

# Curriculum Vitae<sup>1</sup>

Dr. Stefan WOLTRAN

## 1 Personal Data

Degrees: Univ.Prof., Dipl.-Ing. (M.Sc.), Dr.techn. (Ph.D.)  
Date and place of birth: January 8, 1975, Mödling (Austria)  
Citizenship: Austrian citizen  
Marital status: unmarried, no children  
Current position: Full Professor “Formal Foundations of Artificial Intelligence”  
Office and Mailing Address: Institute of Logic and Computation  
Databases and Artificial Intelligence Group  
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## 2 Education

2008: Habilitation colloquium (for the *venia docendi* in “Information Systems”). Thesis: *Contributions to Advanced Equivalence Checking in Answer Set Programming*.  
2001 – 2003: Doctoral Student of Computer Science at TU Wien.  
Promotion as a Doctor *technicae* (Ph.D.) with distinction.  
Thesis: *Quantified Boolean Formulas - From Theory to Practice*;  
(Advisors: Prof. Dr. Uwe Egly and Prof. Dr. Thomas Eiter).  
1994 – 2001: Student of Computer Science at TU Wien;  
graduation as a Master of Science (M.Sc.) with distinction.  
Thesis: *A Framework for Solving Advanced Reasoning Tasks*;  
(Advisor: Prof. Dr. Uwe Egly).

## 3 Professional Record

since 01/2020: Head of the Databases and Artificial Intelligence Group (DBAI), TU Wien.  
since 02/2015: Full Professor at the Institute of Logic and Computation  
(formerly Institute of Information Systems), TU Wien.  
10/2013 – 02/2014: Deputy Professor at the Institute of Computer Science (Algebraic and  
Logical Foundations of Computer Science) at the University of Leipzig.  
07/2013 – 01/2015: Associate Professor at the Institute of Information Systems, DBAI, TU Wien.  
06/2007 – 07/2013: Assistant Professor (Univ.Ass.), Institute of Information Systems, DBAI, TU Wien.  
07/2001 – 05/2007: Research assistant at the Institute of Information Systems,  
Knowledge-Based Systems Group (KBS), TU Wien.  
06/2003 – 10/2003: Assistant Professor (interim; Univ.Ass.), KBS, TU Wien.

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<sup>1</sup>CV in German is available under <http://www.dbai.tuwien.ac.at/staff/woltran/>.

## 4 Project Experience

- **Project leader:**  
*Decodyn: Treating Hard Problems with Decomposition and Dynamic Programming;*  
funded by *FWF – Fonds zur Förderung der wissenschaftlichen Forschung*  
(START Programme / Y698);  
Project start: June 2014. EUR 1,200,000.
- **Project leader:**  
*HYPAR - Hybrid Parameterized Problem Solving in Practice;*  
funded by *FWF – Fonds zur Förderung der wissenschaftlichen Forschung* (P32830);  
Project start: October 2019. EUR 350,000.
- **Project leader** (together with S. Szeider):  
*Revealing and Utilizing the Hidden Structure for Solving Hard Problems in AI;*  
funded by *WWTF – Wiener Wissenschafts-, Forschungs- und Technologiefonds* (ICT19-065);  
Project start: March 2020. EUR 560,000.
- **Faculty member:**  
*Logical Methods in Computer Science;*  
funded by *FWF – Fonds zur Förderung der wissenschaftlichen Forschung*  
(Doctoral College / W1255);  
Period Oct 2018–Sept 2022. EUR 200,000.
- **Project leader** (together with G. Brewka):  
*Advanced Tools for Graph-Based Formal Argumentation;*  
funded by *DFG – Deutsche Forschungsgemeinschaft* and  
*FWF – Fonds zur Förderung der wissenschaftlichen Forschung* (I2854);  
September 2016–November 2019. EUR 450,000.
- **Project leader:**  
*Fragment-Driven Belief Change;*  
funded by *FWF – Fonds zur Förderung der wissenschaftlichen Forschung* (P25521);  
May 2013–December 2017. EUR 349,000.
- **Project leader:**  
*Extending the Answer-Set Programming Paradigm to Decomposed Problem Solving;*  
funded by *FWF – Fonds zur Förderung der wissenschaftlichen Forschung* (P25607);  
June 2013–June 2017. EUR 280,000.
- **Project leader** (together with G. Brewka):  
*Abstract Dialectical Frameworks: Advanced Tools for Formal Argumentation;*  
funded by *DFG – Deutsche Forschungsgemeinschaft* and  
*FWF – Fonds zur Förderung der wissenschaftlichen Forschung* (I1102);  
June 2013–December 2016. EUR 470,000.
- **Project leader:**  
*New Methods for Analyzing, Comparing, and Solving Argumentation Problems;*  
funded by *WWTF – Wiener Wissenschafts-, Forschungs- und Technologiefonds* (ICT 08-028);  
April 2009–October 2012. EUR 280,000.

