

Dr. GUOHUI XIAO

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Present Appointment

- Assistant Professor (with a fixed term contract since December 2014) at the KRDB Research Centre for Knowledge and Data, Free University of Bozen-Bolzano, Italy.

Research Interests

My research interest is about theory and application of knowledge representation, that includes both theoretical research and practical research on reasoning engine implementation, optimization and application.

- Knowledge representation
- Description logics, Ontology, Semantic web, Ontology-based data access, Knowledge Graph
- Nonmonotonic reasoning, Logic programming, Answer set programming
- Database, Query Language, Data integration, Big Data
- Algorithms and computational complexity in AI
- Implementation, Optimization and Application of reasoning engines

Education

Doctor of Technical Sciences (Dr.techn.)

Jan 2014

Vienna University of Technology, Vienna, Austria

Promotion with distinction, 23 Jan 2014

Knowledge Based System (KBS) group, Institute of Information Systems

Adviser: Prof. Thomas Eiter

Thesis: Inline Evaluation of Hybrid Knowledge Bases

External reviewers: Prof. Diego Calvanese, Prof. Sebastian Rudolph

Master of Science

July 2010

Peking University, Beijing, China

Department of Information Science, School of Mathematical Sciences

Major: Applied Mathematics

Adviser: Prof. Zuoquan Lin

Thesis: Inconsistency Measurement under Multi-Valued Semantics

Bachelor of Science

July 2007

Peking University, Beijing, China

Department of Information Science, School of Mathematical Sciences

Major: Applied Mathematics

Professional Experience

- Dec 2014 – , Assistant Professor (RTD-a) at Free University of Bozen-Bolzano, Bolzano, Italy.
Responsibility: Leading the Ontop team for the research activity of ontology-based data; Work on the EU FP7 Project Optique; Teaching; Student supervision
- July 2013 – Nov 2014: Research Assistant (Post-doctoral researcher) at Free University of Bozen-Bolzano, Bolzano, Italy
Responsibility: work on the EU FP7 Project Optique
- Dec 2009 – Dec 2012: Research Assistant (Pre-doctoral researcher) at Vienna University of Technology, Vienna, Austria
Responsibility: work on EU FP7 Project OntoRule and Austrian FWF Project *Reasoning in Hybrid KBs* (FWF-P20840)

Research Projects

- July 2017 – July 2019. *Ontology-based analysis of temporal and streaming data (OBAST)*, Funded by Research Committee of Free University of Bolzano, RTD call 2017. Role: co-PI.
- July 2017 – Nov 2019. *Ontology-based Data Access for NoSQL database (OBDAM)* IN2045. Funded by Research Committee of Free University of Bolzano. Role: PI.
- Nov 2012 – Oct 2016. *Scalable End-user Access to Big Data (Optique)* (FP7-231875) Funded by EU FP 7 program. Role: team leader.
- Jan 2012 –Dec 2012. Austrian FWF Project *Reasoning in Hybrid Knowledge Bases* (FWF-P20840). Role: research assistant.
- Dec 2009 –Dec 2011. EU FP7 Project *Ontologies meet Business Rules* (ONTORULE, FP7-231875). Role: research assistant.

Teaching Experience

- July 2017: Intensive lecture on *Semantic Web Technologies* (27 hours, bachelor level) at the school of Software Engineering, Sun Yat-sen University, Guangzhou, China
- Feb. 2017 – Jun. 2017: Lab instructor on *Advanced Internet Technologies* (24 hours, master level) at Faculty of Computer Science, Free University of Bozen-Bolzano

- Feb. 2017 – Jun. 2017: Lab instructor on *Knowledge Representation and Ontologies* (24 hours, master level) at Faculty of Computer Science, Free University of Bozen-Bolzano
- Oct. 2016 – Jan. 2017: Lab instructor on *Semantic Technologies* (24 hours, master level) at Faculty of Computer Science, Free University of Bozen-Bolzano
- Sep 2016: Intensive lecture on *Semantic Web Technologies* (27 hours, bachelor level) at the school of Software Engineering, Sun Yat-sen University, Guangzhou, China
- Feb. 2016 – Jun. 2016: Lab instructor on *Knowledge Representation and Ontologies* (24 hours, master level) at Faculty of Computer Science, Free University of Bozen-Bolzano
- Feb. 2016 – Jun. 2016: Lab instructor on *Data Structure and Algorithms* (24 hours, bachelor level) at Faculty of Computer Science, Free University of Bozen-Bolzano
- Oct. 2015 – Jan. 2016: Lab instructor on *Semantic Technologies* (24 hours, master level) at Faculty of Computer Science, Free University of Bozen-Bolzano
- Sep. 2015: Intensive lecture on *Semantic Web Technologies* (27 hours, bachelor level) at the school of Software Engineering, Sun Yat-sen University, Guangzhou, China
- Feb. – Jun. 2015: Lab instructor on *Ontology and Database Systems* (36 hours, master level) at Faculty of Computer Science, Free University of Bozen-Bolzano
- Mar. – Jul. 2009: *Java programming language* (one semester, bachelor level) lecture at the Secondary school of Peking University, Beijing, China

Tutorials and Courses at Scientific Events

- 10 Aug, 2014: *Ontology-based data access – Theory and Practice*. Tutorial at Summer School of the 8th Chinese Semantic Web Symposium & Web Science Conference (CSWS2014). Wuhan, China
- 11 Oct, 2015: *Ontology-based Data Access: From Theory to Practice*. Tutorial at The 14th International Semantic Web Conference (ISWC 2015). Bethlehem, Pennsylvania
- 12 Feb, 2016: *Ontop: Answering SPARQL Queries over Relational Databases*. Tutorial at Stanford Center for Biomedical Informatics Research Stanford University
- 29 Apr, 2016: *Ontology-based Data Access with Ontop*. Invited talk at PEIYANG Forum for Young Scholars,
- 19 Nov, 2016: *Mapping Management and Expressive Ontologies in Ontology-Based Data Access*. Tutorial at 20th Int. Conf. on Knowledge Engineering and Knowledge Management (EKAW 2016), Bologna, Italy.
- 11 July, 2017: *Overview of Ontop – A toolkit for answering SPARQL queries over relational databases*. Invited talk at South China Normal University, Guangzhou, China.

