics

Organisational Activities

- Member of the organising committee of the workshop on Reasoning about ACtions and Events over Streams (RACES), September 12, 2020, Held Virtually
- Program chair of the 22nd Int. Workshop on Description Logics (DL 2009), July 27–29, 2009, Oxford, UK
- Member of the organising committee of the IJCAI-09 Workshop on Graph Structures for Knowledge Representation and Reasoning (GKR 2009), July 11–13, 2009, Pasadena, CA, USA
- Program chair of the 20th Int. Workshop on Description Logics (DL 2007), June 8–10, 2007, Brixen–Bressanone, Italy

Supervision of PhD Students

I am co-supervising the following PhD students:

- Chia-Hsuan Lu. Currently in his 1st year of study

I have co-supervised the following PhD students in the past:

- Temitope Ajileye. *Materialisation and Data Partitioning Algorithms for Distributed RDF Systems*. PhD awarded in 2021.
- Fredah Banda. *Effective Partitioning of RDF for Distributed Query Answering*. PhD awarded in 2021.
- Pan Hu. *Efficient Computation and Maintenance of Datalog Materialisations*. PhD awarded in 2020.

- Anthony Potter. *Query Answering in Distributed RDF Databases*. PhD awarded in 2018.
- Andrew Bate. *Consequence-Based Reasoning for SRIQ Ontologies*. PhD awarded in 2017.
- Giorgio Stefanoni. *Evaluating Conjunctive and Graph Queries over the EL Profile of OWL 2*. PhD awarded in 2015.
- Despoina Magka. *Foundations and Applications of Knowledge Representation for Structured Entities*. PhD awarded in 2013.
- Rob Shearer. *Scalable Reasoning for Description Logics*. PhD awarded in 2011.
- Héctor Pérez-Urbina. *Tractable Query Answering for Description Logics via Query Rewriting*. PhD awarded in 2010.

Supervision of Postdoctoral Researchers and Software Engineers

I have co-supervised the following postdoctoral researchers in the past:

- Pan Hu
- Robert Piro
- Yavor Nenov
- Giorgio Stefanoni
- Giorgos Stoilos
- Clemens Kupke
- Markus Krötzsch
- Zhe Wang
- Birte Glimm

I have co-supervised the following software engineers:

- Oriol Mazariegos
- Andrei Tuchin

Entrepreneurship

In 2017, together with Prof Ian Horrocks, Prof Bernardo Cuenca Grau, and Adam Parr, I co-founded a company called Oxford Semantic Technologies⁵ with the objective of commercialising the outcomes of my research in logic-based knowledge representation and reasoning. The company’s main product is RDFox—a system for the management of RDF and semantic data that supports reasoning with expressive extensions of the Datalog rule language. The company was acquired by Samsung in 2024.⁶

Publication List

Journal Publications

- [6] Michael Benedikt, Maxime Buron, Stefano Germano, Kevin Kappelmann, and Boris Motik. Rewriting the Infinite Chase for Guarded TGDs. *ACM Transactions on Database Systems*, 2024. To appear.
- [7] Pan Hu and Boris Motik. Accurate Sampling-Based Cardinality Estimation for Complex Graph Queries. *ACM Transactions on Database Systems*, 49(3):1–46, 2024.
- [8] Michael Benedikt, Maxime Buron, Stefano Germano, Kevin Kappelmann, and Boris Motik. Rewriting the Infinite Chase. *Proc. of the VLDB Endowment*, 15(11):3045–3057, 2022.
- [9] Pan Hu, Boris Motik, and Ian Horrocks. Modular Materialisation of Datalog Programs. *Artificial Intelligence*, 308:103726, 2022.
- [10] Temitope Ajileye and Boris Motik. Materialisation and Data Partitioning Algorithms for Distributed RDF Systems. *Journal of Web Semantics: Science, Services and Agents on the World Wide Web*, 73:100711, 2022.
- [11] Mark Kaminski, Egor V. Kostylev, Bernardo Cuenca Grau, Boris Motik, and Ian Horrocks. The Complexity and Expressive Power of Limit Datalog. *Journal of the ACM*, 69(1):1–83, 2022.
- [12] Akansha Bhardwaj, Albert Blarer, Philippe Cudré-Mauroux, Vincent Lenders, Boris Motik, Axel Tanner, and Alberto Tonon. Event Detection on Microposts: a Comparison of Four Different Approaches. *IEEE Transactions on Knowledge and Data Engineering*, 33(4):1467–1478, 2021.
- [13] Bernardo Cuenca Grau, Ian Horrocks, Mark Kaminski, Egor V. Kostylev, and Boris Motik. Limit Datalog: A Declarative Query Language for Data Analysis. *SIGMOD Record*, 48(4):6–17, 2019.
- [14] Boris Motik, Yavor Nenov, Robert Piro, and Ian Horrocks. Maintenance of Datalog Materialisations Revisited. *Artificial Intelligence*, 269:76–136, 2019.

⁵<https://www.oxfordsemantic.tech/>

⁶<https://news.samsung.com/global/samsung-electronics-announces-acquisition-of-oxford-semantic-technologies-uk-based-know>

- [15] Andrew Bate, Boris Motik, Bernardo Cuenca Grau, David Tena Cucala, František Simančík, and Ian Horrocks. Consequence-Based Reasoning for Description Logics with Disjunctions and Number Restrictions. *Journal of Artificial Intelligence Research*, 63:625–690, 2018.
- [16] Anthony Potter, Boris Motik, Yavor Nenov, and Ian Horrocks. Dynamic Data Exchange in Distributed RDF Stores. *IEEE Transactions on Knowledge and Data Engineering*, 30(12):2312–2325, 2018.
- [17] Giorgio Stefanoni, Boris Motik, Markus Krötzsch, and Sebastian Rudolph. The Complexity of Answering Conjunctive and Navigational Queries over OWL 2 EL Knowledge Bases. *Journal of Artificial Intelligence Research*, 51:645–705, 2014.
- [18] Birte Glimm, Ian Horrocks, Boris Motik, Giorgos Stoilos, and Zhe Wang. Hermit: An OWL 2 Reasoner. *Journal of Automated Reasoning*, 53(3):245–269, 2014.
- [19] František Simančík, Boris Motik, and Ian Horrocks. Consequence-Based and Fixed-Parameter Tractable Reasoning in Description Logics. *Artificial Intelligence*, 209:29–77, 2014.
- [20] Bernardo Cuenca Grau, Ian Horrocks, Markus Krötzsch, Clemens Kupke, Despoina Magka, Boris Motik, and Zhe Wang. Acyclicity Notions for Existential Rules and Their Application to Query Answering in Ontologies. *Journal of Artificial Intelligence Research*, 47:741–808, 2013.
- [21] Bernardo Cuenca Grau and Boris Motik. Reasoning over Ontologies with Hidden Content: The Import-by-Query Approach. *Journal of Artificial Intelligence Research*, 45:197–255, 2012.
- [22] Bernardo Cuenca Grau, Boris Motik, Giorgos Stoilos, and Ian Horrocks. Completeness Guarantees for Incomplete Ontology Reasoners: Theory and Practice. *Journal of Artificial Intelligence Research*, 43:419–476, 2012.
- [23] Birte Glimm, Ian Horrocks, Boris Motik, Rob Shearer, and Giorgos Stoilos. A Novel Approach to Ontology Classification. *Journal of Web Semantics: Science, Services and Agents on the World Wide Web*, 14:84–101, 2012.
- [24] Boris Motik. Representing and Querying Validity Time in RDF and OWL: A Logic-Based Approach. *Journal of Web Semantics: Science, Services and Agents on the World Wide Web*, 12–13:3–21, 2012.
- [25] Boris Motik and Riccardo Rosati. Reconciling Description Logics and Rules. *Journal of the ACM*, 57(5):1–62, 2010.
- [26] Boris Motik, Rob Shearer, and Ian Horrocks. Hypertableau Reasoning for Description Logics. *Journal of Artificial Intelligence Research*, 36:165–228, 2009.
- [27] Héctor Pérez-Urbina, Boris Motik, and Ian Horrocks. Tractable Query Answering and Rewriting under Description Logic Constraints. *Journal of Applied Logic*, 8(2):151–232, 2009.