- **Project leader:**  
*dynASP - Dynamic Programming and Answer Set Programming;*  
 funded by *TU Wien Programme “Innovative Ideen”* (9006.09/008);  
 March 2011–July 2014. EUR 90,000.
- **Coordinator:**  
*New Directions in Abstract Argumentation;* bilateral project Austria/Slovakia;  
 funded by *Slovenská akademická informaná agentúra (SAIA)* and *Österreichischer Austauschdienst (ÖAD)*; project number 2012-03-15-0001;  
 Partner: Jozef Siška, Comenius Univ. Bratislava.  
 September 2012–August 2013. EUR 2,000.
- **Coordinator:**  
*Complexity of Argumentation;* bilateral project Austria/France;  
 funded by *Österreichischer Austauschdienst (ÖAD)*, *Programme Amadée* (FR 17/2011);  
 Partner: Nadia Creignou, Univ. Marseille;  
 January 2011–December 2012. EUR 12,000.
- **Collaborator:**  
*EMBArg: Extending Methods in Belief Change to Advance Dynamics in Argumentation;*  
 funded by *FWF – Fonds zur Förderung der wissenschaftlichen Forschung* (P30168);  
 Project Start: April 2017. EUR 350,000.
- **Collaborator:**  
*FAIR: Fixed-Parameter Tractability in Artificial Intelligence and Reasoning;*  
 funded by *FWF – Fonds zur Förderung der wissenschaftlichen Forschung* (P25518);  
 May 2013–April 2018. EUR 350,000.
- **Collaborator:**  
*SEE: SPARQL Evaluation and Extensions;*  
 funded by *WWTF – Wiener Wissenschafts-, Forschungs- und Technologiefonds* (ICT 12-015);  
 September 2012–September 2016. EUR 500,000.
- **Collaborator:**  
*Towards Tractable Belief Merging;* bilateral project Austria/France;  
 funded by *Österreichischer Austauschdienst (ÖAD)*, *Programme Amadée* (FR 12/2013);  
 January 2013–December 2014.
- **Collaborator:**  
*Service-Oriented Data Integration;*  
 funded by *WWTF – Wiener Wissenschafts-, Forschungs- und Technologiefonds* (ICT 080-032);  
 April 2009–September 2012.
- **Collaborator:**  
*Turning Theoretical Tractability into Efficient Computation via Datalog;*  
 funded by *FWF – Fonds zur Förderung der wissenschaftlichen Forschung* (P20704);  
 September 2008–August 2012.

- Main responsible project assistant:  
*Formal Methods for Comparing and Optimizing Nonmonotonic Logic Programs*;  
funded by *FWF – Fonds zur Förderung der wissenschaftlichen Forschung* (P18019);  
April 2005–May 2008.
- Responsible for proposal and coordination at TU Wien:  
*Optimizing Logic Programs under the Answer-Set Programming Paradigm*;  
bilateral project Slovakia – Austria; funded by *Slovenská akademická informaná agentúra (SAIA)* and *Österreichischer Austauschdienst (ÖAD)*;  
November 2003–December 2004.
- Responsible for coordination at node TU Wien: *WASP: Working Group on Answer Set Programming*;  
funded by *European Commission* (IST-FET-2001-37004);  
September 2002–September 2005.
- Main responsible project assistant:  
*QUIP: A Computational Framework for Advanced Reasoning Tasks*;  
funded by *FWF – Fonds zur Förderung der wissenschaftlichen Forschung* (P15068);  
July 2001–October 2004.

## 5 Research Visits

- October 2013–February 2014: Deputy Professor, Univ. Leipzig, Germany.
- October–December 2009: Prof. Gerhard Brewka, Univ. Leipzig, Germany.
- July 2009: Prof. James Delgrande, Simon Fraser University, Canada.
- August 2004/November 2005/December 2007: Prof. Torsten Schaub, Univ. Potsdam, Germany.
- October 2005/February 2007: Prof. David Pearce, Univ. Rey Juan Carlos, Madrid, Spain.
- June 2005: Prof. Nicola Leone, Università della Calabria, Italy.

