

# Publications of Magdalena Ortiz

## September 26, 2014

### Journals

- [1] Diego Calvanese, Thomas Eiter, and Magdalena Ortiz. **Answering Regular Path Queries in Expressive Description Logics via Alternating Tree-Automata.** *Information and Computation*, 237:12–55, October 2014.
- [2] Diego Calvanese, Magdalena Ortiz, Mantas Šimkus, and Giorgio Stefanoni. **Reasoning about explanations for negative query answers in DL-Lite.** *Journal of Artificial Intelligence Research*, 48:635–669, 2013.
- [3] Magdalena Ortiz, Diego Calvanese, and Thomas Eiter. **Data complexity of query answering in expressive description logics via tableaux.** *Journal of Automated Reasoning*, 41(1):61–98, 2008.
- [4] Thomas Eiter, Magdalena Ortiz, and Mantas Šimkus. **Conjunctive query answering in the Description Logic  $\mathcal{SH}$  using knots.** *Journal of Computer and System Sciences*, 78(1):47–85, 2012.
- [5] Magdalena Ortiz and Mauricio Osorio. **Strong negation and equivalence in the Safe Belief semantics.** *Journal of Logic and Computation*, 17(3):499–515, 2007.

### Edited Works

- [1] Meghyn Bienvenu, Magdalena Ortiz, Riccardo Rosati, and Mantas Simkus, editors. **Informal Proceedings of the 27th International Workshop on Description Logics (DL 2014), Vienna, Austria, July 17-20, 2014**, volume 1193 of *CEUR Workshop Proceedings*. CEUR-WS.org, 2014.

### Contributions in Collections

- [1] Magdalena Ortiz and Mantas Simkus. **Reasoning and query answering in Description Logics.** In Thomas Eiter and Thomas Krennwallner, editors, *Reasoning Web. Semantic Technologies for Advanced Query Answering - 8th International Summer School 2012, Proceedings*, volume 7487 of *Lecture Notes in Computer Science*, pages 1–53. Springer, 2012.

### Conferences and Workshops

- [1] Meghyn Bienvenu, Diego Calvanese, Magdalena Ortiz, and Mantas Simkus. **Nested regular path queries in description logics.** In Chitta Baral, Giuseppe De Giacomo, and Thomas Eiter, editors, *Principles of Knowledge Representation and Reasoning: Proceedings of the 14th International Conference (KR 2014)*. AAAI Press, 2014.
- [2] Shqiponja Ahmetaj, Diego Calvanese, Magdalena Ortiz, and Mantas Simkus. **Managing change in graph-structured data using description logics.** In Carla E. Brodley and Peter Stone, editors, *Proceedings of the 28th AAAI Conference on Artificial Intelligence (AAAI 2014)*, pages 966–973. AAAI Press, 2014.