- [28] Boris Motik, Bernardo Cuenca Grau, Ian Horrocks, and Ulrike Sattler. Representing Ontologies Using Description Logics, Description Graphs, and Rules. *Artificial Intelligence*, 173(14):1275–1309, 2009.
- [29] Boris Motik, Ian Horrocks, and Ulrike Sattler. Bridging the Gap Between OWL and Relational Databases. *Journal of Web Semantics: Science, Services and Agents on the World Wide Web*, 7(2):74–89, 2009.
- [30] Bernardo Cuenca Grau, Ian Horrocks, Boris Motik, Bijan Parsia, Peter Patel-Schneider, and Ulrike Sattler. OWL 2: The next step for OWL. *Journal of Web Semantics: Science, Services and Agents on the World Wide Web*, 6(4):309–322, 2008.
- [31] Ullrich Hustadt, Boris Motik, and Ulrike Sattler. Deciding Expressive Description Logics in the Framework of Resolution. *Information & Computation*, 206(5):579–601, 2008.
- [32] Yevgeny Kazakov and Boris Motik. A Resolution-Based Decision Procedure for *SHOIQ*. *Journal of Automated Reasoning*, 40(2–3):89–116, 2008.
- [33] Boris Motik. On the Properties of Metamodeling in OWL. *Journal of Logic and Computation*, 17(4):617–637, 2007.
- [34] Ullrich Hustadt, Boris Motik, and Ulrike Sattler. Reasoning in Description Logics by a Reduction to Disjunctive Datalog. *Journal of Automated Reasoning*, 39(3):351–384, 2007.
- [35] Boris Motik, Ulrike Sattler, and Rudi Studer. Query Answering for OWL-DL with Rules. *Journal of Web Semantics: Science, Services and Agents on the World Wide Web*, 3(1):41–60, 2005.
- [36] Raphael Volz, Steffen Staab, and Boris Motik. Incrementally Maintaining Materializations of Ontologies Stored in Logic Databases. *Journal of Data Semantics II*, 3360:1–34, 2005. LNCS, Springer.
- [37] Alexander Maedche, Boris Motik, and Ljiljana Stojanovic. Managing multiple and distributed ontologies on the Semantic Web. *VLDB Journal*, 12(4):286–302, 2003.
- [38] Alexander Maedche, Boris Motik, Ljiljana Stojanovic, Rudi Studer, and Raphael Volz. Ontologies for Enterprise Knowledge Management. *IEEE Intelligent Systems*, 18(2):26–33, 2003.
- [39] Alexander Maedche and Boris Motik. Repräsentations- und Anfragesprachen für Ontologien—eine Übersicht. *Datenbank-Spektrum*, 6:43–53, 2003. In German.

Conference Publications

- [40] Michael Benedikt, Chia-Hsuan Lu, Boris Motik, and Tony Tan. Decidability of Graph Neural Networks via Logical Characterizations. In Karl Bringmann, Martin Grohe, Gabriele Puppis, and Ola Svensson, editors, *Proc. of the 51st Int. Colloquium on Automata, Languages, and Programming (ICALP 2024)*, volume 297 of *LIPICs*, pages 127:1–127:20, Tallinn, Estonia, July 8–12 2024. Schloss Dagstuhl—Leibniz-Zentrum für Informatik.

- [41] David Tena Cucala, Bernardo Cuenca Grau, Boris Motik, and Egor V. Kostylev. On the Correspondence Between Monotonic Max-Sum GNNs and Datalog. In Pierre Marquis, Tran Cao Son, and Gabriele Kern-Isberner, editors, *Proc. of the 20th Int. Conf. on Principles of Knowledge Representation and Reasoning (KR 2023)*, pages 658–667, Rhodes, Greece, September 2–8 2023.
- [42] Ian Horrocks, Jordi Olivares, Valerio Cocchi, Boris Motik, and Dylan Roy. The Dow Jones Knowledge Graph. In Paul Groth, Maria-Esther Vidal, Fabian M. Suchanek, Pedro A. Szekely, Pavan Kapanipathi, Catia Pesquita, Hala Skaf-Molli, and Minna Tamper, editors, *Proc. of the 19th Extended Semantic Web Conference (ESWC 2022)*, volume 13261 of *LNCS*, pages 427–443, Hersonissos, Crete, Greece, May 29–June 2 2022. Springer.
- [43] David Tena Cucala, Bernardo Cuenca Grau, and Boris Motik. Faithful Approaches to Rule Learning. In Gabriele Kern-Isberner and Thomas Meyer, editors, *Proc. of the 19th Int. Conf. on Principles of Knowledge Representation and Reasoning (KR 2022)*, pages 484–493, Haifa, Israel, July 31–August 5 2022.
- [44] David Tena Cucala, Bernardo Cuenca Grau, Egor V. Kostylev, and Boris Motik. Explainable GNN-Based Models over Knowledge Graphs. In *Proc. of the 10th Int. Conf. on Learning Representations (ICLR 2022)*, Virtual Event, April 25–30 2022. OpenReview.net.
- [45] Temitope Ajileye, Boris Motik, and Ian Horrocks. Streaming Partitioning of RDF Graphs for Datalog Reasoning. In Ruben Verborgh, Katja Hose, Heiko Paulheim, Pierre-Antoine Champin, Maria Maleshkova, Óscar Corcho, Petar Ristoski, and Mehwish Alam, editors, *Proc. of the 18th European Semantic Web Conference (ESWC 2021)*, volume 12731 of *LNCS*, pages 3–22, Hersonissos, Greece, June 6–10 2021. Springer.
- [46] Temitope Ajileye, Boris Motik, and Ian Horrocks. Datalog Materialisation in Distributed RDF Stores with Dynamic Data Exchange. In Chiara Ghidini, Olaf Hartig, Maria Maleshkova, Vojtech Svátek, Isabel F. Cruz, Aidan Hogan, Jie Song, Maxime Lefrançois, and Fabien Gandon, editors, *Proc. of the 18th Int. Semantic Web Conf. (ISWC 2019)*, volume 11778 of *LNCS*, pages 21–37, Auckland, New Zealand, October 26–30 2019. Springer.
- [47] Pan Hu, Jacopo Urbani, Boris Motik, and Ian Horrocks. Datalog Reasoning over Compressed RDF Knowledge Bases. In Wenwu Zhu, Dacheng Tao, Xueqi Cheng, Peng Cui, Elke A. Rundensteiner, David Carmel, Qi He, and Jeffrey Xu Yu, editors, *Proc. of the 28th ACM Int. Conf. on Information and Knowledge Management (CIKM 2019)*, pages 2065–2068, Beijing, China, November 3–7 2019. ACM.
- [48] Pan Hu, Boris Motik, and Ian Horrocks. Modular Materialisation of Datalog Programs. In Pascal Van Hentenryck and Zhi-Hua Zhou, editors, *Proc. of the 33rd AAAI Conf. on Artificial Intelligence (AAAI 2019)*, pages 2859–286, Honolulu, HI, USA, January 27–February 1 2019. AAAI Press.
- [49] Mark Kaminski, Bernardo Cuenca Grau, Egor V. Kostylev, Boris Motik, and Ian Horrocks. Stratified Negation in Limit Datalog Programs. In Jérôme Lang, editor, *Proc.*