## 6 Awards and Honors

- **Fellow of the European Association for Artificial Intelligence** (since 2018).
- 2013: **FWF START Award**.
- 13th International Conference on Principles of Knowledge Representation and Reasoning (KR'12):  
“**distinguished student paper prize**”.
- 4th International Conference on Web Reasoning and Rule Systems (RR'10):  
“**best paper award**”.
- 3rd International Conference on Computational Models of Argument (COMMA'10):  
“**best student-paper award**” for a joint paper with my PhD student Sarah Alice Gaggl.

- Workshop of the European Working group on Answer Set Programming (ASP'05): “**best implementation-paper award**”.
- 2002: **OCG-Förderpreis 2002**, an award for outstanding master theses in the field of Computer Science granted by the Austrian Computer Society (OCG).
- 2001: Research scholarship, TU Wien.
- 2001: Windhagstipendium des Landes Niederösterreich (Lower Austrian scholarship).
- 2000: Research scholarship, TU Wien.

## 7 Professional Service

- Steering Committee member of *Principles of Knowledge Representation and Reasoning, Incorporated (KR, Inc.)*, *COMMA – Computational Models of Argument (2013–2020)*, *FoIKS – Foundations of Information and Knowledge Systems*, and *International Workshops on Nonmonotonic Reasoning (NMR)*.  
Full member of the *Wolfgang Pauli Institute (WPI) Vienna*.
- Program Co-Chair: *15th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR 2019)*, Philadelphia, USA; *10th International Symposium on Foundations of Information and Knowledge Systems (FoIKS 2018)*, Budapest, Hungary; *14th International Workshop on Non-Monotonic Reasoning (NMR 2012)*, Rome, Italy.
- Editorial Board: *Argument & Computation*, *Journal of Artificial Intelligence Research (JAIR)*, *Artificial Intelligence (AIJ)*.
- Area Editor: *Newsletter of the Association for Logic Programming (2012–2013)*.
- Local Board Member: *Vienna Center for Logic and Algorithms (VCLA)*.
- Co-Chair/Local Chair of several conferences and events including: *EURAI Workshop on Declarative Problem Solving Workshop (DPSW'20)*, *1st International Workshop on New Trends in Formal Argumentation (NTFA'19)*, *2nd International Workshop on Trends and Applications of Answer Set Programming (TAASP'18)*, *2nd International Competition on Computational Models of Argumentation (ICCM'17)*, *1st International Workshop on New Trends in Formal Argumentation (NTFA'17)*, *ÖGAI Award 2013–2016*, *1st International Workshop on Trends and Applications of Answer Set Programming (TAASP'16)*, *1st International Workshop on New Trends in Belief Change (NTBC'16)*, *14th International Conference on Principles of Knowledge Representation and Reasoning (KR'14)*, *14th International Workshop on Computational Logic in Multi-Agent Systems (CLIMA XIV)*, *3rd International Workshop on Graph Structures for Knowledge Representation and Reasoning (GKR'13)*, *International Conference on Computational Models of Argument (COMMA'12)*, *Doctoral Consortium on Logic Programming at ICLP'12 and ICLP'11*, *Workshops on Answer Set Programming and Other Computing Paradigms (ASPOCP'11, ASPOCP'10)*, *MFCS/CSL Satellite Workshop on Parameterized Complexity of Computational Reasoning (PCCR'10)*, *LPNMR-Workshop on Correspondence and Equivalence for Nonmonotonic Theories (CENT)*, and *Workshop on Logic Programming (WLP'06)*.