Industrial Collaborations

- Statoil ASA, Stavanger, Norway. Collaboration on applying OBDA techniques in the oil and gas industry.
- Siemens, Munich Germany. Collaboration on research and deployment of OBDA techniques over temporal and streaming data.

- DNV, Oslo, Norway. Collaboration on applying OBDA techniques in the health domain.
- Datatellers s.r.l, South Tyrol, Italy. Collaboration on visualization of results of OBDA.
- SIRIS Academic, Barcelona, Spain. Collaboration on research and application of ontology-based data integration.

Programming Skills

Professional Languages: Java, Python

Skilled languages: C, C++, Matlab, C#, Linux shell scripting

Database: SQL, PostgreSQL, MySQL, MongoDB

Semantics Web: OWL, RDF(S), XML, SPARQL, OWL-API, Jena, R2RML, Sesame, Ontop

Version Control: Git, GitHub, SVN, CVS

My Github: <https://github.com/ghxiao/>

Software Projects

- *Ontop* (<http://ontop.inf.unibz.it>) is a system for SPARQL query answering for ontology based data access and integration. I am the current leader of the Ontop development team with 8 team members. The project has been developed for 7 years and has been well-received by the industry and academic community. The development was partially funded by the EU FP7 project Optique.
- *Ontop-spatial* (<https://github.com/ConstantB/ontop-spatial>) is the spatial extension of Ontop system for accessing geo-spatial databases. This project is developed in collaboration with University of Athens.
- *Ontoprox* (<https://github.com/ontop/ontoprox>) is a system for OBDA with expressive ontologies. It rewrites OBDA specifications with an expressive ontology to “equivalent” ones with a DL-LiteR ontology, if possible, and to approximate them otherwise. I am the main developer of the system.
- *R2RML-API* (<http://r2rml-api.optique-project.eu/>) is an Java API for the RDB-to-RDF mapping language (R2RML). I am one of the main developer and the current maintainer of the R2RML API. It has been adopted by Ontop, Optique platform and the Stardog system. The development was partially funded by the EU FP7 Project Optique.
- *DReW* (<https://github.com/ghxiao/drew>) is a reasoner for DL-programs over datalog-rewritable ontologies. I am the developer of the system. The system was mainly developed in the context of EU FP7 OntoRule Project and my PhD thesis was essentially based on this system.
- *Clipper* (<https://github.com/ghxiao/clipper>) is a reasoner for conjunctive query answering over Horn-SHIQ ontologies. I am the main developer of the system. The system was mainly developed in the context of the FWF project Reasoning over Hybrid Knowledge Bases. The paper about clipper has been cited for more than 100 times.

Scientific Activities

- PC Co-Chair of the Track of Web Technologies & Data Analytics at the 39th IEEE Computer Society Signature Conference on Computers, Software and Applications (COMPSAC/WEDA), Taichung, Taiwan, July 1-5, 2015.
- Workshop Co-Chair of 5th Joint International Semantic Technology (JIST2015), November 11-13, 2015. Yichang, China
- PC Member of Conferences and Workshops
 - AAAI Conference on Artificial Intelligence (AAAI) 2017
 - 10th International Conference on Web Reasoning and Rule Systems (RR 2016)
 - Top-k Shortest Paths in large typed RDF Datasets Challenge @ ESWC 2016
 - COMPSAC Symposium on Web, Big Data & Analytics (WEDA 2016)
 - 25th International Joint Conference on Artificial Intelligence (IJCAI 2016)
 - International Workshop on Description Logics (DL 2015, 2016, 2017)
 - 5th Joint International Semantic Technology (JIST2015)
 - Open Answer Set Programming Competition (ASPCOMP 2013)
- Reviewing for Conferences and Workshops
 - AAAI Conference on Artificial Intelligence (AAAI) 2011
 - International Joint Conference on Artificial Intelligence (IJCAI) 2011, 2013, 2015
 - International Semantic Web Conference (ISWC) 2011, 2012, 2013, 2014, 2015, 2017
 - International Joint Conference on Automated Reasoning (IJCAR) 2012
 - International Conference on Principles of Knowledge Representation and Reasoning (KR) 2012
 - Multi-Disciplinary International Workshop on Artificial Intelligence (MIWAI) 2012
 - Reasoning Web (RW) 2012
 - British National Conference on Databases (BNCOD) 2013
 - International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR) 2013
 - International Conference on Scalable Uncertainty Management (SUM) 2013
- Reviewing for Journals
 - Journal of Knowledge and Information Systems
 - International Journal of Approximate Reasoning
 - Journal of Artificial Intelligence Research
 - Journal of Web Semantics
 - BMC Medical Informatics and Decision Making
 - International Journal of Information Technology & Decision Making (IJITDM)

