Curriculum Vitae

Personal Information

Name	Jörg Pührer
Position	Research Assistant
Address	Favoritenstrasse 9-11/1843, A-1040 Wien, Austria
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Citizenship	Austrian

Professional Experience

2017–	**Vienna University of Technology, Vienna, Austria** Institute of Computer Science, Database and Artificial Intelligence Group *Research Assistant*
2013-2017	**Leipzig University, Leipzig, Germany** Institute of Computer Science, Intelligent Systems Group *Research Assistant*
2008-2013	**Vienna University of Technology, Vienna, Austria** Institute of Information Systems, Knowledge-based Systems Group *Research Assistant*
2007	**Vienna University of Technology, Vienna, Austria** Institute of Information Systems, Knowledge-based Systems Group *Tutor*

Education

2008–2015	PhD Student at the Vienna University of Technology, graduation as Doctor technicae (Ph.D.) with distinction, Dissertation: Stepwise Debugging in Answer-Set Programming: Theoretical Foundations and Practical Realisation.
2004–2007	Student of Computer Intelligence at Vienna University of Technology, graduation as a Diplomingenieur (M.Sc.) with distinction, Thesis: On Debugging of Propositional Answer-Set Programs.
2004	Graduation as a Bakkalaureus der technischen Wissenschaften (B.Sc.), Project: A Genetic-Programming Plugin for the HeuristicLab Optimisation framework.
2002–2003	Exchange Student at the University of Edinburgh, United Kingdom under the ERASMUS-programme with special emphasis on Artificial Intelligence.
2002	First Diploma exam passed with distinction.
2000–2004	Student of Computer Science at Johannes Kepler University, Linz.

Awards

2017	**Best System Description Award**, ArgueApply: A Mobile App for Argumentation, 14th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR 2017).
2015	**Award of Excellence - Staatspreis für die besten Dissertationen**, Austrian Ministry of Science, Research and Economy (BMWFW).
2014	**Best Presentation Award**, Imperial College Computing Student Workshop (ICCSW 2014).

Language Skills

German	Native
English	Fluent
Spanish	Basic

Services to the Community

Organisation	Co-chair of the Knowledge Representation Track of the 18th EPIA Conference on Artificial Intelligence (EPIA 2017). Organiser of the Argumentation Spring Meeting 2015 (ASM 2015). Co-chair of the International Workshop on Reactive Concepts in Knowledge Representation (ReactKnow 2014). Co-organiser of the 19th International Conference on Applications of Declarative Programming and Knowledge Management (INAP 2011) and the 25th Workshop on Logic Programming (WLP 2011).
Program Committees	Program Committee of the 27th International Joint Conference on Artificial Intelligence and the 23rd European Conference on Artificial Intelligence (IJCAI-ECAI 2018), Program Committee of the 1st International Workshop on Practical Aspects of Answer Set Programming (PAoASP 2017) Program Committee of the 32nd International Conference on Logic Programming (ICLP 2016) Program Committee of the Workshop on Trends and Applications of Answer Set Programming (TAASP 2016) Program Committee of the 24nd International Joint Conference on Artificial Intelligence (IJCAI 2015), Program Committee of the 21st European Conference on Artificial Intelligence (ECAI 2014), Program Committee of the 22nd International Joint Conference on Artificial Intelligence (IJCAI 2011),
Reviewing	AI Journal, Approximate Reasoning, Argument and Computation, Fundamenta Informaticae, AAAI, CLIMA, DATALOG, DL, ECAI, FOIKS, GTTV, ICCSW, ICLP, IJCAI, INAP, ISWC, JELIA, KR, LPAR, LPNMR, PADL, POPL, PPDP, TAASP, WLP, WoLLiC.