- Aera-Chair/Senior PC-member: *29th International Joint Conference on Artificial Intelligence (IJCAI 2020)*, *34th AAAI Conference on Artificial Intelligence (AAAI 2020)*, *24th European Conference on Artificial Intelligence (ECAI 2020)*, *17th International Conference on Principles of Knowledge Representation and Reasoning (KR 2020)*, *28th International Joint Conference on Artificial Intelligence (IJCAI 2019)*, *33rd AAAI Conference on Artificial Intelligence (AAAI 2019)*, *27th International Joint Conference on Artificial Intelligence (IJCAI 2018)*, *16th International Conference on Principles of Knowledge Representation and Reasoning (KR 2018)*, *26th International Joint Conference on Artificial Intelligence (IJCAI 2017)*, *15th International Conference on Principles of Knowledge Representation and Reasoning (KR 2016)*, *24th International Joint Conference on Artificial Intelligence (KR Track) (IJCAI 2015)*, *21st European Conference on Artificial Intelligence (ECAI 2014)*.
- Workshop Chair: *34th International Conference on Logic Programming (ICLP 2018)*.
- PC-member for several international conferences including: *International Joint Conference on Artificial Intelligence (IJCAI)*, *European Conference on Artificial Intelligence (ECAI)*, *AAAI Conference on Artificial Intelligence (AAAI)*, *International Symposium on Theoretical Aspects of Computer Science (STACS)*, *International Conference on Principles of Knowledge Representation and Reasoning (KR)*, *International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR)*, *International Conference on Logic Programming (ICLP)*, *European Conference on Logics in Artificial Intelligence (JELIA)*, *European Conference on Symbolic and Quantitative Approaches to Reasoning with Uncertainty (ECSQARU)*, *International Conference on Scalable Uncertainty Management (SUM)*, *International Symposium on Foundations of Information and Knowledge Systems (FoIKS)*, *International Conference on Computational Models of Argument (COMMA)*, *International Conference on Algorithmic Decision Theory (ADT)*, *ACM SIGAPP Symposium On Applied Computing (SAC)*, *International Symposium on Practical Aspects of Declarative Languages (PADL)*, *German Conference on Artificial Intelligence (KI)*, *European Starting AI Researcher Symposium (STAIRS)*, *Chinese Conference on Logic and Argumentation (CLAR)*, *International Conference on Industrial, Engineering, Other Applications of Applied Intelligent Systems (IEA/AIE)*, *EPIA Conference on Artificial Intelligence (EPIA)*, *Global Conference on Artificial Intelligence (GCAI)*, *International Workshop on Computational Logic in Multi-Agent Systems (CLIMA)*, *International Symposium on Artificial Intelligence and Mathematics (ISAIM)*, *International Conference on Conceptual Structures (ICCS)*, *International Conference on Agents and Artificial Intelligence (ICAART)*, *Italian Conference on Computational Logic (CILC)*.
- Reviewing for journals such as *Artificial Intelligence (AIJ)*, *ACM Transactions on Computational Logic*, *Fundamenta Informaticae (FI)*, *Annals of Mathematics and Artificial Intelligence (AMAI)*, *Journal of Artificial Intelligence Research (JAIR)*, *Theory and Practice of Logic Programming (TPLP)*, *The Knowledge Engineering Review (KER)*, *Journal of Applied Non-Classical Logics (JANCL)*, *Semantic Web Journal*, *International Journal of Approximate Reasoning (IJAR)*, *AI Magazine*, *AI Communications (AICOM)*, *Journal of Logic and Computation (JLC)*, *IfCoLog Journal of Logics and their Applications*, *Information Sciences*, *Argument and Computation*, *Journal of Computer Science and Technology (JCST)*, *Journal of Philosophical Logic*, and *Journal of Experimental & Theoretical Artificial Intelligence (JETAI)*; and for *Mathematical Reviews*.
- Reviewing for agencies and publishers including *DFG (Deutsche Forschungsgemeinschaft)*,

GIF (German-Israeli Foundation for Scientific Research and Development), NSERC (Natural Sciences and Engineering Research Council of Canada), ANR (Agence nationale de la recherche), FWO (The Research Foundation - Flanders), Cambridge University Press, and the National Agency for the Evaluation of Universities and Research Institutes (ANVUR).