- of the 27th Int. Joint Conf. on Artificial Intelligence (IJCAI 2018), pages 1875–1881, Stockholm, Sweden, July 13–19 2018.
- [50] Giorgio Stefanoni, Boris Motik, and Egor V. Kostylev. Estimating the Cardinality of Conjunctive Queries over RDF Data Using Graph Summarisation. In Pierre-Antoine Champin, Fabien L. Gandon, Mounia Lalmas, and Panagiotis G. Ipeirotis, editors, *Proc. of the 27th Int. World Wide Web Conference (WWW 2018)*, pages 1043–1052, Lyon, France, April 23–27 2018.
- [51] Michael Benedikt, Boris Motik, and Efthymia Tsamoura. Goal-Driven Query Answering for Existential Rules with Equality. In Sheila A. McIlraith and Kilian Q. Weinberger, editors, *Proc. of the 32nd AAAI Conf. on Artificial Intelligence (AAAI 2018)*, pages 1761–1770, New Orleans, LA, USA, February 2–7 2018. AAAI Press.
- [52] Pan Hu, Boris Motik, and Ian Horrocks. Optimised Maintenance of Datalog Materialisations. In Sheila A. McIlraith and Kilian Q. Weinberger, editors, *Proc. of the 32nd AAAI Conf. on Artificial Intelligence (AAAI 2018)*, pages 1871–1879, New Orleans, LA, USA, February 2–7 2018. AAAI Press.
- [53] Alessandro Ronca, Mark Kaminski, Bernardo Cuenca Grau, Boris Motik, and Ian Horrocks. Stream Reasoning in Temporal Datalog. In Sheila A. McIlraith and Kilian Q. Weinberger, editors, *Proc. of the 32nd AAAI Conf. on Artificial Intelligence (AAAI 2018)*, pages 1941–1948, New Orleans, LA, USA, February 2–7 2018. AAAI Press.
- [54] Mark Kaminski, Bernardo Cuenca Grau, Egor V. Kostylev, Boris Motik, and Ian Horrocks. Foundations of Declarative Data Analysis Using Limit Datalog Programs. In Carles Sierra, editor, *Proc. of the 26th Int. Joint Conf. on Artificial Intelligence (IJCAI 2017)*, pages 1123–1130, Melbourne, Vic, Australia, August 19–25 2017.
- [55] Alberto Tonon, Philippe Cudré-Mauroux, Albert Blarer, Vincent Lenders, and Boris Motik. ArmaTweet: Detecting Events by Semantic Tweet Analysis. In Eva Blomqvist, Diana Maynard, Aldo Gangemi, Rinke Hoekstra, Pascal Hitzler, and Olaf Hartig, editors, *Proc. of the 14th Extended Semantic Web Conference (ESWC 2017)*, volume 10250 of *LNCS*, pages 138–153, Portorož, Slovenia, May 28–June 1 2017. Springer.
- [56] Michael Benedikt, George Konstantinidis, Giansalvatore Mecca, Boris Motik, Paolo Papotti, Donatello Santoro, and Efthymia Tsamoura. Benchmarking the Chase. In Emanuel Sallinger, Jan Van den Bussche, and Floris Geerts, editors, *Proc. of 36th ACM SIGMOD-SIGACT-SIGAI Symposium on Principles of Database Systems (PODS 2017)*, pages 37–52, Chicago, IL, USA, May 14–19 2017. ACM.
- [57] Anthony Potter, Boris Motik, Yavor Nenov, and Ian Horrocks. Distributed RDF Query Answering with Dynamic Data Exchange. In Paul T. Groth, Elena Simperl, Alasdair J. G. Gray, Marta Sabou, Markus Krötzsch, Freddy Lécué, Fabian Flöck, and Yolanda Gil, editors, *Proc. of the 15th Int. Semantic Web Conf., Part I (ISWC 2016)*, volume 9981 of *LNCS*, pages 480–497, Kobe, Japan, October 17–21 2016. Springer.
- [58] Robert Piro, Yavor Nenov, Boris Motik, Ian Horrocks, Peter Hendler, Scott Kimberly, and Michael Rossman. Semantic Technologies for Data Analysis in Health Care. In

- Paul T. Groth, Elena Simperl, Alasdair J. G. Gray, Marta Sabou, Markus Krötzsch, Freddy Lécué, Fabian Flöck, and Yolanda Gil, editors, *Proc. of the 15th Int. Semantic Web Conf., Part II (ISWC 2016)*, volume 9982 of *LNCS*, pages 400–417, Kobe, Japan, October 17–21 2016. Springer.
- [59] Andrew Bate, Boris Motik, Bernardo Cuenca Grau, František Simančík, and Ian Horrocks. Extending Consequence-Based Reasoning to *SRIQ*. In Chitta Baral, James P. Delgrande, and Frank Wolter, editors, *Proc. of the 15th Int. Conf. on the Principles of Knowledge Representation and Reasoning (KR 2016)*, pages 187–196, Cape Town, South Africa, April 25–29 2016.
- [60] Yavor Nenov, Robert Piro, Boris Motik, Ian Horrocks, Zhe Wu, and Jay Banerjee. RD-Fox: A Highly-Scalable RDF Store. In Marcelo Arenas, Óscar Corcho, Elena Simperl, Markus Strohmaier, Mathieu d’Aquin, Kavitha Srinivas, Paul T. Groth, Michel Dumontier, Jeff Heflin, Krishnaprasad Thirunarayan, and Steffen Staab, editors, *Proc. of the 14th Int. Semantic Web Conf. (ISWC 2015)*, volume 9367 of *LNCS*, pages 3–20, Bethlehem, PA, USA, October 11–15 2015. Springer.
- [61] Boris Motik, Yavor Nenov, Robert Piro, and Ian Horrocks. Combining Rewriting and Incremental Materialisation Maintenance for Datalog Programs with Equality. In Qiang Yang and Michael Wooldridge, editors, *Proc. of the 24th Int. Joint Conf. on Artificial Intelligence (IJCAI 2015)*, pages 3127–3133, Buenos Aires, Argentina, July 25–31 2015. AAAI Press.
- [62] Boris Motik, Yavor Nenov, Robert Piro, and Ian Horrocks. Incremental Update of Datalog Materialisation: the Backward/Forward Algorithm. In Blai Bonet and Sven Koenig, editors, *Proc. of the 29th AAAI Conf. on Artificial Intelligence (AAAI 2015)*, pages 1560–1568, Austin, TX, USA, January 25–30 2015. AAAI Press.
- [63] Boris Motik, Yavor Nenov, Robert Piro, and Ian Horrocks. Handling owl:sameAs via Rewriting. In Blai Bonet and Sven Koenig, editors, *Proc. of the 29th AAAI Conf. on Artificial Intelligence (AAAI 2015)*, pages 231–237, Austin, TX, USA, January 25–30 2015. AAAI Press.
- [64] Giorgio Stefanoni and Boris Motik. Answering Conjunctive Queries over EL Knowledge Bases with Transitive and Reflexive Roles. In Blai Bonet and Sven Koenig, editors, *Proc. of the 29th AAAI Conf. on Artificial Intelligence (AAAI 2015)*, pages 1611–1617, Austin, TX, USA, January 25–30 2015. AAAI Press.
- [65] Boris Motik, Yavor Nenov, Robert Piro, Ian Horrocks, and Dan Olteanu. Parallel Materialisation of Datalog Programs in Centralised, Main-Memory RDF Systems. In Carla E. Brodley and Peter Stone, editors, *Proc. of the 28th AAAI Conf. on Artificial Intelligence (AAAI 2014)*, pages 129–137, Québec City, Québec, Canada, July 27–31 2014. AAAI Press.
- [66] Pierre Chaussecourte, Birte Glimm, Ian Horrocks, Boris Motik, and Laurent Pierre. The Energy Management Adviser at EDF. In Harith Alani, Lalana Kagal, Achille Fokoue, Paul Groth, Chris Biemann, Josiane Xavier Parreira, Lora Aroyo, Natasha Noy, Chris Welty, and Krzysztof Janowicz, editors, *Proc. of the 12th Int. Semantic Web*