Honors and Awards

2016	Semantic Web Journal 2016 Outstanding Paper Award
2014	PhD Promotion with Distinction
2013	IJCAI Student Travel Award
2008	Role Models for Outstanding Students of Peking University
2008	Tencent Technology Scholarship
2007	Outstanding Graduated Student of Beijing City
2006	Outstanding Student of Peking University
2004 – 2007	Cyrus Tang Scholarship
2003	First place (out of 7900 students) in the Nongkenzongju area (sub-province level) of Heilongjiang province in the National College Entrance Exam

Publications

Journal Articles

- [1] Sebastian Brandt, Elem Güzel Kalaycı, Vladislav Ryzhikov, Guohui Xiao, and Michael Zakharyashev. “Querying Log Data with Metric Temporal Logic”. In: *Journal of Artificial Intelligence Research* (2018). URL: <http://www.ghxiao.org/publications/2018-jair-mtl.pdf>.
- [2] Elem Güzel Kalaycı, Sebastian Brandt, Diego Calvanese, Vladislav Ryzhikov, Guohui Xiao, and Michael Zakharyashev. “Ontology-Based Access To Temporal Data With Ontop: A Framework Proposal”. In: *International Journal of Applied Mathematics and Computer Science* (2018).
- [3] Evgeny Kharlamova, Gulnar Mehdi, Ognjen Savkovic, Guohui Xiao, Elem Güzel Kalayci, and Mikhail Roshchin. “Semantically-Enhanced Rule-Based Diagnostics for Industrial Internet of Things: the SDRL Language and Case Study for Siemens Trains and Turbines”. In: *Journal of Web Semantics* (2018).
- [4] Davide Lanti, Guohui Xiao, and Diego Calvanese. “VIG: Data Scaling for OBDA Benchmarks”. In: *Semantic Web* (2018). Accepted. URL: <http://www.semantic-web-journal.net/content/vig-data-scaling-obda-benchmarks-1>.
- [5] Diego Calvanese, Benjamin Cogrel, Sarah Komla-Ebri, Roman Kontchakov, Davide Lanti, Martin Rezk, Mariano Rodriguez-Muro, and Guohui Xiao. “Ontop: Answering SPARQL Queries over Relational Databases”. In: *Semantic Web Journal* 8.3 (2017), pp. 471–487. URL: <http://www.semantic-web-journal.net/content/ontop-answering-sparql-queries-over-relational-databases-1>.
- [6] Evgeny Kharlamov, Dag Hovland, Martin G. Skjæveland, Dimitris Bilidas, Ernesto Jiménez-Ruiz, Guohui Xiao, Ahmet Soyly, Davide Lanti, Martin Rezk, Dmitriy Zheleznyakov, Martin Giese, Hallstein Lie, Yannis Ioannidis, Yannis Kotidis, Manolis Koubarakis, and Arild Waaler. “Ontology Based Data Access in Statoil”. In: *Journal of Web Semantics* 44 (2017), pp. 3–36. URL: <http://www.ghxiao.org/publications/2017-jws-statoil.pdf>.
- [7] Martin Giese, Ahmet Soyly, Guillermo Vega-Gorgojo, Arild Waaler, Peter Haase, Ernesto Jiménez-Ruiz, Davide Lanti, Martin Rezk, Guohui Xiao, Özgür L. Özçep, and Riccardo Rosati. “Optique – Zooming In on Big Data Access”. In: *IEEE Computer* 48.3 (2015), pp. 60–67. URL: <http://www.ghxiao.org/publications/2015-computer-optique.pdf>.

- [8] Worarat Krathu, Christian Pichler, Guohui Xiao, Julia Neidhardt, Marco Zapletal, Hannes Werthner, and Christian Huemer. “Inter-organizational Success Factors: A Cause and Effect Model”. In: *Information Systems and e-Business Management* 13.3 (Aug. 2015), pp. 553–593. URL: <http://www.ghxiao.org/publications/2015-iseb.pdf>.
- [9] Xiaowang Zhang, Guohui Xiao, Zuoquan Lin, and Jan Van den Bussche. “Inconsistency-tolerant reasoning with OWL DL”. In: *International Journal of Approximate Reasoning* 55.2 (2014), pp. 557–584. DOI: 10.1016/j.ijar.2013.09.005. URL: <http://www.ghxiao.org/publications/2014-ijar-qc-owl.pdf>.
- [10] Yue Ma, Guilin Qi, Guohui Xiao, Pascal Hitzler, and Zuoquan Lin. “Computational Complexity and Anytime Algorithm for Inconsistency Measurement”. In: *International Journal of Software and Informatics* 4.1 (2010), pp. 3–21. URL: <http://www.ghxiao.org/publications/mqxhl2010-ijsi.pdf>.