Research Projects

2017–	**Advanced Tools for Graph-Based Formal Argumentation.** Funded by the Austrian Science Fund (FWF).
2016-2017	**Advanced Tools for Graph-Based Formal Argumentation.** Funded by the German Research Foundation (DFG).
2013-2016	**Abstract Dialectical Frameworks: Advanced Tools for Formal Argumentation.** Funded by the German Research Foundation (DFG).
2009-2013	**Methods and Methodologies for Developing Answer-Set Programs.** Funded by the Austrian Science Fund (FWF).
2011	**Net2: A Network for Enabling Networked Knowledge.** Funded by the EU 7th Framework Programme under the Marie Curie action "International Research Staff Exchange Scheme (IRSES)".
2009-2011	**ONTORULE - ONTOlogies meet Business RULEs.** Funded by the European Union's 7th Framework Programme under the Information and Communication Technologies Call 3.
2008	**Formal Methods for Comparing and Optimizing Nonmonotonic Logic Programs.** Funded by the Austrian Science Fund (FWF).

Grants and Scholarships

2006–2007	3 Student Grants of Project P18019 of the Austrian Science Fund (FWF).
2004–2005	Merit scholarship, Fakultät für Informatik, Vienna University of Technology.

2001–2004 Merit scholarship, Technisch-Naturwissenschaftliche Fakultät, Johannes Kepler University Linz.

Research Stays

March-May 2011 Pontificia Universidad Católica de Chile, Santiago, Chile.

Invited Talks

2017 ArgueApply: A mobile App for Argumentation. Workshop on Formal Argumentation in Online Discussions. Düsseldorf, Germany.

2015 Reactive Multi-Context Systems for Integrating Heterogeneous Knowledge Sources in Dynamic Environments. Keynote, 10th International Workshop on Artificial Intelligence Techniques for Ambient Intelligence (AITAmI'15), Buenos Aires, Argentina.

2011 Stepping through an Answer-Set Program. Invited Student Talk: 5th Alberto Mendelzon Workshop on Foundations of Data Management (AMW'11), Santiago, Chile.

Guest Talks

2013 SeaLion: An Eclipse-based IDE for ASP with Advanced Debugging Support. Leipzig University, Leipzig, Germany.

2012 The SeaLion has Landed: An IDE for Answer-Set Programming—Status Report. University of Calabria, Rende, Italy.

2012 The SeaLion has Landed: An IDE for Answer-Set Programming—Status Report. University of Bath, Bath, UK.

2011 Answer-Set Programming: Basics, Combinations with Ontologies, and Debugging. Universidad de Chile, Santiago, Chile.

2010 Let's Break the Rules: Interactive Procedural Style Debugging of Answer-Set Programs. Together with Johannes Oetsch and Hans Tompits. Aalto University, Helsinki, Finland.

2010 Let's Break the Rules: Interactive Procedural Style Debugging of Answer-Set Programs. Sabanci University, Istanbul, Turkey

2009 Methods and Methodologies for Developing Answer-Set Programs. Together with Johannes Oetsch and Hans Tompits. Helsinki University of Technology, Helsinki, Finland.

2006 Debugging of Logic Programs under the Answer-Set Semantics. University of Potsdam, Germany.

Publications

[1] Gerhard Brewka, Stefan Ellmauthaler, Ricardo Gonçalves, Matthias Knorr, João Leite, and Jörg Pührer. Reactive multi-context systems: Heterogeneous reasoning in dynamic environments. *Artificial Intelligence*, 256:68–104, 2018.

[2] Johannes Oetsch, Jörg Pührer, and Hans Tompits. Stepwise debugging of answer-set programs. *Theory and Practice of Logic Programming*, 18(1):30–80, 2018.

[3] Jörg Pührer. ArgueApply: A mobile app for argumentation. In Marcello Balduccini and Tomi Janhunen, editors, *Proceedings of the 14th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR 2017)*, volume 10377 of *Lecture Notes in Computer Science*, pages 250–262. Springer, 2017.

[4] Gerhard Brewka, Stefan Ellmauthaler, Ricardo Gonçalves, Matthias Knorr, João Leite, and Jörg Pührer. Inconsistency management in reactive multi-context systems. In Loizos Michael and Antonis C. Kakas, editors, *Proceedings of the 15th European Conference on Logics in Artificial Intelligence (JELIA 2016)*, volume 10021 of *Lecture Notes in Computer Science*, pages 529–535, 2016.