- Conf. (ISWC 2013), In-Use Track*, volume 8219 of *LNCS*, pages 49–64, Sydney, NSW, Australia, October 21–25 2013. Springer.
- [67] Bernardo Cuenca Grau, Boris Motik, Giorgos Stoilos, and Ian Horrocks. Computing Datalog Rewritings Beyond Horn Ontologies. In Francesca Rossi, editor, *Proc. of the 23rd Int. Joint Conf. on Artificial Intelligence (IJCAI 2013)*, pages 832–838, Beijing, China, August 3–9 2013.
- [68] Giorgio Stefanoni, Boris Motik, and Ian Horrocks. Introducing Nominals to the Combined Query Answering Approaches for \mathcal{EL} . In Marie desJardins and Michael L. Littman, editors, *Proc. of the 27th AAAI Conf. on Artificial Intelligence (AAAI 2013)*, pages 1177–1183, Bellevue, WA, USA, July 14–18 2013.
- [69] Despoina Magka, Boris Motik, and Ian Horrocks. Modelling Structured Domains Using Description Graphs and Logic Programming. In Elena Simperl, Philipp Cimiano, Axel Polleres, Óscar Corcho, and Valentina Presutti, editors, *Proc. of the 9th Extended Semantic Web Conference (ESWC 2012)*, volume 7295 of *LNCS*, pages 330–344, Heraklion, Greece, May 27–31 2012. Springer.
- [70] Bernardo Cuenca Grau, Ian Horrocks, Markus Krötzsch, Clemens Kupke, Despoina Magka, Boris Motik, and Zhe Wang. Acyclicity Conditions and their Application to Query Answering in Description Logics. In Gerhard Brewka, Thomas Eiter, and Sheila A. McIlraith, editors, *Proc. of the 13th Int. Conf. on the Principles of Knowledge Representation and Reasoning (KR 2012)*, pages 243–253, Rome, Italy, June 10–14 2012.
- [71] Boris Motik, Ian Horrocks, and Su Myeon Kim. Delta-Reasoner: A Semantic Web Reasoner for an Intelligent Mobile Platform. In Alain Mille, Fabien L. Gandon, Jacques Misselis, Michael Rabinovich, and Steffen Staab, editors, *Proc. of the 21st Int. World Wide Web Conference (WWW 2012), Industry Track*, pages 63–72, Lyon, France, April 16–20 2012.
- [72] Giorgos Stoilos, Bernardo Cuenca Grau, Boris Motik, and Ian Horrocks. Repairing Ontologies for Incomplete Reasoners. In Lora Aroyo, Chris Welty, Harith Alani, Jamie Taylor, Abraham Bernstein, Lalana Kagal, Natasha Fridman Noy, and Eva Blomqvist, editors, *Proc. of the 10th Int. Semantic Web Conf. (ISWC 2011)*, volume 7031 of *LNCS*, pages 681–696, Bonn, Germany, October 23–27 2011. Springer.
- [73] Boris Motik. Representing and Querying Validity Time in RDF and OWL: A Logic-Based Approach. In Peter F. Patel-Schneider, Yue Pan, Pascal Hitzler, Peter Mika, Lei Zhang, Jeff Z. Pan, Ian Horrocks, and Birte Glimm, editors, *Proc. of the 9th Int. Semantic Web Conf. (ISWC 2010)*, volume 6496 of *LNCS*, pages 550–565, Shanghai, China, November 7–11 2010. Springer.
- [74] Birte Glimm, Ian Horrocks, Boris Motik, and Giorgos Stoilos. Optimising Ontology Classification. In Peter F. Patel-Schneider, Yue Pan, Pascal Hitzler, Peter Mika, Lei Zhang, Jeff Z. Pan, Ian Horrocks, and Birte Glimm, editors, *Proc. of the 9th Int. Semantic Web Conf. (ISWC 2010)*, volume 6496 of *LNCS*, pages 225–240, Shanghai, China, November 7–11 2010. Springer.

- [75] Birte Glimm, Ian Horrocks, and Boris Motik. Optimized Description Logic Reasoning via Core Blocking. In Jürgen Giesl and Reiner Hähnle, editors, *Proc. of the 5th Int. Joint Conf. on Automated Reasoning (IJCAR 2010)*, volume 6173 of *LNCS*, pages 457–471, Edinburgh, UK, July 16–19 2010. Springer.
- [76] Bernardo Cuenca Grau and Boris Motik. Pushing the Limits of Reasoning over Ontologies with Hidden Content. In Fangzhen Lin, Ulrike Sattler, and Miroslaw Truszczyński, editors, *Proc. of the 12th Int. Conference on Principles of Knowledge Representation and Reasoning (KR 2010)*, pages 200–210, Toronto, ON, Canada, May 9–13 2010. AAAI Press.
- [77] Héctor Pérez-Urbina, Ian Horrocks, and Boris Motik. Efficient Query Answering for OWL 2. In Abraham Bernstein, David R. Karger, Tom Heath, Lee Feigenbaum, Diana Maynard, Enrico Motta, and Krishnaprasad Thirunarayan, editors, *Proc. of the 8th Int. Semantic Web Conference (ISWC 2009)*, volume 5823 of *LNCS*, pages 489–504, Chantilly, VA, USA, October 25–29 2009. Springer.
- [78] Bernardo Cuenca Grau, Boris Motik, and Yevgeny Kazakov. Import-by-Query: Ontology Reasoning under Access Limitations. In Craig Boutilier, editor, *Proc. of the 21st Int. Joint Conf. on Artificial Intelligence (IJCAI 2009)*, pages 727–733, Pasadena, CA, USA, July 11–17 2009.
- [79] Boris Motik and Ian Horrocks. OWL Datatypes: Design and Implementation. In Amit P. Sheth, Steffen Staab, Mike Dean, Massimo Paolucci, Diana Maynard, Timothy Finin, and Krishnaprasad Thirunarayan, editors, *Proc. of the 7th Int. Semantic Web Conference (ISWC 2008)*, volume 5318 of *LNCS*, pages 307–322, Karlsruhe, Germany, October 26–30 2008. Springer.
- [80] Boris Motik, Bernardo Cuenca Grau, Ian Horrocks, and Ulrike Sattler. Representing Structured Objects using Description Graphs. In Gerhard Brewka and Jérôme Lang, editors, *Proc. of the 11th Int. Joint Conf. on Principles of Knowledge Representation and Reasoning (KR 2008)*, pages 296–306, Sydney, NSW, Australia, August 16–19 2008. AAAI Press.
- [81] Boris Motik and Ian Horrocks. Individual Reuse in Description Logic Reasoning. In Alessandro Armando, Peter Baumgartner, and Gilles Dowek, editors, *Proc. of the 4th Int. Joint Conf. on Automated Reasoning (IJCAR 2008)*, volume 5195 of *LNAI*, pages 242–258, Sydney, NSW, Australia, August 12–15 2008. Springer.
- [82] Thanh Tran Duc, Peter Haase, Boris Motik, Bernardo Cuenca Grau, and Ian Horrocks. Metalevel Information in Ontology-Based Applications. In Dieter Fox and Carla P. Gomes, editors, *Proc. of the 23rd AAAI Conf. on Artificial Intelligence (AAAI 2008)*, pages 1237–1242, Chicago, IL, USA, July 13–17 2008. AAAI Press.
- [83] Boris Motik, Bernardo Cuenca Grau, and Ulrike Sattler. Structured Objects in OWL: Representation and Reasoning. In Jinpeng Huai, Robin Chen, Hsiao-Wuen Hon, Yunhao Liu, Wei-Ying Ma, Andrew Tomkins, and Xiaodong Zhang, editors, *Proc. of the 17th Int. World Wide Web Conference (WWW 2008)*, pages 555–564, Beijing, China, April 21–25 2008. ACM Press.