Conference Papers

- [1] Elena Botoeva, Diego Calvanese, Benjamin Cogrel, and Guohui Xiao. “Expressivity and Complexity of MongoDB Queries”. In: *The 21st International Conference on Database Theory (ICDT 2018)*. 2018. URL: <http://www.ghxiao.org/publications/2018-icdt-mongodb.pdf>.
- [2] Xiangnan Ren, Olivier Curé, Hubert Naacke, and Guohui Xiao. “BigSR: real-time expressive RDF stream reasoning on modern Big Data platforms”. In: *IEEE BigData 2018, Seattle, WA, USA*. 2018.
- [3] Guohui Xiao, Diego Calvanese, Roman Kontchakov, Domenico Lembo, Antonella Poggi, Riccardo Rosati, and Michael Zakharyashev. “Ontology-Based Data Access: A Survey”. In: *Proceedings of the Twenty-Sixth International Joint Conference on Artificial Intelligence, IJCAI-18*. International Joint Conferences on Artificial Intelligence Organization, July 2018, pp. 5511–5519. URL: <http://www.ghxiao.org/publications/2018-ijcai-obda-survey.pdf>.
- [4] Guohui Xiao, Dag Hovland, Dimitris Bilidas, Martin Rezk, Martin Giese, and Diego Calvanese. “Efficient Ontology-Based Data Integration with Canonical IRIs”. In: *ESWC*. Vol. 10843. Lecture Notes in Computer Science. Springer, 2018, pp. 697–713. URL: <http://www.ghxiao.org/publications/2018-eswc-obdi.pdf>.
- [5] Guohui Xiao, Roman Kontchakov, Benjamin Cogrel, Diego Calvanese, and Elena Botoeva. “Efficient Handling of SPARQL Optional for OBDA”. In: *ISWC*. 2018. URL: <http://www.ghxiao.org/publications/2018-iswc-optional.pdf>.
- [6] Konstantina Bereta, Guohui Xiao, and Manolis Koubarakis. “Answering GeoSPARQL queries over relational data”. In: *FOSS4G-EU - Free and Open Source Software for Geospatial (academic track)*. 2017. URL: <http://www.ghxiao.org/publications/2017-foss4g-e-ontop-spatial.pdf>.
- [7] Sebastian Brandt, Elem Güzel Kalayci, Roman Kontchakov, Vladislav Ryzhikov, Guohui Xiao, and Michael Zakharyashev. “Ontology-Based Data Access with a Horn Fragment of Metric Temporal Logic”. In: *AAAI*. AAAI Press, 2017, pp. 1070–1076. URL: <http://www.ghxiao.org/publications/2017-aaai-datalogmtl.pdf>.
- [8] Guoqian Jiang, Eric Prud’Hommeaux, Guohui Xiao, and Harold R. Solbrig. “Developing A Semantic Web-based Framework for Executing the Clinical Quality Language Using FHIR”. In: *SWAT4HCLS*. 2017.
- [9] Guoqian Jiang, Guohui Xiao, Richard C. Kiefer, Eric Prod’hommeaux, and Harold R. Solbrig. “Building an FHIR Ontology based Data Access Framework with the OHDSI Data Repositories”. In: *AMIA, American Medical Informatics Association Annual Symposium*. 2017. URL: <http://www.ghxiao.org/publications/2017-aiam-obda-fhir-ohdsi.pdf>.
- [10] Evgeny Kharlamov, Ognjen Savkovic, Guohui Xiao, Rafael Peñaloza, Gulnar Mehdi, Mikhail Roshchin, and Ian Horrocks. “Semantic Rules for Machine Diagnostics: Execution and Management”. In: *CIKM*. ACM, 2017, pp. 2131–2134.

- [11] Davide Lanti, Guohui Xiao, and Diego Calvanese. “Cost-Driven Ontology-Based Data Access”. In: *International Semantic Web Conference (1)*. Vol. 10587. LNCS. Springer, 2017, pp. 452–470. DOI: 10.1007/978-3-319-68288-4_27. URL: https://doi.org/10.1007/978-3-319-68288-4_27.
- [12] Gulnar Mehdi, Evgeny Kharlamov, Ognjen Savkovic, Guohui Xiao, Elem Güzel Kalayci, Sebastian Brandt, Ian Horrocks, Mikhail Roshchin, and Thomas A. Runkler. “Semantic Rule-Based Equipment Diagnostics”. In: *International Semantic Web Conference (2)*. Vol. 10588. LNCS. Springer, 2017, pp. 314–333.
- [13] Gulnar Mehdi, Evgeny Kharlamov, Ognjen Savkovic, Guohui Xiao, Elem Güzel Kalayci, Sebastian Brandt, Ian Horrocks, Mikhail Roshchin, and Thomas A. Runkler. “SemDia: Semantic Rule-Based Equipment Diagnostics Tool”. In: *CIKM*. ACM, 2017, pp. 2507–2510.
- [14] Elena Botoeva, Diego Calvanese, Valerio Santarelli, Domenico F. Savo, Alessandro Solimando, and Guohui Xiao. “Beyond OWL 2 QL in OBDA: Rewritings and Approximations”. In: *AAAI*. AAAI Press, 2016, pp. 921–928. URL: <http://www.ghxiao.org/publications/2016-aaai-ontoprox.pdf>.
- [15] Stefan Brüggemann, Konstantina Bereta, Guohui Xiao, and Manolis Koubarakis. “Ontology-based data access for Maritime Security”. In: *Proc. of ESWC*. 2016. URL: <http://www.ghxiao.org/publications/2016-eswc-maritime.pdf>.
- [16] Diego Calvanese, Elem Güzel Kalayci, Vladislav Ryzhikov, and Guohui Xiao. “Towards Practical OBDA with Temporal Ontologies - (Position Paper)”. In: *RR*. Vol. 9898. LNCS. Springer, 2016, pp. 18–24.
- [17] Linfang Ding, Jukka M. Krisp, Liqiu Meng, Guohui Xiao, and Andreas Keler. “Visual exploration of multivariate movement events in space-time cube”. In: *Proc. of AGILE*. 2016.
- [18] Dag Hovland, Davide Lanti, Martin Rezk, and Guohui Xiao. “OBDA Constraints for Effective Query Answering”. In: *RuleML*. Vol. 9718. Lecture Notes in Computer Science. Springer, 2016, pp. 269–286.
- [19] Davide Lanti, Guohui Xiao, and Diego Calvanese. “An Evaluation of VIG with the BSBM Benchmark”. In: *International Semantic Web Conference (Posters & Demos)*. Vol. 1690. CEUR Workshop Proceedings. CEUR-WS.org, 2016.
- [20] Diego Calvanese, Benjamin Cogrel, Sarah Komla-Ebri, Davide Lanti, Martin Rezk, and Guohui Xiao. “How to Stay Ontop of Your Data: Databases, Ontologies and More”. In: *ESWC Poster and Demo track*. 2015. URL: <http://www.ghxiao.org/publications/2015-eswc-demo.pdf>.
- [21] Thomas Eiter, Jeff Z. Pan, Patrik Schneider, Mantas Simkus, and Guohui Xiao. “A Rule-based Framework for Creating Instance Data from OpenStreetMap”. In: *Web Reasoning and Rule Systems - 9th International Conference, RR 2015, Berlin, Germany, August 4-5, 2015, Proceedings*. 2015. URL: <http://www.ghxiao.org/publications/2015-rr-osm.pdf>.
- [22] Evgeny Kharlamov, Dag Hovland, Ernesto Jiménez-Ruiz, Davide Lanti, Hallstein Lie, Christoph Pinkel, Martin Rezk, Martin G. Skjæveland, Evgenij Thorstensen, Guohui Xiao, Dmitriy Zheleznyakov, and Ian Horrocks. “Ontology Based Access to Exploration Data at Statoil”. In: *International Semantic Web Conference (2)*. Vol. 9367. LNCS. Springer, 2015, pp. 93–112.
- [23] Davide Lanti, Martin Rezk, Guohui Xiao, and Diego Calvanese. “The NPD Benchmark: Reality Check for OBDA Systems”. In: *Proc. of the 18th Int. Conf. on Extending Database Technology (EDBT 2015)*. ACM Press, 2015. URL: <http://www.ghxiao.org/publications/2015-edbt-npd.pdf>.
- [24] Timea Bagosi, Diego Calvanese, Josef Hardi, Sarah Komla-Ebri, Davide Lanti, Martin Rezk, Mariano Rodriguez-Muro, Mindaugas Slusnys, and Guohui Xiao. “The Ontop Framework for Ontology Based Data Access”. In: *Proc. of the 8th Chinese Semantic Web Symposium & Web Science Conference (Posters and Demos)*. Wuhan, China, Aug. 2014. URL: <http://www.ghxiao.org/publications/2014-csws-ontop.pdf>.