[5] Gerhard Brewka, Stefan Ellmauthaler, Ricardo Gonçalves, Matthias Knorr, João Leite, and Jörg Pührer. Towards inconsistency management in reactive multi-context systems. In Richard Booth, Giovanni Casini, Szymon Klarman, Gilles Richard, and Ivan José Varzinczak, editors, *Proceedings of the International Workshop on Defeasible and Ampliative Reasoning (DARe-16) co-located with the 22th European Conference on Artificial Intelligence (ECAI 2016)*, volume 1626 of *CEUR Workshop Proceedings*. CEUR-WS.org, 2016.

[6] Stefan Ellmauthaler and Jörg Pührer. Stream packing for asynchronous multi-context systems using ASP. In Thomas Eiter, Wolfgang Faber, and Stefan Woltran, editors, *Proceedings of the Workshop on Trends and Applications of Answer Set Programming (TAASP 2016)*, 2016.

[7] Thomas Linsbichler, Jörg Pührer, and Hannes Strass. Characterizing Realizability in Abstract Argumentation. In Gabriele Kern-Isberner and Renata Wassermann, editors, *Proceedings of the 16th International Workshop on Non-Monotonic Reasoning (NMR 2016)*, pages 85–94, 2016.

[8] Thomas Linsbichler, Jörg Pührer, and Hannes Strass. A uniform account of realizability in abstract argumentation. In Gal A. Kaminka, Maria Fox, Paolo Bouquet, Eyke Hüllermeier, Virginia Dignum, Frank Dignum, and Frank van Harmelen, editors, *Proceedings of the 22nd European Conference on Artificial Intelligence (ECAI 2016), Including Prestigious Applications of Artificial Intelligence (PAIS 2016)*, volume 285 of *Frontiers in Artificial Intelligence and Applications*, pages 252–260. IOS Press, 2016.

[9] Jörg Pührer. Realizability of three-valued semantics for abstract dialectical frameworks. In Qiang Yang and Michael Wooldridge, editors, *Proceedings of the Twenty-Fourth International Joint Conference on Artificial Intelligence (IJCAI 2015)*, pages 3171–3177. AAAI Press, 2015.

[10] Jörg Pührer. *Stepwise Debugging in Answer-Set Programming: Theoretical Foundations and Practical Realisation*. Dissertation, Vienna University of Technology, Vienna, Austria, November 2014.

[11] Stefan Ellmauthaler and Jörg Pührer, editors. *Proceedings of the International Workshop on Reactive Concepts in Knowledge Representation (ReactKnow 2014)*. Leipzig University, 2014.

[12] Gerhard Brewka, Stefan Ellmauthaler, and Jörg Pührer. Multi-context systems for reactive reasoning in dynamic environments. In Stefan Ellmauthaler and Jörg Pührer, editors, *Proceedings of the International Workshop on Reactive Concepts in Knowledge Representation (ReactKnow 2014)*, pages 23–29. Leipzig University, 2014.

[13] Gerhard Brewka, Stefan Ellmauthaler, and Jörg Pührer. Multi-context systems for reactive reasoning in dynamic environments. In Torsten Schaub, Gerhard Friedrich, and Barry O'Sullivan, editors, *21st European Conference on Artificial Intelligence (ECAI 2014)*, volume 263 of *Frontiers in Artificial Intelligence and Applications*, pages 159–164. IOS Press, 2014.

[14] Stefan Ellmauthaler and Jörg Pührer. Asynchronous multi-context systems. In Thomas Eiter, Hannes Strass, Miroslaw Truszczynski, and Stefan Woltran, editors, *Advances in Knowledge Representation, Logic Programming, and Abstract Argumentation - Essays Dedicated to Gerhard Brewka on the Occasion of His 60th Birthday*, volume 9060 of *Lecture Notes in Computer Science*, pages 141–156. Springer, 2014.

[15] Stefan Ellmauthaler and Jörg Pührer. Asynchronous multi-context systems. In Stefan Ellmauthaler and Jörg Pührer, editors, *Proceedings of the International Workshop on Reactive Concepts in Knowledge Representation (ReactKnow 2014)*, pages 31–37. Leipzig University, 2014.