- [84] Christine Golbreich, Matthew Horridge, Ian Horrocks, Boris Motik, and Rob Shearer. OBO and OWL: Leveraging Semantic Web Technologies for the Life Sciences. In Karl Aberer, Key-Sun Choi, Natasha Fridman Noy, Dean Allemang, Kyung-Il Lee, Lyndon J. B. Nixon, Jennifer Golbeck, Peter Mika, Diana Maynard, Riichiro Mizoguchi, Guus Schreiber, and Philippe Cudré-Mauroux, editors, *Proc. of the 6th Int. Semantic Web Conference (ISWC 2007)*, volume 4825 of *LNCS*, pages 169–182, Busan, Korea, November 11–15 2007. Springer.
- [85] Boris Motik, Rob Shearer, and Ian Horrocks. Optimized Reasoning in Description Logics using Hypertableaux. In Frank Pfenning, editor, *Proc. of the 21st Conference on Automated Deduction (CADE-21)*, volume 4603 of *LNAI*, pages 67–83, Bremen, Germany, July 17–20 2007. Springer.
- [86] Boris Motik, Ian Horrocks, and Ulrike Sattler. Bridging the Gap Between OWL and Relational Databases. In Carey L. Williamson, Mary Ellen Zurko, Peter F. Patel-Schneider, and Prashant J. Shenoy, editors, *Proc. of the 16th International World Wide Web Conference (WWW 2007)*, pages 807–816, Banff, AB, Canada, May 8–12 2007. ACM Press.
- [87] Boris Motik and Riccardo Rosati. A Faithful Integration of Description Logics with Logic Programming. In Manuela M. Veloso, editor, *Proc. of the 20th Int. Joint Conference on Artificial Intelligence (IJCAI 2007)*, pages 477–482, Hyderabad, India, January 6–12 2007. Morgan Kaufmann Publishers.
- [88] Boris Motik, Ian Horrocks, Riccardo Rosati, and Ulrike Sattler. Can OWL and Logic Programming Live Together Happily Ever After? In Isabel F. Cruz, Stefan Decker, Dean Allemang, Chris Preist, Daniel Schwabe, Peter Mika, Michael Uschold, and Lora Aroyo, editors, *Proc. of the 5th Int. Semantic Web Conference (ISWC 2006)*, volume 4273 of *LNCS*, pages 501–514, Athens, GA, USA, November 5–9 2006. Springer.
- [89] Boris Motik and Ulrike Sattler. A Comparison of Reasoning Techniques for Querying Large Description Logic ABoxes. In Miki Hermann and Andrei Voronkov, editors, *Proc. of the 13th Int. Conference on Logic for Programming Artificial Intelligence and Reasoning (LPAR 2006)*, volume 4246 of *LNCS*, pages 227–241, Phnom Penh, Cambodia, November 13–17 2006. Springer.
- [90] Yevgeny Kazakov and Boris Motik. A Resolution-Based Decision Procedure for *SHOIQ*. In Ulrich Furbach, John Harrison, and Natarajan Shankar, editors, *Proc. of the 3rd Int. Joint Conference on Automated Reasoning (IJCAR 2006)*, volume 4130 of *LNAI*, pages 662–667, Seattle, WA, USA, August 17–20 2006. Springer.
- [91] Stephan Grimm, Boris Motik, and Chris Preist. Matching Semantic Service Descriptions with Local Closed-World Reasoning. In York Sure and John Domingue, editors, *Proc. of the 3rd European Semantic Web Conference (ESWC 2006)*, volume 4011 of *LNCS*, pages 575–589, Budva, Montenegro, June 11–14 2006. Springer.
- [92] Boris Motik. On the Properties of Metamodeling in OWL. In Yolanda Gil, Enrico Motta, Richard V. Benjamins, and Mark Musen, editors, *Proc. of the 4th Int. Semantic Web Conference (ISWC 2005)*, volume 3729 of *LNCS*, pages 548–562, Galway, Ireland, November 6–10 2005. Springer.

- [93] Ullrich Hustadt, Boris Motik, and Ulrike Sattler. Data Complexity of Reasoning in Very Expressive Description Logics. In Leslie Pack Kaelbling and Alessandro Saffiotti, editors, *Proc. of the 19th Int. Joint Conference on Artificial Intelligence (IJCAI 2005)*, pages 466–471, Edinburgh, UK, July 30–August 5 2005. Morgan Kaufmann Publishers.
- [94] Ullrich Hustadt, Boris Motik, and Ulrike Sattler. A Decomposition Rule for Decision Procedures by Resolution-based Calculi. In Franz Baader and Andrei Voronkov, editors, *Proc. of the 11th Int. Conference on Logic for Programming Artificial Intelligence and Reasoning (LPAR 2004)*, volume 3452 of *LNAI*, pages 21–35, Montevideo, Uruguay, March 14–18 2005. Springer.
- [95] Ullrich Hustadt, Boris Motik, and Ulrike Sattler. Reducing $SHIQ^-$ Description Logic to Disjunctive Datalog Programs. In Didier Dubois, Christopher A. Welty, and Mary-Anne Williams, editors, *Proc. of the 9th Int. Conference on Principles of Knowledge Representation and Reasoning (KR 2004)*, pages 152–162, Whistler, Canada, June 2–5 2004. AAAI Press.
- [96] Ullrich Hustadt, Boris Motik, and Ulrike Sattler. Reasoning in Description Logics with a Concrete Domain in the Framework of Resolution. In Ramon López de Mántaras and Lorenza Saitta, editors, *Proc. of the 16th European Conference on Artificial Intelligence (ECAI 2004)*, pages 353–357, Valencia, Spain, August 22–27 2004. IOS Press.
- [97] Boris Motik, Ulrike Sattler, and Rudi Studer. Query Answering for OWL-DL with Rules. In Sheila A. McIlraith, Dimitris Plexousakis, and Frank van Harmelen, editors, *Proc. of the 3rd Int. Semantic Web Conference (ISWC 2004)*, volume 3298 of *LNCS*, pages 549–563, Hiroshima, Japan, November 7–11 2004. Springer.
- [98] Gábor Nagypál and Boris Motik. A Fuzzy Model for Representing Uncertain, Subjective, and Vague Temporal Knowledge in Ontologies. In Robert Meersman, Zahir Tari, and Douglas C. Schmidt, editors, *Proc. of the 2003 Int. Conference on Ontologies, Databases and Applications of SEMantics (ODBASE 2003)*, volume 2888 of *LNCS*, pages 906–923, Catania, Italy, November 3–7 2003. Springer.
- [99] Raphael Volz, Steffen Staab, and Boris Motik. Incremental Maintenance of Materialized Ontologies. In Robert Meersman, Zahir Tari, and Douglas C. Schmidt, editors, *Proc. of the 2003 Int. Conference on Ontologies, Databases and Applications of SEMantics (ODBASE 2003)*, volume 2888 of *LNCS*, pages 707–724, Catania, Italy, November 3–7 2003. Springer.
- [100] Alexander Maedche, Boris Motik, Ljiljana Stojanovic, Rudi Studer, and Raphael Volz. An infrastructure for searching, reusing and evolving distributed ontologies. In *Proc. of the 12th International World Wide Web Conference (WWW 2003)*, pages 439–448, Budapest, Hungary, May 20–24 2003. ACM Press.
- [101] Raphael Volz, Daniel Oberle, Steffen Staab, and Boris Motik. KAON SERVER — A Semantic Web Management System. In *Alternate Track Proc. of the 12th International World Wide Web Conference (WWW 2003)*, Budapest, Hungary, May 20–24 2003. ACM Press.