## 8 Invited Talks, Lectures, Panel Discussions

- *Computational Argumentation - Formal Models and Complexity Results*, 35th Italian Conference on Computational Logic (CILC 2020), Rende, Italy, October 2020.
- *Symbolic AI - Good Old Fashioned oder Haute Couture*, AI / IMAGINE19, Vienna, Austria, October 2019.
- *Preference Orders on Families of Sets – Complexity and Characterization Results*, Workshop on Individual Preferences and Social Choice (IPASC), Graz, Austria, April 2019.
- *Symbolic AI – Good Old Fashioned or Haute Couture*, OCG, Vienna, Austria, January 2019.
- *Solving (Q)SAT Problems via Tree Decomposition and Dynamic Programming*. JIAF/JFPC 2018, Amiens, France, June 2018.
- *Big Data – Little Intelligence?* Horn, Austria, May 2018.
- *Expressibility of Argumentation Frameworks and its Relation to the Dynamics of Argumentation* AMANDE Workshop, Toulouse, France, April 2018.
- *AI Technology – New Trends, Old Fears?* Hypernormal Hybrids, Vienna, Austria, November 2017.
- *Towards Preprocessing for Abstract Argumentation Frameworks*. 4th International Workshop on Defeasible and Ampliative Reasoning (DARe 2017), Espoo, Finland, July 2017.
- *Panel Discussion / 1st International Workshop on Practical Aspects of Answer Set Programming (PAoASP 2017)*, Espoo, Finland, July 2017.
- *Towards Advanced Systems for Abstract Argumentation*. 1st International Workshop on Systems and Algorithms for Formal Argumentation (SAFA 2016), Potsdam, Germany, September 2016.
- *Dynamic Programming on Tree Decompositions in Practice*. 8th European Starting AI Researcher Symposium (STAIRS 2016), The Hague, Netherlands, August 2016.
- *Dynamic Programming on Tree Decompositions in Practice. Some Lessons Learned*. 17th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC 2015), Timisoara, Romania, September 2015.
- *On Rejected Arguments and Implicit Conflicts: The Hidden Power of Argumentation Semantics*. Workshop on Change in Argumentation (WCiA@CRIL), Lens, France, September 2015.
- *Comparing the Power of Different Semantics for Abstract Argumentation*. Workshop on the Dynamics of Argumentation, Rules and Conditionals (DARC 2014), Luxembourg, October 2014.

- *Abstract Argumentation – All Problems Solved?* Frontiers of Artificial Intelligence / European Conference on Artificial Intelligence (ECAI 2014). Prague, Czech Republic, August 2014.
- *ASP-based Problem Solving on Tree Decompositions*. Workshop on Logic and Search – LaSh 2014. Vienna, Austria, July 2014.
- *An Introduction to Abstract Argumentation*. ProvenanceWeek 2014 / 6th USENIX Workshop on the Theory and Practice of Provenance. Cologne, Germany, June 2014.
- *Characteristics of Multiple Viewpoints in Abstract Argumentation*. Research Seminar of the DFG Graduate Programme on Quantitative Logics and Automata. Univ. Leipzig, January 2014.
- *Implementation of Argumentation*. ACAI (Advanced Courses in AI) Summer School 2013. King’s College London, July 2013.
- *On the Limits of Expressiveness in Abstract Argumentation Semantics*. Dagstuhl Seminar Nr. 13231 “Belief Change and Argumentation in Multi-Agent Scenarios”, Dagstuhl, June 2013.
- *Characteristics of Argumentation Semantics*. “Logique à Marseille – Camilla Schwind à l’honneur”. Marseille, December, 2012.
- *Complexity-Sensitive Decision Procedures for Abstract Argumentation*. “International Workshop on Formal, Experimental, and Informal Approaches to Argumentation” (FEI2A). Toulouse, May, 2012.
- *Belief Revision within Fragments of Propositional Logic*. Madeira Workshop on “Belief Revision and Argumentation”. Madeira, January 2012.
- *Panel Discussion / 1st International Workshop on the Theory and Applications of Formal Argumentation (TAFA’11)*. Barcelona, July 2011.
- *Computational Aspects of Formal Argumentation*. TU Dresden. Candidate Lecture. Dresden, March 2011.
- *Computational Aspects of Abstract Argumentation*. Helsinki Graduate School in Computer Science and Engineering. Invited Lecture. Helsinki, September 2010.
- *Strong Equivalence in Argumentation (and other KR-Formalisms)*. 11th International Workshop on Computational Logic in Multi-Agent Systems. Invited Talk. Lisbon, August 2010.
- *Deciding Equivalence between Extended Datalog Programs. A Brief Survey*. Datalog 2.0 Workshop, Oxford, U.K., March 2010.
- *Belief Revision with Bounded Treewidth*. Dagstuhl Seminar Nr. 09351 “Information Processing, Rational Belief Change and Social Interaction”, Dagstuhl, August 2009.
- *“In der Informatik geht es genau so wenig um Computer, wie in der Astronomie um Teleskope”*. Invited talk for the event “20 Jahre EDVO-Abteilung in der HTL Wr. Neustadt”, April 2008.
- *On Solution Correspondences in Answer Set Programming: A General Framework (and Characterizations for the Ground Case)*. Dagstuhl Seminar Nr. 05171 “Nonmonotonic Reasoning, Answer Set Programming and Constraints”, Dagstuhl, April 2005.