- [25] Roman Kontchakov, Martin Rezk, Mariano Rodriguez-Muro, Guohui Xiao, and Michael Zhakharyashev. “Answering SPARQL Queries over Databases under OWL 2 QL Entailment Regime”. In: *Proc. of International Semantic Web Conference (ISWC 2014)*. LNCS. Springer, 2014. URL: <http://www.ghxiao.org/publications/2014-iswc-sparql-ql-full.pdf>.
- [26] Guohui Xiao, Martin Rezk, Mariano Rodriguez-Muro, and Diego Calvanese. “Rules and Ontology Based Data Access”. In: *Proc. 8th International Conference on Web Reasoning and Rule Systems (RR 2014)*. Ed. by Marie-Laure Mugnier and Roman Kontchakov. LNCS. Springer, 2014. URL: <http://www.ghxiao.org/publications/2014-rr-swr1-obda.pdf>.
- [27] Mario Alviano, Francesco Calimeri, Günther Charwat, Minh Dao-Tran, Carmine Dodaro, Giovambattista Ianni, Thomas Krennwallner, Martin Kronegger, Johannes Oetsch, Andreas Pfandler, Jörg Pührer, Christoph Redl, Francesco Ricca, Patrik Schneider, Martin Schwengerer, Lara Katharina Spendier, Johannes Peter Wallner, and Guohui Xiao. “The Fourth Answer Set Programming Competition: Preliminary Report”. In: *Logic Programming and Nonmonotonic Reasoning, 12th International Conference, LPNMR 2013, Proceedings*. Ed. by Pedro Cabalar and Tran Cao Son. Vol. 8148. LNCS. Springer, 2013, pp. 42–53. ISBN: 978-3-642-40563-1, 978-3-642-40564-8. DOI: 10.1007/978-3-642-40564-8_5. URL: <http://www.ghxiao.org/publications/2013-lpnmr-ASPCOMP.pdf>.
- [28] Meghyn Bienvenu, Magdalena Ortiz, Mantas Simkus, and Guohui Xiao. “Tractable Queries for Lightweight Description Logics”. In: *IJCAI 2013, Proceedings of the 23rd International Joint Conference on Artificial Intelligence, Beijing, China, August 3-9, 2013*. Ed. by Francesca Rossi. IJCAI/AAAI, 2013. ISBN: 978-1-57735-633-2. URL: <http://www.ghxiao.org/publications/2013-ijcai-tractableCQ.pdf>.
- [29] Günther Charwat, Giovambattista Ianni, Thomas Krennwallner, Martin Kronegger, Andreas Pfandler, Christoph Redl, Martin Schwengerer, Lara Spendier, Johannes Peter Wallner, and Guohui Xiao. “VCWC: A Versioning Competition Workflow Compiler”. In: *LPNMR*. 2013. DOI: 10.1007/978-3-642-40564-8_23. URL: <http://www.ghxiao.org/publications/2013lpnmr-vcwc.pdf>.
- [30] T. Eiter, M. Ortiz, M. Simkus, T.K. Tran, and G. Xiao. “Query Rewriting for Horn-SHIQ plus Rules”. In: *Proceedings of the Twenty-Sixth AAAI Conference on Artificial Intelligence (AAAI 2012), July 22-26, 2012, Toronto, Ontario, Canada*. AAAI. AAAI Press, 2012. URL: <http://www.ghxiao.org/publications/eostx2012-aaai-hshiq.pdf>.
- [31] Thomas Eiter, Thomas Krennwallner, Patrik Schneider, and Guohui Xiao. “Uniform Evaluation of Nonmonotonic DL-Programs”. In: *FoIKS*. Vol. 7153. Lecture Notes in Computer Science. Springer, 2012, pp. 1–22. URL: <http://www.ghxiao.org/publications/eksx2012-foiks-uniform.pdf>.
- [32] Guohui Xiao, Thomas Eiter, and Stijn Heymans. “The DRew System for Nonmonotonic DL-Programs”. In: *Proceedings of Joint Conference of the Sixth Chinese Semantic Web Symposium and the First Chinese Web Science Conference (SWWS 2012)*. Shenzhen City, China, Nov. 2012. DOI: 10.1007/978-1-4614-6880-6_33. URL: <http://www.ghxiao.org/publications/xeh2012-swws-drew.pdf>.
- [33] Guohui Xiao and Yue Ma. “Inconsistency Measurement based on Variables in Minimal Unsatisfiable Subsets”. In: *ECAI 2012 - 20th European Conference on Artificial Intelligence. Montpellier, France, August 27-31, 2012*. Vol. 242. Frontiers in Artificial Intelligence and Applications. IOS Press, 2012, pp. 864–869. ISBN: 978-1-61499-097-0. DOI: 10.3233/978-1-61499-098-7-864. URL: <http://www.ghxiao.org/publications/xm2012-ecai-idmus.pdf>.
- [34] G. Xiao and T. Eiter. “Inline Evaluation of Hybrid Knowledge Bases – PhD Description”. In: *Proc. 5th International Conference on Web Reasoning and Rule Systems (RR 2011)*. Vol. 6902. LNCS. Springer, 2011, pp. 300–305. DOI: 10.1007/978-3-642-23580-1_28. URL: <http://www.ghxiao.org/publications/xr2011-rr-inline.pdf>.