- [102] Boris Motik, Alexander Maedche, and Raphael Volz. A Conceptual Modeling Approach for Semantics-Driven Enterprise Applications. In Robert Meersman and Zahir Tari, editors, *Proc. of the 2002 Int. Conference on Ontologies, Databases and Applications of SEMantics (ODBASE 2002)*, volume 2519 of *LNCS*, pages 1082–1099, Irvine, CA, USA, 2002. Springer.
- [103] Erol Bozsak, Marc Ehrig, Siegfried Handschuh, Andreas Hotho, Alexander Maedche, Boris Motik, Daniel Oberle, Christoph Schmitz, Steffen Staab, Ljiljana Stojanovic, Nenad Stojanovic, Rudi Studer, Gerd Stumme, York Sure, Julien Tane, Raphael Volz, and Valentin Zacharias. KAON — Towards a Large Scale Semantic Web. In Kurt Bauknecht, A. Min Tjoa, and Gerald Quirchmayr, editors, *Proc. of the 3rd Int. Conference on E-Commerce and Web Technologies (EC-Web 2002)*, volume 2455 of *LNCS*, pages 304–313, Aix-en-Provence, France, September 2–6 2002. Springer.
- [104] Alexander Maedche, Boris Motik, Nuno Silva, and Raphael Volz. MAFRA — A Mapping FRamework for Distributed Ontologies. In Asunción Gómez-Pérez and Richard V. Benjamins, editors, *Proc. of the 13th Int. Conference on Knowledge Engineering and Knowledge Management (EKAW 2002)*, volume 2473 of *LNAI*, pages 235–250, Sigüenza, Spain, October 1–4 2002. Springer.
- [105] Ljiljana Stojanovic, Alexander Maedche, Boris Motik, and Nenad Stojanovic. User-Driven Ontology Evolution Management. In Asunción Gómez-Pérez and Richard V. Benjamins, editors, *Proc. of the 13th Int. Conference on Knowledge Engineering and Knowledge Management (EKAW 2002)*, volume 2473 of *LNAI*, pages 285–300, Sigüenza, Spain, October 1–4 2002. Springer.
- [106] Alexander Maedche, Boris Motik, Ljiljana Stojanovic, Rudi Studer, and Raphael Volz. Managing Multiple Ontologies and Ontology Evolution in Ontologging. In Mark A. Musen, Bernd Neumann, and Rudi Studer, editors, *Proc. of the 17th Int. Federation for Information Processing Congress (IFIP 2002)*, volume 221 of *IFIP Conference Proceedings*, pages 51–63, Montréal, Québec, Canada, August 25–30 2002. Kluwer.
- [107] Boris Motik and Vlado Glavinić. Enabling Agent Architecture through an RDF Query and Inference Engine. In *Proc. of the 10th Mediterranean Electrotechnical Conference (MELECON 2000)*, volume II, pages 762–765, Lemesos, Cyprus, May 29–31 2000.
- [108] Vlado Glavinić and Boris Motik. Agent-Oriented Information Retrieval and Processing. In Damir Kalpić and Vesna Hljuz-Dobrić, editors, *Proc. 20th Int. Conference on Information Technology Interfaces (ITI '98)*, pages 163–168, Pula, Croatia, June 16–19 1998.
- [109] Vlado Glavinić and Boris Motik. Object-Oriented Interface to MMS Services. In *Proc. of the 9th Mediterranean Electrotechnical Conference (MELECON '98)*, volume II, pages 1375–1379, Tel-Aviv, Israel, May 18–20 1998.
- [110] Vlado Glavinić and Boris Motik. On PC-Based MMS Implementations. In *Proc. of the 20th Int. Convention Managing for Efficiency and Innovation (MIPRO '97)*, pages 193–196, Opatija, Croatia, May 19–23 1997.

- [111] Vlado Glavinić and Boris Motik. G-LOTOS Visual Development Environment. In *Proc. of the 8th Mediterranean Electrotechnical Conference (MELECON '96)*, volume I, pages 136–139, Bari, Italy, May 13–16 1996.
- [112] Boris Motik and Vlado Glavinić. On Semantic Representation of LOTOS Programs. In Damir Kalpić and Vesna Hljuz-Dobrić, editors, *Proc. 17th Int. Conference on Information Technology Interfaces (ITI '95)*, pages 217–224, Pula, Croatia, June 13–16 1995.

Workshop Publications

- [113] Michael Benedikt, Maxime Buron, Stefano Germano, Kevin Kappelmann, and Boris Motik. Datalog Rewriting for Guarded TGDs. In Mario Alviano and Andreas Pieris, editors, *Proc. of the 4th Int. Workshop on the Resurgence of Datalog in Academia and Industry (Datalog-2.0 2022)*, volume 3203 of *CEUR Workshop Proceedings*, pages 104–113, Genova-Nervi, Italy, September 5 2022.
- [114] Jaehun Lee, Taeho Hwang, Jung-ho Park, Yunsu Lee, Boris Motik, and Ian Horrocks. A context-aware recommendation system for mobile devices. In Kerry L. Taylor, Rafael Gonçalves, Freddy Lécué, and Jun Yan, editors, *Proc. of the ISWC 2020 Demos and Industry Tracks (ISWC 2020)*, volume 2721 of *CEUR Workshop Proceedings*, pages 380–382, Globally online, November 1–6 2020.
- [115] Fredah Banda and Boris Motik. Community-Based RDF Graph Partitioning. In Thorsten Liebig, Achille Fokoue, and Zhe Wu, editors, *Proc. of the 13th Int. Workshop on Scalable Semantic Web Knowledge Base Systems (SSWS 2020)*, volume 2757 of *CEUR Workshop Proceedings*, pages 33–48, Athens, Greece, November 2 2020.
- [116] Nicholas P. Roth, Vasileios Trigonakis, Sungpack Hong, Hassan Chafi, Anthony Potter, Boris Motik, and Ian Horrocks. PGX.D/Async: A Scalable Distributed Graph Pattern Matching Engine. In Peter Boncz and Josep Lluís Larriba Pey, editors, *Proc. of the 5th Int. Workshop on Graph Data-management Experiences & Systems (GRADES 2017)*, pages 7:1–7:6, Chicago, IL, USA, May 19 2017.
- [117] Andrew Bate, Boris Motik, Bernardo Cuenca Grau, František Simančík, and Ian Horrocks. Extending Consequence-Based Reasoning to *SHIQ*. In Diego Calvanese and Boris Konev, editors, *Proc. of the 28th Int. Workshop on Description Logics (DL 2015)*, volume 1350 of *CEUR Workshop Proceedings*, pages 34–46, Athens, Greece, June 7–10 2015.
- [118] Anthony Potter, Boris Motik, and Ian Horrocks. Querying Distributed RDF Graphs: The Effects of Partitioning. In Thorsten Liebig and Achille Fokoue, editors, *Proc. of the 10th Int. Workshop on Scalable Semantic Web Knowledge Base Systems (SSWS 2014)*, volume 1261 of *CEUR Workshop Proceedings*, pages 29–44, Riva del Garda, Trentino, Italy, October 20 2014.
- [119] Boris Motik, Yavor Nenov, Robert Piro, Ian Horrocks, and Dan Olteanu. Parallel OWL 2 RL Materialisation in Centralised, Main-Memory RDF Systems. In Meghyn Bienvenu, Magdalena Ortiz, Riccardo Rosati, and Mantas Simkus, editors, *Proc. of the 27th Int.*