- *Paraconsistent Reasoning via QBFs*. Dagstuhl Seminar Nr. 03241 “Inconsistency Tolerance”, Dagstuhl, May 2003.
- *On Implementing Nested Logic Programs*. Dagstuhl Seminar Nr. 02381 “Nonmonotonic Reasoning, Answer Set Programming and Constraints”, Dagstuhl, September 2002.

## 9 University Services

Unless stated otherwise, the following positions all refer to TU Wien.

- Vice-Dean of Academic Affairs of the Faculty of Informatics.
- Member of the *Board of the Faculty* of computer science (2008–2020).
- Member of the *Curricular Committee* of computer science (2019–2020).
- Head of the search committee for a chair in non-classical logics in computer science.
- Member of the search committee for a chair in computer-aided verification (2008,2018) and machine learning (2019).
- Reviewer for habilitations: R. Ganian; M. Homola (Comenius University Bratislava).
- Member in several habilitation committees.
- Reviewer/Board Member (External) for PhD Theses:
  - Thomas Krennwaller, TU Wien. October 2018.
  - Martin Baláž, Comenius University, Bratislava. August 2017.
  - Gonca Güllü, Universidade Nova de Lisboa, April 2016.
  - Jean-Guy Mailly, Université d’Artois, Lens. September 2015.
  - Jozef Frtús, Comenius University, Bratislava. September 2014.
  - Federico Cerutti, Università degli Studi di Brescia. April 2012.
  - Marco Sirianni, Università degli Studi della Calabria, Rende. February 2012.
  - Roberto Confalonieri, Universitat Politècnica de Catalunya, Barcelona. December 2011.
  - Jozef Siška, Comenius University, Bratislava. November 2010.

## 10 Teaching Experience

Unless stated otherwise, courses refer to TU Wien.

### Lectures/Courses

- “Logic” (2.0h per week), Univ. of Leipzig, winter term (WT) 13/14.
- “Semi-structured Data” (2.0h). Undergraduate course with practical exercises for around 400 students per year; summer term (ST) 08 – ST14.
- “Formal Methods in Computer Science” (4.0h, WT+ST), with Uwe Egly, Laura Kovacs, Gernot Salzer, Helmut Veith, Georg Weissenbacher, Florian Zuleger; since WT14/15.
- “Deductive Databases” (2.0h, WT); WT05/06–WT14/15.
- “Preferences in Artificial Intelligence” (2.0h, ST), with Martin Lackner, Adrian Haret; ST 15–ST17, ST19.
- “Abstract Argumentation” (3.0h, WT), with Uwe Egly, Wolfgang Dvořák, Sarah Gaggl, Johannes Wallner, Thomas Linsbichler; since WT11/12.
- “Introduction to Logical Methods” (2.0h, WT); since WT18.
- Seminar “Principles of Scientific Work” (2.0h). Undergraduate course for beginners; ST10, ST11, ST13.
- “Complexity Analysis in Knowledge Representation”. Comenius University Bratislava, WT13.
- “Knowledge Representation” (2.0h, WT), with Prof. Gerhard Brewka, Univ. of Leipzig. WT09/10; WT13/14.
- Seminar “Intelligent Systems” (2.0h, WT) with Prof. Gerhard Brewka, Univ. of Leipzig. WT13/14.
- Seminar “Formal Models of Argumentation” (2.0h, WT) with Prof. Gerhard Brewka, Univ. of Leipzig. WT09/10.
- “Logics for Knowledge Representation” (2.0h, ST), with Hans Tompits, ST05–ST07.
- Exercises for the course “Introduction to Knowledge-based Systems” (1.0h, ST), with Michael Fink, ST03.
- Various seminars on logic, AI, etc.

### Teaching Assistant

- “Logic-oriented Programming Languages” (2.0h, WT), WT01/02–WT02/03.
- “Data Modelling” (2.0h, WT+ST), ST01.
- “Systems Programming” (2.0h, WT+ST), WT97/98–ST00.