- [35] S. Heymans, T. Eiter, and G. Xiao. “Tractable Reasoning with DL-Programs over Datalog-rewritable Description Logics”. In: *ECAI*. Vol. 215. Frontiers in Artificial Intelligence and Applications. IOS Press, 2010, pp. 35–40. ISBN: 978-1-60750-605-8. DOI: 10.3233/978-1-61499-098-7-864. URL: <http://www.ghxiao.org/publications/hex2010-ecai-datalogrw.pdf>.
- [36] Guohui Xiao, Zuoquan Lin, Yue Ma, and Guilin Qi. “Computing Inconsistency Measurements under Multi-Valued Semantics by Partial Max-SAT Solvers”. In: *Proc. of KR’10*. 2010, pp. 340–349. URL: <http://www.ghxiao.org/publications/xlmq2010-kr-id2pmaxsat.pdf>.
- [37] Yue Ma, Guilin Qi, Guohui Xiao, Pascal Hitzler, and Zuoquan Lin. “An Anytime Algorithm for Computing Inconsistency Measurement”. In: *Knowledge Science, Engineering and Management, Third International Conference, KSEM 2009, Vienna, Austria, November 25-27, 2009. Proceedings*. Ed. by Dimitris Karagiannis and Zhi Jin. Vol. 5914. LNCS. Springer, 2009, pp. 29–40. ISBN: 978-3-642-10487-9. DOI: 10.1007/978-3-642-10488-6_7. URL: <http://www.ghxiao.org/publications/KSEM09-anytime.pdf>.
- [38] Xiaowang Zhang, Guohui Xiao, and Zuoquan Lin. “A Tableau Algorithm for Handling Inconsistency in OWL”. In: *The Semantic Web: Research and Applications, 6th European Semantic Web Conference, ESWC 2009, Heraklion, Crete, Greece, May 31-June 4, 2009, Proceedings*. Vol. 5554. LNCS. Springer, 2009, pp. 399–413. ISBN: 978-3-642-02120-6. DOI: 10.1007/978-3-642-02121-3_31. URL: <http://www.ghxiao.org/publications/ESWC09-QCALCNQ.pdf>.