[16] Jörg Pührer. Towards a programming paradigm for artificial intelligence applications based on simulation. In Rumyana Neykova and Nicholas Ng, editors, *Proceedings of the 2014 Imperial College Computing Student Workshop (ICCSW 2014)*, volume 43 of *OpenAccess Series in Informatics (OASIcs)*, pages 66–73, Dagstuhl, Germany, 2014. Schloss Dagstuhl–Leibniz-Zentrum für Informatik.

[17] Jörg Pührer. Towards a simulation-based programming paradigm for AI applications. In Stefan Ellmauthaler and Jörg Pührer, editors, *Proceedings of the International Workshop on Reactive Concepts in Knowledge Representation (ReactKnow 2014)*, pages 55–61. Leipzig University, 2014.

[18] Hans Tompits, Salvador Abreu, Johannes Oetsch, Jörg Pührer, Dietmar Seipel, Masanobu Umeda, and Armin Wolf, editors. *Revised selected papers of the 19th International Conference on Applications of Declarative Programming and Knowledge Management (INAP 2011) and the 25th Workshop on Logic Programming (WLP 2011)*, volume 7773 of *Lecture Notes in Computer Science*. Springer, 2013.

[19] 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 Pedro Cabalar and Tran Cao Son, editors, *Proceedings of the 12th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR 2013)*, volume 8148 of *Lecture Notes in Computer Science*, pages 42–53. Springer, 2013.

[20] Paula-Andra Busoniu, Johannes Oetsch, Jörg Pührer, Peter Skocovsky, and Hans Tompits. SeaLion: An eclipse-based IDE for answer-set programming with advanced debugging support. *Theory and Practice of Logic Programming*, 13(4-5):657–673, 2013.

[21] Thomas Eiter, Michael Fink, Jörg Pührer, Hans Tompits, and Stefan Woltran. Model-based recasting in answer-set programming. *Journal of Applied Non-Classical Logics*, 23(1-2):75–104, 2013.

[22] Melanie Frühstück, Jörg Pührer, and Gerhard Friedrich. Debugging answer-set programs with Ouroboros – Extending the SeaLion plugin. In Pedro Cabalar and Tran Cao Son, editors, *Proceedings of the 12th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR 2013)*, volume 8148 of *Lecture Notes in Computer Science*, pages 323–328. Springer, 2013.

[23] Martin Brain, Esra Erdem, Katsumi Inoue, Johannes Oetsch, Jörg Pührer, Hans Tompits, and Cemal Yilmaz. Event-sequence testing using answer-set programming. *International Journal On Advances in Software*, 5(3-4), 2012.

[24] Marina De Vos, Doga Gizem Kisa, Johannes Oetsch, Jörg Pührer, and Hans Tompits. Annotating answer-set programs in LANA. *Theory and Practice of Logic Programming*, 12(4-5):619–637, 2012.

[25] Marina De Vos, Doga Gizem Kisa, Johannes Oetsch, Jörg Pührer, and Hans Tompits. LANA: A language for annotating answer-set programs. In *14th International Workshop on Non-Monotonic Reasoning*, 2012.

[26] Johannes Oetsch, Michael Prischink, Jörg Pührer, Martin Schwengerer, and Hans Tompits. On the small-scope hypothesis for testing answer-set programs. In *13th International Conference on Principles of Knowledge Representation and Reasoning*, pages 43–53. AAAI Press, 2012.

[27] Johannes Oetsch, Jörg Pührer, and Hans Tompits. Extending object-oriented languages by declarative specifications of complex objects using answer-set programming. In *26th Workshop on Logic Programming (WLP 2012)*, pages 129–137, 2012.

[28] Johannes Oetsch, Jörg Pührer, and Hans Tompits. An FLP-style answer-set semantics for abstract-constraint programs with disjunctions. In *Technical Communications of the 28th International Conference on Logic Programming*, Volume 17, 2012. LIPIcs, Schloss Dagstuhl - Leibniz-Zentrum für Informatik.

[29] Johannes Oetsch, Jörg Pührer, and Hans Tompits. Stepwise debugging of description-logic programs. In *Correct Reasoning - Essays on Logic-Based AI in Honour of Vladimir Lifschitz*, volume 7265 of *Lecture Notes in Computer Science*, pages 492–508. Springer, 2012.