## Supervised PhD Theses

- Jan Maly. *Ranking Sets of Objects. How to Deal with Impossibility Results*, 2020.
- Adrian Haret. *Choosing What to Believe – Belief Change Through the Lens of Rational Choice*, 2020.  
(Since May 2020, Adrian is employed as a post-doc at Univ. Amsterdam, The Netherlands.)
- Martin Diller. *Realising Argumentation using Answer Set Programming and Quantified Boolean Formulas*, 2019.  
(Since May 2019, Martin is employed as a post-doc at TU Dresden, Germany.)
- Harald Beck. *Expressive Rule-based Stream Reasoning*, 2018. (Co-Supervisor).
- Bernhard Bliem. *Treewidth in Non-Ground Answer Set Solving and Alliance Problems in Graphs*, 2017.  
selected as “Ausgezeichnete Informatikdissertationen” by Gesellschaft für Informatik (GI).  
(Currently, Bernhard is employed as a post-doc at the University of Helsinki, Finland.)
- Günther Charwat. *BDD-based Dynamic Programming on Tree Decompositions – Towards an Alternative Approach for Efficient QBF Solving*, 2017.
- Sylwia Polberg. *Developing the Abstract Dialectical Framework*, 2017.  
(After having a post-doc position at the University College London, Sylwia now has a Lecturer position at Cardiff University, UK)
- Thomas Linsbichler. *Advances in Abstract Argumentation – Expressiveness and Dynamics*, 2017.  
received an “honourable mention” in the EURAI 2017 Artificial Intelligence Dissertation Award.
- Michael Abseher. *Tailored Tree Decompositions for Efficient Problem Solving*. 2017.
- Christoph Redl. *Answer Set Programming with External Sources: Algorithms and Efficient Evaluation*, 2015. (Co-Supervisor).  
(Currently, Christoph Redl is employed as a Senior Lecturer and Researcher at the University of Applied Sciences Technikum Wien.)
- Friedrich Slivovksy. *Structure in #SAT and QBF*, 2015. (Co-Supervisor).  
(Currently, Friedrich Slivovksy is employed as a post-doc at the Institute of Logic and Computation, Vienna University of Technology.)
- Johannes Wallner. *Complexity Results and Algorithms for Argumentation – Dung’s Frameworks and Beyond*, 2014.  
(Currently, Johannes Wallner is running his own project the Institute of Logic and Computation, Vienna University of Technology.)
- Sarah Alice Gaggl. *A Comprehensive Analysis of the cf2 Argumentation Semantics: From Characterization to Implementation*, 2013.  
(Since April 2013, Sarah Alice Gaggl has a post-doc position at the Research Group “Computational Logic”, Technische Universität Dresden.)

- Stefan Rümmele. *The Parameterized Complexity of Nonmonotonic Reasoning*, 2012. (Co-Supervisor).
- Wolfgang Dvořák. *Computational Aspects of Abstract Argumentation*, 2012. selected as “Ausgezeichnete Informatikdissertationen” by Gesellschaft für Informatik (GI). (From May 2012 to November 2016, Wolfgang Dvořák had a post-doc position at the Research Group “Theory and Applications of Algorithms” at the University of Vienna, Austria. Currently, he is employed as a post-doc at the Institute of Logic and Computation, Vienna University of Technology.)
- Michael Jakl. *Fixed Parameter Algorithms for Answer Set Programming*, 2010. (Co-Supervisor).
- Martina Seidl. *A Solver for Quantified Boolean Formulas in Negation Normal Form*, 2007. (Co-Supervisor). selected as “Ausgezeichnete Informatikdissertationen 2007” by Gesellschaft für Informatik (GI). (Since September 2010 Martina Seidl holds a full position at the the Institute for Formal Models and Verification at the Johannes Kepler Universität in Linz, Austria.)

### Supervised Master’s Theses

- Matthias König. *Graph-classes of Argumentation Frameworks with Collective Attacks - Properties and Complexity Results*, 2020.
- Michael Bernreiter. *A General Framework for Choice Logics*, 2020. (Co-Supervisor).
- Isabella Kammerhofer. *Disjunctive Answer Set Programming with Backjumping and Learning*, 2020.
- Benjamin Krenn. *Algorithms for Implicit Delegation to Predict Preferences*, 2020.
- Alexander Gressler. *Argumentation Frameworks with Claims and Collective Attacks – Complexity Results and Answer-Set Programming Encodings*, 2019.
- André Schidler. *A Solver for the Steiner Tree Problem with few Terminals*, 2018.
- Patrick Bellositz. *Advancements in Equivalence Checking for Abstract Argumentation Frameworks*, 2018. (Co-Supervisor).
- Markus Zisser. *Solving #SAT on the GPU with Dynamic Programming and OpenCL*, 2018.
- Atefeh Keshaverzi. *Investigating Subclasses of Abstract Dialectical Frameworks*, 2017. Awarded with the “Best Thesis Award of the EMCL”.
- Georg Heißenberger. *A System For Advanced Graphical Argumentation Formalisms*, 2016.
- Thomas Ambroz and Andreas Jusits. *Designing a System for Experimental Analysis and Visualization of Dynamic Programming on Tree Decompositions*, 2016.
- Markus Hecher. *Optimizing Second-Level Dynamic Programming Algorithms*, 2015. Awarded with prize “Würdigungspreis” given by the City of Vienna.
- Alina Aleksandrova. *Engineering Data-Aware Commitment-Based Multiagent Systems*, 2015. (Co-Supervisor).