- [3] Magdalena Ortiz and Mantas Simkus. **Revisiting the hardness of query answering in expressive description logics**. In Roman Kontchakov and Marie-Laure Mugnier, editors, *8th International Conference on Web Reasoning and Rule Systems (RR 2014)*, volume 8741 of *Lecture Notes in Computer Science*, pages 216–223. Springer, 2014.
- [4] Shqiponja Ahmetaj, Diego Calvanese, Magdalena Ortiz, and Mantas Simkus. **Planning problems for graph structured data in description logics**. In Meghyn Bienvenu, Magdalena Ortiz, Riccardo Rosati, and Mantas Simkus, editors, *Informal Proceedings of the 27th International Workshop on Description Logics (DL 2014)*, volume 1193 of *CEUR Workshop Proceedings*, pages 4–7. CEUR-WS.org, 2014.
- [5] Magdalena Ortiz Shqiponja Ahmetaj, Diego Calvanese and Mantas Simkus. **Planning and change in graph structured data under description logics constraints**. In Georg Gottlob and Jorge Pérez, editors, *Proceedings of the 8th Alberto Mendelzon Workshop on Foundations of Data Management (AMW-14)*, volume 1189 of *CEUR Workshop Proceedings*. CEUR-WS.org, 2014.
- [6] Meghyn Bienvenu, Diego Calvanese, Magdalena Ortiz, and Mantas Simkus. **Nested regular path queries in description logics (extended abstract)**. In Georg Gottlob and Jorge Pérez, editors, *Proceedings of the 8th Alberto Mendelzon Workshop on Foundations of Data Management (AMW-14)*, volume 1189 of *CEUR Workshop Proceedings*. CEUR-WS.org, 2014.
- [7] Meghyn Bienvenu, Magdalena Ortiz, Mantas Simkus, and Guohui Xiao. **Tractable queries for lightweight description logics**. In Francesca Rossi, editor, *Proceedings of the 23rd International Joint Conference on Artificial Intelligence (IJCAI 2013)*. IJCAI/AAAI, 2013.
- [8] Meghyn Bienvenu, Magdalena Ortiz, and Mantas Simkus. **Conjunctive regular path queries in lightweight description logics**. In Francesca Rossi, editor, *Proceedings of the 23rd International Joint Conference on Artificial Intelligence (IJCAI 2013)*. IJCAI/AAAI, 2013.
- [9] Magdalena Ortiz. **Ontology based query answering: The story so far**. In Loreto Bravo and Maurizio Lenzerini, editors, *Proceedings of the 7th Alberto Mendelzon International Workshop on Foundations of Data Management (AMW 2013)*, volume 1087 of *CEUR Workshop Proceedings*. CEUR-WS.org, 2013.
- [10] Diego Calvanese, Magdalena Ortiz, and Mantas Simkus. **Evolving graph databases under description logic constraints**. In Thomas Eiter, Birte Glimm, Yevgeny Kazakov, and Markus Krötzsch, editors, *Proceedings of the 2013 Description Logic Workshop (DL 2013)*, volume 1014 of *CEUR Workshop Proceedings*, pages 120–131. CEUR-WS.org, 2013.
- [11] Meghyn Bienvenu, Magdalena Ortiz, Mantas Simkus, and Guohui Xiao. **Tractability guarantees for DL-Lite query answering**. In Thomas Eiter, Birte Glimm, Yevgeny Kazakov, and Markus Krötzsch, editors, *Proceedings of the 2013 Description Logic Workshop (DL 2013)*, volume 1014 of *CEUR Workshop Proceedings*, pages 41–52. CEUR-WS.org, 2013.
- [12] Thomas Eiter, Magdalena Ortiz, Mantas Simkus, Trung-Kien Tran, and Guohui Xiao. **Query rewriting for Horn-SHIQ plus rules**. In Jörg Hoffmann and Bart Selman, editors, *Proceedings of the Twenty-Sixth AAAI Conference on Artificial Intelligence (AAAI 2012)*. AAAI Press, 2012.
- [13] Diego Calvanese, Magdalena Ortiz, Mantas Simkus, and Giorgio Stefanoni. **The complexity of explaining negative query answers in DL-Lite**. In Gerhard Brewka, Thomas Eiter, and Sheila A. McIlraith, editors, *Proceedings of the Thirteenth International Conference on Principles of Knowledge Representation and Reasoning (KR 2012)*. AAAI Press, 2012.
- [14] Meghyn Bienvenu, Magdalena Ortiz, and Mantas Simkus. **Answering expressive path queries over lightweight dl knowledge bases**. In Yevgeny Kazakov, Domenico Lembo, and Frank

Wolter, editors, *Proceedings of the 2012 Description Logic Workshop (DL 2012)*, volume 846 of *CEUR Workshop Proceedings*. CEUR-WS.org, 2012.