[30] Salvador Abreu, Johannes Oetsch, Jörg Pührer, Dietmar Seipel, Hans Tompits, Masanobu Umeda, and Armin Wolf, editors. *Proceedings of the 19th International Conference on Applications of Declarative Programming and Knowledge Management (INAP 2011) and the 25th Workshop on Logic Programming (WLP 2011)*. TU Wien, Wien, 2011.

[31] Esra Erdem, Katsumi Inoue, Johannes Oetsch, Jörg Pührer, Hans Tompits, and Cemal Yilmaz. Answer-set programming as a new approach to event-sequence testing. In *Proceedings of The Second International Conference on Advances in System Testing and Validation Lifecycle (VALID 2011)*, pages 25–34. Xpert Publishing Services, 2011.

[32] Michael Fink, Adil El Ghali, Amina Chniti, Roman Korf, Antonia Schwichtenberg, François Lévy, Jörg Pührer, and Thomas Eiter. D2-6 Consistency maintenance. Final report. Technical report, ONTORULE IST-2009-231875 Project, 2011.

[33] Tomi Janhunen, Ilkka Niemelä, Johannes Oetsch, Jörg Pührer, and Hans Tompits. Random vs structure-based testing of answer-set programs: An experimental comparison. In *Proceedings of the 11th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR 2011)*, pages 242–247. Springer, 2011.

[34] Christian Kloimüllner, Johannes Oetsch, Jörg Pührer, and Hans Tompits. Kara: A system for visualising and visual editing of interpretations for answer-set programs. In *19th International Conference on Applications of Declarative Programming and Knowledge Management (INAP 2011) and 25th Workshop on Logic Programming (WLP 2011)*, pages 152–164, 1843-11-06, 2011.

[35] Johannes Oetsch, Jörg Pührer, Martina Seidl, Hans Tompits, and Patrick Zwickl. VIDEAS: A development tool for answer-set programs based on model-driven engineering technology. In *Proceedings of the 11th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR 2011)*, pages 382–387. Springer, 2011.

[36] Johannes Oetsch, Jörg Pührer, Martina Seidl, Hans Tompits, and Patrick Zwickl. VIDEAS: Supporting answer-set program development using model-driven engineering techniques. In *Proceedings of the MELO 2011 Workshop: Model-Driven Engineering, Logic and Optimization: friends or foes?*, 2011.

[37] Johannes Oetsch, Jörg Pührer, and Hans Tompits. The SeaLion has landed: An IDE for answer-set programming-preliminary report. In *19th International Conference on Applications of Declarative Programming and Knowledge Management (INAP 2011) and 25th Workshop on Logic Programming (WLP 2011)*, pages 141–151, 1843-11-06, 2011.

[38] Johannes Oetsch, Jörg Pührer, and Hans Tompits. Stepping through an answer-set program. In *Proceedings of the 11th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR 2011)*, pages 134–147. Springer, 2011.

[39] Stijn Heymans, Roman Korf, Michael Erdmann, Jörg Pührer, and Thomas Eiter. F-logic#: Loosely coupling F-logic rules and ontologies. In Helder Coelho, Rudi Studer, and Michael Wooldridge, editors, *Proceedings of the 2010 IEEE/WIC/ACM International Conference on Web Intelligence (WI 2010)*, pages 248–255, 2010.

[40] Ilkka Niemelä, Tomi Janhunen, Johannes Oetsch, Jörg Pührer, and Hans Tompits. On testing answer-set programs. In Helder Coelho, Rudi Studer, and Michael Wooldridge, editors, *19th European Conference on Artificial Intelligence (ECAI 2010)*, pages 951–956, Volume 215 of Frontiers in Artificial Intelligence and Applications (2010), 2010. IOS Press.

[41] Johannes Oetsch, Jörg Pührer, Martin Schwengerer, and Hans Tompits. The system Kato: Detecting cases of plagiarism for answer-set programs. *Theory and Practice of Logic Programming*, 10(4-6):759–775, 2010.