- Marius Moldovan. *Implementing Variations of the Traveling Salesperson Problem in a Declarative Dynamic Programming Environment*, 2015.
- Adrian Haret. *Merging in the Horn fragment*, 2014.
- Martin Diller. *Solving Reasoning Problems on Abstract Dialectical Frameworks via Quantified Boolean Formulas*, 2014.
- Thomas Linsbichler. *On the Limits of Expressiveness in Abstract Argumentation Semantics: Realizability and Signatures*, 2013.
- Michael Abseher. *Solving Shift Design Problems with Answer Set Programming*, 2013.
- Christian Weichselbaum. *Abstract Argumentation and Answer-Set Programming – Modelling the Resolution-Based Grounded Semantics*, 2013.
- Christof Spanring. *Intertranslatability Results for Abstract Argumentation Semantics*, 2013.
- Bernhard Bliem. *Decompose, Guess & Check – Declarative Problem Solving on Tree Decompositions*, 2012. “Distinguished Young Alumnus”-Award given by the faculty of computer science. “Diplomarbeitspreis” given by the city council of Vienna.
- Stefan Ellmauthaler. *Abstract Dialectical Frameworks: Properties, Complexity, and Implementation*, 2012.
- Günther Charwat. *Tree-Decomposition based Algorithms for Abstract Argumentation Frameworks*, 2012. Awarded with the “ÖGAI Preis” of the Austrian Society for Artificial Intelligence.
- Michael Morak. *dynASP - A Dynamic Programming-based Answer-Set Programming Solver*, 2011. Awarded with prize “Würdigungspreis” given by the Austrian Ministry for Science and Research and the OCG Förderpreis granted by the Austrian Computer Society (OCG).
- Andreas Pfandler. *Decentralized Diagnosis: Complexity Analysis and Datalog Encodings*, 2009. (Co-Supervisor).
- Anna Roubickova. *Complexity of Argumentation*, 2009. (Co-Supervisor).
- Wolfgang Dvořák. *Alternation as a Programming Paradigm*, 2009. (Co-Supervisor).
- Sarah Alice Gaggl. *Solving Argumentation Frameworks using Answer Set Programming*, 2009. (Co-Supervisor).
- Stefan Rümmele. *Efficient Counting with Bounded Treewidth using Datalog*, 2008. (Co-Supervisor). “Distinguished Young Alumnus”-Award given by the faculty of computer science.
- Jörg Pührer. *On Debugging of Propositional Answer-Set Programs*, 2007. (Co-Supervisor).
- Andreas Heindl. *On Replacements in Answer-Set Programming based On Partial Evaluation*, 2007. (Co-Supervisor).
- Patrick Traxler. *Techniques for Simplifying Disjunctive Datalog Programs with Negation*, 2006. (Co-Supervisor).
- Michael Zolda. *Comparing Different Prenexing Strategies for Quantified Boolean Formulas*, 2004. (Co-Supervisor).

## **Current PhD Students and Project Staff**

- Adrian Haret, funded by FWF P25521 / FWF P30168.
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## **Former Project Staff**

Michael Abseher, Gerald Berger, Bernard Bliem, Günther Charwat, Martin Diller, Frederico Dusberger, Wolfgang Dvořák, Johannes Fichte, Sarah Alice Gaggl, Martin Kronegger, Martin Lackner, Thomas Linsbichler, Jean-Guy Mailly, Marius Moldovan, Michael Morak, Sylwia Polberg, Stefan Rümmele, Emanuel Sallinger, Johannes Wallner, Markus Zisser.

## 11 Publications

### Journals

- [1] J. Fichte, M. Hecher, M. Morak and S. Woltran. DynASP2.5: Dynamic Programming on Tree Decompositions in Action. *Algorithms* 14(3):81, 2021.
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### **Contributions in Books**

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