- [15] Thomas Eiter, Magdalena Ortiz, Mantas Simkus, Trung-Kien Tran, and Guohui Xiao. **Towards practical query answering for horn-shiq**. In Yevgeny Kazakov, Domenico Lembo, and Frank Wolter, editors, *Proceedings of the 2012 Description Logic Workshop (DL 2012)*, volume 846 of *CEUR Workshop Proceedings*. CEUR-WS.org, 2012.
- [16] Diego Calvanese, Domenico Carbotta, and Magdalena Ortiz. **A practical automata-based technique for reasoning in expressive description logics**. In Toby Walsh, editor, *Proceedings of the 22nd International Joint Conference on Artificial Intelligence (IJCAI 2011)*, pages 798–804. IJCAI/AAAI, 2011.
- [17] Diego Calvanese, Magdalena Ortiz, and Mantas Simkus. **Containment of regular path queries under description logic constraints**. In Toby Walsh, editor, *Proceedings of the 22nd International Joint Conference on Artificial Intelligence (IJCAI 2011)*, pages 805–812. IJCAI/AAAI, 2011.
- [18] Magdalena Ortiz, Sebastian Rudolph, and Mantas Simkus. **Query answering in the Horn fragments of the description logics  $\mathcal{SHOIQ}$  and  $\mathcal{SROIQ}$** . In Toby Walsh, editor, *Proceedings of the 22nd International Joint Conference on Artificial Intelligence (IJCAI 2011)*, pages 1039–1044. IJCAI/AAAI, 2011.
- [19] Diego Calvanese, Magdalena Ortiz, Mantas Simkus, and Giorgio Stefanoni. **The complexity of conjunctive query abduction in dl-lite**. In Riccardo Rosati, Sebastian Rudolph, and Michael Zakharyashev, editors, *Proceedings of the 2011 Description Logic Workshop (DL 2011)*, volume 745 of *CEUR Workshop Proceedings*. CEUR-WS.org, 2011.
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- [21] Meghyn Bienvenu, Thomas Eiter, Carsten Lutz, Magdalena Ortiz, and Mantas Šimkus. **Query answering in the description logic  $\mathcal{S}$** . In *Proceedings of the 23rd International Workshop on Description Logics (DL2010)*, volume 573 of *CEUR-WS*, pages 149–160, 2010.
- [22] Thomas Eiter, Carsten Lutz, Magdalena Ortiz, and Mantas Šimkus. **Query answering in description logics with transitive roles**. In Craig Boutilier, editor, *Proceedings of the 21st International Joint Conference on Artificial Intelligence (IJCAI 2009)*, pages 759–764. AAAI Press, 2009.
- [23] Diego Calvanese, Thomas Eiter, and Magdalena Ortiz. **Regular path queries in expressive description logics with nominals**. In Craig Boutilier, editor, *Proceedings of the 21st International Joint Conference on Artificial Intelligence (IJCAI 2009)*, pages 714–720. AAAI Press, 2009.
- [24] Thomas Eiter, Carsten Lutz, Magdalena Ortiz, and Mantas Šimkus. **Query answering in description logics: The knots approach**. In Hiroakira Ono, Makoto Kanazawa, and Ruy J. G. B. de Queiroz, editors, *Logic, Language, Information and Computation, 16th International Workshop (WoLLIC 2009)*, volume 5514 of *Lecture Notes in Computer Science*, pages 26–36. Springer, 2009.
- [25] Magdalena Ortiz, Mantas Simkus, and Thomas Eiter. **Worst-case optimal conjunctive query answering for an expressive description logic without inverses**. In Dieter Fox and Carla P. Gomes, editors, *Proceedings of the Twenty-Third Conference on Artificial Intelligence (AAAI 2008)*, pages 504–510. AAAI Press, 2008.

