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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

- SWSA 10-year award 2025 for the paper "RDFox: A Highly-Scalable RDF Store" published at ISWC 2015 [60]

- Winner of the 2025 Vice Chancellor's Award for Innovation and Commercialisation for his work on Oxford Semantic Technologies as a spinout company of Oxford University

- 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 KAON[1] ontology management suite. This was the precursor to the KAON2 tool that I developed as part of my PhD research.

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.

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[1] http://kaon.semanticweb.org/
[2] http://www.np-plitvicka-jezera.hr/

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.

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 MaSI[3] 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.

- MaSI[3]: 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.

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[3]http://www.bug.hr/

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 Pro 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.

- 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

- ED^3: 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.

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[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.

Patents

- *Complex query evaluation using sideways information passing.* Boris Motik, Yavor Nenov, Ian Horrocks. US Patent Number 11,645,278 B2

- *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 at The 23rd Int. Conference on Knowledge Representation and Reasoning (KR 2026), July 20–23, 2026, Lisbon, Portugal

- Senior Program Committee Member at The 23rd Int. European Semantic Web Conference (ESWC 2026), May 10–14, 2026, Dubrovnik, Croatia

- Program Committee Member of The 2026 Web Conference (WebConf 2026), April 13–17, 2026, Dubai, United Arab Emirates

- Program Committee Member of the Industrial Track at The 52nd Int. Conference on Very Large Databases (VLDB 2026), August 31–September 4, 2026, Boston, MA, USA

- Program Committee Member at The 22nd Int. Conference on Knowledge Representation and Reasoning (KR 2025), November 11–17, Melbrourne, Vic, Australia

- Senior Program Committee Member at The 22nd Int. European Semantic Web Conference (ESWC 2025), June 1–5, 2025, Portorož, Slovenia

- Senior Program Committee Member at The 34th Int. Joint Conference on Artificial Intelligence (IJCAI 2025), August 16–22, 2024, Montreal, QC, Canada

- Program Committee Member of the Wild Track at The 21st Int. Conference on Knowledge Representation and Reasoning (KR 2024), November 2–8, 2024, 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. European Semantic Web Conference (ESWC 2024), May 22–30, 2024, Heraklion, 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. European Semantic Web Conference (ESWC 2023), May 28–June 1, 2023, Heraklion, 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, 2018, 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, Betlehem, PA, USA

- The 14th Int. Semantic Web Conference (ISWC 2015), October 11–15, 2015, Betlehem, 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 11–55, 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, serving on the Review board since 2025

- 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

- Logic Methods in Computer Science

- 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 $\mathcal{SRIQ}$ 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 Technologies[5] 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]

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[5]https://www.oxfordsemantic.tech/
[6]https://news.samsung.com/global/samsung-electronics-announces-acquisition-of-oxford-semantic-technologies-uk-based-know

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*, 49(4):1–44, 2024.

[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.

[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.

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[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.

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[32] Yevgeny Kazakov and Boris Motik. A Resolution-Based Decision Procedure for $\mathcal{SHOIQ}$. *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.

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[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.

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ume 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 25–39 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 $\mathcal{SRIQ}$. 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.

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[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, Giorgios 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.

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[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.

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[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.

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[80] Boris Motik, Bernardo Cuenca Grau, Ian Horrocks, and Ulirke 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.

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