[42] Johannes Oetsch, Jörg Pührer, and Hans Tompits. Catching the Ouroboros: On debugging non-ground answer-set programs. *Theory and Practice of Logic Programming*, 10(4-6):513–529, 2010.

[43] Johannes Oetsch, Jörg Pührer, and Hans Tompits. Let's break the rules: Interactive procedural-style debugging of answer-set programs. In Slim Abdennadher, editor, *24th Workshop on (Constraint) Logic Programming (WLP 2010)*, pages 77–87, 2010.

[44] Johannes Oetsch, Jörg Pührer, and Hans Tompits. Methods and methodologies for developing answer-set programs - Project description. In Manuel Hermenegildo and Torsten Schaub, editors, *Technical Communications of the 26th International Conference on Logic Programming (ICLP 2010)*, volume 7 / Dagstuhl, Germany, pages 154–161, 2010.

[45] Jörg Pührer, Adil El Ghali, Amina Chniti, Roman Korf, Antonia Schwichtenberg, François Lévy, Stijn Heymans, Guohui Xiao, and Thomas Eiter. D2-3 Consistency maintenance. Intermediate report. Technical report, ONTORULE IST-2009-231875 Project, 2010.

[46] Jörg Pührer, Stijn Heymans, and Thomas Eiter. Dealing with inconsistency when combining ontologies and rules using DL-programs. In Lora Aroyo, Grigoris Antoniou, Eero Hyvönen, Annette ten Teije, Heiner Stuckenschmidt, Liliana Cabral, and Tania Tudorache, editors, *7th European Semantic Web Conference (ESWC 2010)*, pages 183–197, 5554, 2010. Springer.

[47] Stijn Heymans, Jos de Bruijn, Martín Rezk, Hassan Aït-Kaci, Hugues Citeau, Roman Korf, Jörg Pührer, Cristina Feier, and Thomas Eiter. D3-2 Initial combinations of rules and ontologies. Technical report, ONTORULE IST-2009-231875 Project, December 2009.

[48] Jos de Bruijn, Philippe Bonnard, Hugues Citeau, Sylvain Dehors, Stijn Heymans, Roman Korf, Jörg Pührer, and Thomas Eiter. D3-1 State-of-the-art survey of issues. Technical report, ONTORULE IST-2009-231875 Project, 2009.

[49] Martin Gebser, Jörg Pührer, Torsten Schaub, Hans Tompits, and Stefan Woltran. spock: A debugging support tool for logic programs under the answer-set semantics. In Dietmar Seipel, Michael Hanus, and Armin Wolf, editors, *Applications of Declarative Programming and Knowledge Management*, pages 247–252. Springer, 2009.

[50] Jörg Pührer and Hans Tompits. Casting away disjunction and negation under a generalisation of strong equivalence with projection. In Esra Erdem, Fangzhen Lin, and Torsten Schaub, editors, *Logic Programming and Nonmonotonic Reasoning*, pages 264–276, 5753, 2009. Springer.

[51] Martin Gebser, Jörg Pührer, Torsten Schaub, and Hans Tompits. A meta-programming technique for debugging answer-set programs. In Dieter Fox and Carla P. Gomes, editors, *AAAI-08/IAAI-08 Proceedings*, pages 448–453, 2008.

[52] Jörg Pührer, Hans Tompits, and Stefan Woltran. Elimination of disjunction and negation in answer-set programs under hyperequivalence. In Maria G. de la Banda and Enrico Pontelli, editors, *Proceedings of the 24th Conference on Logic Programming (ICLP 2008)*, pages 561–575, 5366, 2008. Springer LNCS.

[53] Jörg Pührer. On debugging of propositional answer-set programs. Masterarbeit, Vienna University of Technology, Vienna, Austria, December 2007.

[54] Martin Brain, Martin Gebser, Jörg Pührer, Torsten Schaub, Hans Tompits, and Stefan Woltran. Debugging ASP programs by means of ASP. In Chitta Baral, Gerhard Brewka, and John S. Schlipf, editors, *Proceedings of the 9th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR 2007)*, volume 4483 of *Lecture Notes in Computer Science*, pages 31–43. Springer, 2007.