Workshop Papers

- [1] Elena Botoeva, Diego Calvanese, Benjamin Cogrel, and Guohui Xiao. “Formalizing MongoDB Queries”. In: *AMW*. Vol. 1912. CEUR Workshop Proceedings. CEUR-WS.org, 2017.
- [2] Sebastian Brandt, Elem Güzel Kalayci, Vladislav Ryzhikov, Guohui Xiao, and Michael Zakharyashev. “A Framework for Temporal Ontology-Based Data Access: A Proposal”. In: *New Trends in Databases and Information Systems - ADBIS 2017 Short Papers and Workshops, AMSD, BigNovelTI, DAS, SW4CH, DC, Nicosia, Cyprus, September 24-27, 2017, Proceedings*. Vol. 767. Communications in Computer and Information Science. Springer, 2017, pp. 161–173. URL: https://doi.org/10.1007/978-3-319-67162-8_17.
- [3] Qiong Li, Xiaowang Zhang, Zhiyong Feng, and Guohui Xiao. “An Adaptive Framework for RDF Stream Reasoning”. In: *International Semantic Web Conference (Posters, Demos & Industry Tracks)*. Vol. 1963. CEUR Workshop Proceedings. CEUR-WS.org, 2017.
- [4] Gulnar Mehdi, Evgeny Kharlamov, Ognjen Savkovic, Guohui Xiao, Elem Guzel Kalayci, Sebastian Brandt, Ian Horrocks, Mikhail Roshchin, and Thomas A. Runkler. “Semantic Rule-Based Equipment Diagnostic”. In: *International Semantic Web Conference (Posters, Demos & Industry Tracks)*. Vol. 1963. CEUR Workshop Proceedings. CEUR-WS.org, 2017.
- [5] Konstantina Bereta, Guohui Xiao, Manolis Koubarakis, Martina Hodrius, Conrad Bielski, and Gunter Zeug. “Ontop-spatial: Geospatial Data Integration using GeoSPARQL-to-SQL Translation”. In: *International Semantic Web Conference (Posters & Demos)*. Vol. 1690. CEUR Workshop Proceedings. CEUR-WS.org, 2016.
- [6] Elena Botoeva, Diego Calvanese, Benjamin Cogrel, Martin Rezk, and Guohui Xiao. “OBDA Beyond Relational DBs: A Study for MongoDB”. In: *Proceedings of the 29th International Workshop on Description Logics, Cape Town, South Africa, April 22-25, 2016*. 2016.
- [7] Elena Botoeva, Diego Calvanese, Benjamin Cogrel, Martin Rezk, and Guohui Xiao. “OBDA Over Non-Relational DBs”. In: *Proceedings of the 10th Alberto Mendelzon International Workshop on Foundations of Data Management (AMW 2016)*. 2016.
- [8] Elena Botoeva, Diego Calvanese, Valerio Santarelli, Domenico Fabio Savo, Alessandro Solimando, and Guohui Xiao. “Virtual OBDA over Expressive Ontologies: Rewritings and Approximations”. In: *Informal Proc. of DL*. 2016.

- [9] Davide Lanti, Guohui Xiao, and Diego Calvanese. “Fast and Simple Data Scaling for OBDA Benchmarks”. In: *Proc. of Workshop on Benchmarking Linked Data (BLINK)*. 2016. URL: <http://www.ghxiao.org/publications/2016-blink-vig.pdf>.
- [10] Diego Calvanese, Davide Lanti, Martin Rezk, Mindaugas Slusnys, and Guohui Xiao. “A Scalable Benchmark for OBDA Systems: Preliminary Report”. In: *Proc. of the 3rd Int. Workshop on OWL Reasoner Evaluation (ORE 2014)*. CEUR Workshop Proceedings. 2014. URL: <http://www.ghxiao.org/publications/2014-ore-npd.pdf>.
- [11] Thomas Eiter, Patrik Schneider, Mantas Šimkus, and Guohui Xiao. “Using OpenStreetMap Data to Create Benchmarks for Description Logic Reasoners”. In: *Proc. of the 3rd Int. Workshop on OWL Reasoner Evaluation (ORE 2014)*. CEUR Workshop Proceedings. 2014. URL: <http://www.ghxiao.org/publications/2014-ore-osm.pdf>.
- [12] Davide Lanti, Martin Rezk, Mindaugas Slusnys, Guohui Xiao, and Diego Calvanese. “The NPD Benchmark for OBDA Systems”. In: *Proc. 10th International Workshop on Scalable Semantic Web Knowledge Base Systems (SSWS 2014)*. CEUR-WS.org, 2014. URL: <http://www.ghxiao.org/publications/2014-ssws-npd.pdf>.
- [13] Meghyn Bienvenu, Magdalena Ortiz, Mantas Simkus, and Guohui Xiao. “Tractability Guarantees for DL-Lite Query Answering”. In: *Informal Proceedings of the 26th International Workshop on Description Logics, Ulm, Germany, July 23 - 26, 2013*. Ed. by Thomas Eiter, Birte Glimm, Yevgeny Kazakov, and Markus Krötzsch. Vol. 1014. CEUR Workshop Proceedings. CEUR-WS.org, 2013, pp. 41–52. URL: <http://www.ghxiao.org/publications/2013-dl-tractalbeCQ.pdf>.
- [14] Linfang Ding, Guohui Xiao, and Liqiu Meng. “Derivation and Visual Exploration of 4-D Building Deformation from High-resolution SAR Data”. In: *Proceedings of the Symposium on Service-Oriented Mapping 2012*. Ed. by Markus Jobst. Vienna: Jobstmedia Management Verlag, Nov. 2012, pp. 359–368.
- [15] Thomas Eiter, Magdalena Ortiz, Mantas Simkus, Trung-Kien Tran, and Guohui Xiao. “Towards Practical Query Answering for Horn-SHIQ”. In: *Proceedings of the 2012 International Workshop on Description Logics, DL-2012, Rome, Italy, June 7-10, 2012*. Ed. by Yevgeny Kazakov, Domenico Lembo, and Frank Wolter. Vol. 846. CEUR Workshop Proceedings. CEUR-WS.org, 2012. URL: <http://www.ghxiao.org/publications/eostx2012-dl-hshiq.pdf>.
- [16] G. Xiao, S. Heymans, and T. Eiter. “DReW: a Reasoner for Datalog-rewritable Description Logics and DL-Programs”. In: *Informal Proc. 1st Int’l Workshop on Business Models, Business Rules and Ontologies (BuRO 2010), Sept. 21, 2010, Bressanone/Italy*. 2010. URL: <http://www.ghxiao.org/publications/xhe2010-buro-drew.pdf>.