- Workshop on Description Logics (DL 2014)*, volume 1193 of *CEUR Workshop Proceedings*, pages 311–323, Vienna, Austria, July 17–20 2014.
- [120] Giorgio Stefanoni, Boris Motik, and Ian Horrocks. Introducing Nominals to the Combined Query Answering Approaches for \mathcal{EL} . In Thomas Eiter, Birte Glimm, Yevgeny Kazakov, and Markus Krötzsch, editors, *Proc. of the 26th Int. Workshop on Description Logics (DL 2013)*, volume 1014 of *CEUR Workshop Proceedings*, Ulm, Germany, July 23–26 2013.
 - [121] Ian Horrocks, Boris Motik, and Zhe Wang. The HerMiT OWL Reasoner. In Ian Horrocks, Mikalai Yatskevich, and Ernesto Jimenez-Ruiz, editors, *Proc. of the OWL Reasoner Evaluation Workshop (ORE 2012)*, volume 858 of *CEUR Workshop Proceedings*, Manchester, UK, July 1 2012.
 - [122] Giorgio Stefanoni, Boris Motik, and Ian Horrocks. Small Datalog Query Rewritings for EL. In Yevgeny Kazakov, Domenico Lembo, and Frank Wolter, editors, *Proc. of the 25th Int. Workshop on Description Logics (DL 2012)*, volume 846 of *CEUR Workshop Proceedings*, Rome, Italy, June 7–10 2012.
 - [123] Despoina Magka, Boris Motik, and Ian Horrocks. Modelling Structured Domains Using Description Graphs and Logic Programming. In Yevgeny Kazakov, Domenico Lembo, and Frank Wolter, editors, *Proc. of the 25th Int. Workshop on Description Logics (DL 2012)*, volume 846 of *CEUR Workshop Proceedings*, Rome, Italy, June 7–10 2012.
 - [124] Despoina Magka, Boris Motik, and Ian Horrocks. Classifying Chemicals Using Description Graphs and Logic Programming. In Matthew Horridge and Pavel Klinov, editors, *Proc. of the 9th Int. Workshop on OWL: Experiences and Directions (OWLED 2012)*, Heraclion, Crete, May 27–28 2012.
 - [125] František Simančík, Boris Motik, and Markus Krötzsch. Fixed Parameter Tractable Reasoning in DLs via Decomposition. In Riccardo Rosati, Sebastian Rudolph, and Michael Zakharyashev, editors, *Proc. of the 24th Int. Workshop on Description Logics (DL 2011)*, volume 745 of *CEUR Workshop Proceedings*, Barcelona, Spain, July 13–16 2011.
 - [126] Birte Glimm, Ian Horrocks, and Boris Motik. Optimized DL Reasoning via Core Blocking. In Volker Haarslev, David Toman, and Grant Weddell, editors, *Proc. of the 23rd Int. Workshop on Description Logics (DL 2010)*, volume 573 of *CEUR Workshop Proceedings*, Waterloo, ON, Canada, May 4–7 2010.
 - [127] Héctor Pérez-Urbina, Ian Horrocks, and Boris Motik. Practical Aspects of Query Rewriting for OWL 2. In Rinke Hoekstra and Peter Patel-Schneider, editors, *Proc. of the 5th Int. Workshop on OWL: Experiences and Directions (OWLED 2009)*, Chantilly, VA, USA, October 23–24 2009.
 - [128] Bernardo Cuenca Grau and Boris Motik. Importing Ontologies with Hidden Content. In Bernardo Cuenca Grau, Ian Horrocks, Boris Motik, and Ulrike Sattler, editors, *Proc. of the 22nd Int. Workshop on Description Logics (DL 2009)*, volume 477 of *CEUR Workshop Proceedings*, Oxford, UK, July 27–30 2009.

- [129] Rob Shearer, Ian Horrocks, and Boris Motik. Exploiting Partial Information in Taxonomy Construction. In Bernardo Cuenca Grau, Ian Horrocks, Boris Motik, and Ulrike Sattler, editors, *Proc. of the 22nd Int. Workshop on Description Logics (DL 2009)*, volume 477 of *CEUR Workshop Proceedings*, Oxford, UK, July 27–30 2009.
- [130] Héctor Pérez-Urbina, Boris Motik, and Ian Horrocks. A Comparison of Query Rewriting Techniques for DL-lite. In Bernardo Cuenca Grau, Ian Horrocks, Boris Motik, and Ulrike Sattler, editors, *Proc. of the 22nd Int. Workshop on Description Logics (DL 2009)*, volume 477 of *CEUR Workshop Proceedings*, Oxford, UK, July 27–30 2009.
- [131] Boris Motik, Bernardo Cuenca Grau, Ian Horrocks, and Ulrike Sattler. Modeling Ontologies Using OWL, Description Graphs, and Rules. In Alan Ruttenberg, Ulrike Sattler, and Cathy Dolbear, editors, *Proc. of the 5th Int. Workshop on OWL: Experiences and Directions (OWLED 2008 EU)*, Karlsruhe, Germany, October 26–27 2008.
- [132] Rob Shearer, Boris Motik, and Ian Horrocks. Hermit: A Highly-Efficient OWL Reasoner. In Alan Ruttenberg, Ulrike Sattler, and Cathy Dolbear, editors, *Proc. of the 5th Int. Workshop on OWL: Experiences and Directions (OWLED 2008 EU)*, Karlsruhe, Germany, October 26–27 2008.
- [133] Boris Motik, Rob Shearer, and Ian Horrocks. Optimizing the Nominal Introduction Rule in (Hyper)Tableau Calculi. In Franz Baader, Carsten Lutz, and Boris Motik, editors, *Proc. of the 21st Int. Workshop on Description Logics (DL 2008)*, volume 353 of *CEUR Workshop Proceedings*, Dresden, Germany, May 13–16 2008.
- [134] Boris Motik, Bernardo Cuenca Grau, and Ulrike Sattler. The Representation of Structured Objects in DLs using Description Graphs. In Franz Baader, Carsten Lutz, and Boris Motik, editors, *Proc. of the 21st Int. Workshop on Description Logics (DL 2008)*, volume 353 of *CEUR Workshop Proceedings*, Dresden, Germany, May 13–16 2008.
- [135] Héctor Pérez-Urbina, Boris Motik, and Ian Horrocks. Rewriting Conjunctive Queries under Description Logic Constraints. In Andrea Cali, Georg Gottlob, Laks V.S. Lakshmanan, and Davide Martinenghi, editors, *Proc. of the Int. Workshop on Logic in Databases (LID 2008)*, Rome, Italy, May 19–20 2008.
- [136] Héctor Pérez-Urbina, Boris Motik, and Ian Horrocks. Rewriting Conjunctive Queries over Description Logic Knowledge Bases. In Klaus-Dieter Schewe and Bernhard Thalheim, editors, *Proc. of the Int. Workshop on Semantics in Data and Knowledge Bases (SDKB 2008)*, volume 4925 of *LNCIS*, pages 199–214, Nantes, France, March 29 2008. Springer.
- [137] Boris Motik, Rob Shearer, and Ian Horrocks. A Hypertableau Calculus for *SHIQ*. In Diego Calvanese, Enriso Franconi, Volker Haarslev, Domenico Lembo, Boris Motik, Sergio Tessaris, and Anny-Yasmin Turhan, editors, *Proc. of the 20th Int. Workshop on Description Logics (DL 2007)*, pages 419–426, Brixen/Bressanone, Italy, June 8–10 2007. Bozen/Bolzano University Press.
- [138] Boris Motik, Ian Horrocks, and Ulrike Sattler. Adding Integrity Constraints to OWL. In Christine Golbreich, Aditya Kalyanpur, and Bijan Parsia, editors, *OWL: Experiences and Directions 2007 (OWLED 2007)*, Innsbruck, Austria, June 6–7 2007.