- [26] Thomas Eiter, Magdalena Ortiz, and Mantas Šimkus. **Reasoning using knots**. In Iliano Cervesato, Helmut Veith, and Andrei Voronkov, editors, *Proceedings of the 15th International Conference on Logic for Programming, Artificial Intelligence and Reasoning (LPAR 2008)*, volume 5330 of *Lecture Notes in Computer Science*, pages 377–390. Springer, 2008.
- [27] Magdalena Ortiz. **Extending carin to the description logics of the SH family**. In *Proceedings of the European Conference on Logics in Artificial Intelligence (JELIA 2008)*, volume 5293 of *Lecture Notes in Computer Science*, pages 324–337, Berlin, Heidelberg, 2008. Springer-Verlag.
- [28] Thomas Eiter, Georg Gottlob, Magdalena Ortiz, and Mantas Šimkus. **Query answering in the description logic Horn-SHIQ**. In *Proceedings of the European Conference on Logics in Artificial Intelligence (JELIA 2008)*, volume 5293 of *Lecture Notes in Computer Science*, pages 166–179, Berlin, Heidelberg, 2008. Springer-Verlag.
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- [30] Magdalena Ortiz. **An automata-based algorithm for description logics around SRIQ**. In *Proceedings of the fourth Latin American Workshop on Non-Monotonic Reasoning (LANMR 2008)*, volume 408 of *CEUR Workshop Proceedings*, 2008.
- [31] Diego Calvanese, Thomas Eiter, and Magdalena Ortiz. **Answering regular path queries in expressive description logics: An automata-theoretic approach**. In *Proceedings of the Twenty-Second Conference on Artificial Intelligence (AAAI 2007)*, pages 391–396, 2007.
- [32] Magdalena Ortiz, Diego Calvanese, and Thomas Eiter. **Characterizing Data Complexity for Conjunctive Query Answering in Expressive Description Logics**. In *Proceedings of the Twenty-First Conference on Artificial Intelligence (AAAI 2006)*, pages 275–280. AAAI Press, July 2006.
- [33] Magdalena Ortiz, Diego Calvanese, and Thomas Eiter. **Data Complexity of Answering Unions of Conjunctive Queries in SHIQ**. In Bijan Parsi, Ulrike Sattler, and David Toman, editors, *Proceedings of the 2006 International Workshop on Description Logics (DL 2006)*, volume 189 of *CEUR Workshop Proceedings*, pages 62–73, Lake District, UK, June 2006.
- [34] Gerardo Ayala, Magdalena Ortiz, and Mauricio Osorio. **Agent modelling for cscl environments using answer sets programming**. In *Sixth Mexican International Conference on Computer Science (ENC 2005)*, pages 214–221. IEEE Computer Society, 2005.
- [35] Gerardo Ayala, Magdalena Ortiz, and Mauricio Osorio. **Application of asp for agent modelling in cscl environments**. In Alexander F. Gelbukh, Alvaro de Albornoz, and Hugo Terashima-Marín, editors, *Advances in Artificial Intelligence, 4th Mexican International Conference on Artificial Intelligence (MICA I 2005)*, volume 3789 of *Lecture Notes in Computer Science*, pages 109–118. Springer, 2005.
- [36] Magdalena Ortiz and Mauricio Osorio. **Nelson’s Strong Negation, Safe Beliefs and the Answer Set Semantics**. In Marina De Vos and Alessandro Provetti, editors, *Answer Set Programming: Advances in Theory and Implementation. Proceedings of the 3rd International Workshop on Answer Set Programming (ASP 2005)*, volume 142 of *CEUR Workshop Proceedings*, Bath, UK, September 2005.
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- [38] Mauricio Osorio, Magdalena Ortiz, and Claudia Zepeda. **Using *cr*-Rules for Evacuation Planning.** In *Proceedings of the Workshop of Deduction and Reasoning Techniques. IX Ibero-American Conference on Artificial Intelligence (IBERAMIA 2004)*, pages 56–63, Puebla, Mexico, November 2004.
- [39] Magdalena Ortiz, Gerardo Ayala, and Mauricio Osorio. **Formalizing the Learner Model for CSCL Environments.** In *Proceedings of the Fourth Mexican International Conference on Computer Science (ENC 2003)*, pages 151–158, Tlaxcala, Mexico, September 2003. IEEE Computer Society and Mexican Society for Computer Science.

## Doctoral Consortia and Student Sessions

- [1] Magdalena Ortiz. **A Fully Internalized Sequent Calculus for Hybrid Categorical Logics.** In Janneke Huitink and Sophia Katrenko, editors, *Proceedings of the Student Session of the 18th European Summer School of Logic, Language and Information (ESSLLI 2006)*, pages 136–147, Malaga, Spain, August 2006.
- [2] Magdalena Ortiz. **An Application of Answer Sets Programming for Supporting Collaboration in Agent-based CSCL Environments.** In Balder Ten Cate, editor, *Proceedings of the Student Session of the 15th European Summer School of Logic, Language and Information (ESSLLI 2003)*, Vienna, Austria, August 2003.
- [3] M.Magdalena Ortiz de la Fuente. **Complexity of Query Answering over Expressive Knowledge Bases.** In Manuel Montes y Gomez and Miguel Gonzalez Mendoza, editors, *Proceedings of MICAI-2008, Doctoral Consortium*, pages 22–25, 2008.

## Thesis

- [1] Magdalena Ortiz. **Query Answering in Expressive Description Logics: Techniques and Complexity Results.** PhD thesis, Vienna University of Technology, May 2010.
- [2] M.Magdalena Ortiz de la Fuente. **Answering Conjunctive Queries in Expressive Description Logics.** Master’s thesis, Institute for Information Systems, Vienna University of Technology, July 2006.
- [3] Magdalena Ortiz. **Nelson’s Logics and the Answer Set Semantics.** Master’s thesis, University of the Americas, Puebla (UDLAP). Mexico, September 2004.
- [4] Magdalena Ortiz. **Formalizing the Learner Model for CSCL Environments in ASP.** Bachelor’s thesis, University of the Americas, Puebla (UDLAP). Mexico, June 2003.