Technical Reports and Project Deliverables

- [1] Elena Botoeva, Diego Calvanese, Benjamin Cogrel, and Guohui Xiao. *A Formal Presentation of MongoDB (Extended Version)*. Tech. rep. arXiv.org e-Print archive, 2017. arXiv: 1603.09291. URL: <http://arxiv.org/abs/1603.09291>.
- [2] Sebastian Brandt, Elem Güzel Kalayci, Vladislav Ryzhikov, Guohui Xiao, and Michael Zakharyashev. *Querying Log Data with Metric Temporal Logic*. Tech. rep. arXiv.org e-Print archive, 2017. arXiv: 1703.08982. URL: <http://arxiv.org/abs/1703.08982>.
- [3] Diego Calvanese, Elem Güzel Kalayci, Vladislav Ryzhikov, Guohui Xiao, and Michael Zakharyashev. *Metric Temporal Logic for Ontology-Based Data Access over Log Data*. Tech. rep. arXiv.org e-Print archive, 2017. arXiv: 1701.00976. URL: <http://arxiv.org/abs/1701.00976>.
- [4] Davide Lanti, Guohui Xiao, and Diego Calvanese. *Cost-Driven Ontology-Based Data Access (Extended Version)*. Tech. rep. arXiv.org e-Print archive, 2017. arXiv: 1707.06974. URL: <http://arxiv.org/abs/1707.06974>.

- [5] Dag Hovland, Davide Lanti, Martin Rezk, and Guohui Xiao. *OBDA Constraints for Effective Query Answering (Extended Version)*. Tech. rep. arXiv.org e-Print archive, 2016. arXiv: 1605.04263. URL: <http://arxiv.org/abs/1605.04263>.
- [6] Elena Botoeva, Diego Calvanese, Benjamin Cogrel, Elem Güzel Kalayci, Sarah Komla-Ebri, Davide Lanti, Martin Rezk, Guohui Xiao, Alessandro Artale, Enrico Franconi, Werner Nutt, and Sergio Tessaris. *Runtime Query Rewriting Techniques*. Optique Project Deliverable D6.3. Optique Project Consortium, 2015.
- [7] Elena Botoeva, Diego Calvanese, Valerio Santarelli, Domenico Fabio Savo, Alessandro Solimando, and Guohui Xiao. *Beyond OWL 2 QL in OBDA: Rewritings and Approximations (Extended Version)*. CoRR Technical Report abs/1511.08412. arXiv.org e-Print archive, 2015. URL: <http://arxiv.org/abs/1511.08412>.
- [8] Konstantina Bereta, Elena Botoeva, Diego Calvanese, Benjamin Cogrel, Davide Lanti, Martin Rezk, Sarah Komla-Ebri, and Guohui Xiao. *Transformation System Configuration Techniques*. Optique Project Deliverable D6.2. Optique Project Consortium, 2014.
- [9] Babak Bagheri Hariri, Timea Bagosi, Diego Calvanese, Josef Hardi, Mindaugas Slusnys, Martin Rezk, Mariano Rodriguez-Muro, Riccardo Rosati, and Guohui Xiao. *WP6 Year 1 Progress Report*. Optique Project Deliverable D6.1. Optique Project Consortium, 2013.
- [10] Thomas Eiter, Magdalena Ortiz, Mantas Šimkus, TrungKien Tran, and Guohui Xiao. *Query Rewriting for Horn-SHIQ plus Rules*. Tech. rep. INFSYS RR-1843-12-04. TU Vienna, Mar. 2012. URL: <http://www.kr.tuwien.ac.at/research/reports/rr1204.pdf>.
- [11] C. Feier, T. Eiter, M. Kifer, A. Mosca, M. Rezk, R. Rosati, M. Ortiz, M. Simkus, T-K. Tran, and G. Xiao. *Complexity and optimization of combinations of rules and ontologies*. Ontorule Project Deliverable D3.4. Ontorule Project Consortium, 2011. URL: <http://www.ghxiao.org/publications/2011-ontorule-D3.4.pdf>.
- [12] C. Feier, H. Ait-Kaci, J. Angele, J. de Bruijn, H. Citeau, T. Eiter, A. El Ghali, V. Kerhet, E. Kiss, R. Korf, T. Krekeler, T. Krennwallner, S. Heymans, A. Mosca, M. Rezk, and G. Xiao. *Converged and optimized combinations of rules and ontologies*. Ontorule Project Deliverable D3.3. Ontorule Project Consortium, 2010. URL: <http://www.ghxiao.org/publications/2010-ontorule-D3.3.pdf>.
- [13] Jörg Pührer, Adil El Ghali, Amina Chniti, Roman Korf, Antonia Schwichtenberg, Francois Levy, Stijn Heymans, Guohui Xiao, and Thomas Eiter. *Consistency Maintenance – Intermediate Report*. Ontorule Project Deliverable D2.3. Ontorule Project Consortium, 2009. URL: <http://www.ghxiao.org/publications/Ontorule-D2.3.pdf>.

Thesis

- [1] Guohui Xiao. “Inline Evaluation of Hybrid Knowledge Bases”. PhD thesis. Vienna University of Technology, Dec. 2013. URL: <http://www.ghxiao.org/publications/2014-phd-thesis-Xiao-inline-evaluation.pdf>.
- [2] Guohui Xiao. “Inconsistency Measurement under Multi-Valued Semantics”. MSc Thesis. Department of Information Science, School of Mathematical Sciences, Peking University, May 2010. URL: <http://www.ghxiao.org/publications/master-thesis.pdf>.