- [139] Boris Motik and Ian Horrocks. Problems with OWL Syntax. In Bernardo Cuenca Grau, Pascal Hitzler, Connor Shankey, and Evan Wallace, editors, *OWL: Experiences and Directions 2006 (OWLED 2006)*, Athens, GA, USA, November 10–11 2006.
- [140] Boris Motik. Description Logics and Disjunctive Datalog—More Than just a Fleeting Resemblance? In Holger Schlingloff, editor, *Proc. of the 4th Workshop on Methods for Modalities (M4M-4)*, volume 194 of *Informatik-Berichte der Humboldt-Universität zu Berlin*, pages 246–265, Berlin, Germany, December 1–2 2005.
- [141] Stephan Grimm and Boris Motik. Closed World Reasoning in the Semantic Web through Epistemic Operators. In Bernardo Cuenca Grau, Ian Horrocks, Bijan Parsia, and Peter Patel-Schneider, editors, *Proc. of the Workshop on OWL: Experiences and Directions (OWLED 2005)*, Galway, Ireland, November 11–12 2005.
- [142] Peter Haase and Boris Motik. A Mapping System for the Integration of OWL-DL Ontologies. In Axel Hahn, Sven Abels, and Liane Haak, editors, *Proc. of the 1st Int. ACM Workshop on Interoperability of Heterogeneous Information Systems (IHIS'05)*, pages 9–16, Bremen, Germany, November 4 2005. ACM Press.
- [143] Ullrich Hustadt and Boris Motik. Description Logics and Disjunctive Datalog—The Story so Far. In Ian Horrocks, Ulrike Sattler, and Frank Wolter, editors, *Proc. of the 2005 Int. Workshop on Description Logics (DL 2005)*, volume 147 of *CEUR Workshop Proceedings*, Edinburgh, UK, July 26–28 2005.
- [144] Pascal Hitzler, Jürgen Angele, Boris Motik, and Rudi Studer. Bridging the Paradigm Gap with Rules for OWL. In *Proc. of the W3C Workshop on Rule Languages for Interoperability*, Washington, DC, USA, April 27–28 2005.
- [145] Stephan Grimm, Boris Motik, and Chris Preist. Variance in e-Business Service Discovery. In David Martin, Rubén Lara, and Takahira Yamaguchi, editors, *Proc. of the ISWC 2004 Workshop on Semantic Web Services: Preparing to Meet the World of Business Applications*, volume 119 of *CEUR Workshop Proceedings*, Hiroshima, Japan, November 8 2004.
- [146] Boris Motik, Alexander Maedche, and Raphael Volz. Optimizing Query Answering in Description Logics using Disjunctive Deductive Databases. In François Bry, Carsten Lutz, Ulrike Sattler, and Mareike Schoop, editors, *Proc. of the 10th Int. Workshop on Knowledge Representation meets Databases (KRDB 2003)*, volume 79 of *CEUR Workshop Proceedings*, Hamburg, Germany, September 15–16 2003.
- [147] Raphael Volz, Steffen Staab, and Boris Motik. Incremental Maintenance of Dynamic Datalog Programs. In Raphael Volz, Stefan Decker, and Isabel F. Cruz, editors, *Proc. of the 1st Int. Workshop on Practical and Scalable Semantic Systems (PSSS1)*, volume 89 of *CEUR Workshop Proceedings*, Sanibel Island, FL, USA, October 20 2003.
- [148] Alexander Maedche, Boris Motik, Nuno Silva, and Raphael Volz. MAFRA — An Ontology Mapping FRamework in the context of the Semantic Web. In *Proc. of the ECAI 2002 Workshop on Knowledge Transformation for the Semantic Web (KTSW)*, Lyon, France, July 23 2002.

Book Contributions

- [149] Boris Motik. Resolution-Based Reasoning for Ontologies, 2nd edition. In Steffen Staab and Rudi Studer, editors, *Handbook on Ontologies*, International Handbooks on Information Systems, pages 529–550. Springer, 2009.
- [150] Boris Motik, Alexander Maedche, and Raphael Volz. Ontology Representation and Querying for Realizing Semantics-Driven Applications. In Giorgos Samou and Stefanos Kollias, editors, *Multimedia Content and the Semantic Web: Methods, Standards and Tools*, pages 45–73. John Wiley & Sons, 2005.
- [151] Daniel Oberle, Raphael Volz, Steffen Staab, and Boris Motik. An Extensible Ontology Software Environment. In Steffen Staab and Rudi Studer, editors, *Handbook on Ontologies*, International Handbooks on Information Systems, pages 299–320. Springer, 2004.

Technical Reports

- [152] Boris Motik, Bernardo Cuenca Grau, and Ulrike Sattler. Structured Objects in OWL: Representation and Reasoning. Technical report, University of Oxford, UK, 2007.
- [153] Boris Motik, Ian Horrocks, and Ulrike Sattler. Integrating Description Logics and Relational Databases. Technical report, University of Manchester, UK, 2006.
- [154] Boris Motik and Riccardo Rosati. Closing Semantic Web Ontologies. Technical report, University of Manchester, UK, 2006.
- [155] Ullrich Hustadt, Boris Motik, and Ulrike Sattler. Reasoning for Description Logics around *SHIQ* in a Resolution Framework. Technical Report 3-8-04/04, FZI, Germany, 2004.
- [156] Ullrich Hustadt, Boris Motik, and Ulrike Sattler. Reducing *SHIQ*⁻ Description Logics to Disjunctive Datalog Programs. Technical Report 1-8-11/03, FZI, Germany, 2004.

Edited Proceedings

- [157] Bernardo Cuenca Grau, Ian Horrocks, Boris Motik, and Ulrike Sattler, editors. *Proceedings of the 22nd International Workshop on Description Logics (DL 2009)*, Oxford, UK, July 27–30 2009. CEUR Workshop Proceedings. Vol. 477.
- [158] Franz Baader, Carsten Lutz, and Boris Motik, editors. *Proceedings of the 21st International Workshop on Description Logics (DL 2008)*, Dresden, Germany, May 13–16 2008. CEUR Workshop Proceedings. Vol. 353.
- [159] Diego Calvanese, Enrico Franconi, Volker Haarslev, Domenico Lembo, Boris Motik, Sergio Tessaris, and Anni-Yasmin Turhan, editors. *Proceedings of the 20th International Workshop on Description Logics (DL 2007)*, Brixen/Bressanone, Italy, June 8–10 2007. CEUR Workshop Proceedings. Vol. 250.

Books

- [160] Boris Motik and Julijan Šribar. *C++ Demystified*. Element, Zagreb, Croatia, 2nd edition, 2001. In Croatian.
- [161] Boris Motik and Julijan Šribar. *C++ Demystified*. Element, Zagreb, Croatia, 1997. In Croatian.

Theses

- [162] Boris Motik. *Reasoning in Description Logics using Resolution and Deductive Databases*. PhD thesis, Univesität Karlsruhe (TH), Karlsruhe, Germany, January 2006.
- [163] Boris Motik. *Improving Interaction with the Information Infrastructure Using Intelligent Agents*. Master's thesis, Faculty of Electrical Engineering and Computing, University of Zagreb, Croatia, December 1999. In Croatian.
- [164] Boris Motik. *Integrated Development Environment for Specifying Distributed Systems*. Diploma thesis, Faculty of Electrical Engineering and Computing, University of Zagreb, Croatia, February 1996. In Croatian.