

# Benjamin Kiesl

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## Education

- Mar. 2015 – Mar. 2019 *PhD, Computer Science*  
TU Wien, Doctoral Program *LogiCS*  
Thesis: *Structural Reasoning Methods for Satisfiability Solving and Beyond*  
Advisors: Martina Seidl and Hans Tompits
- Oct. 2011 – Jan. 2015 *MSc, Computational Intelligence*  
TU Wien  
Thesis: *On Transforming Answer-Set Programs Towards Natural-Language Representations*  
Advisor: Hans Tompits
- Oct. 2008 – Jul. 2011 *BSc, Media Technology*  
University of Applied Sciences Hagenberg  
Thesis: *Analysis of Data Sources for the Semantic Web*  
Advisor: Andreas Stöckl

## Professional Experience

- From Mar. 2019 *Postdoctoral Researcher*  
CISPA – Helmholtz Center for Information Security,  
Saarbrücken
- Mar. 2015 – Feb. 2019 *Research Assistant*  
Institute of Logic and Computation,  
TU Wien
- Feb. 2014 – Mar. 2015 *Software Developer C++*  
sofasession (startup), Vienna
- Jul. – Sept. 2012 *Internships as Software Developer (Java)*  
and Apr. – Jul. 2011 IBM, Vienna
- Aug. – Sept. 2010 *Internships as Software Developer (C#)*  
and Jul. – Aug. 2009 eworx, Rohrbach, Austria
- May – Sept. 2008 *Software Developer (C#)*  
IT|Pro, Linz, Austria

## Research Visits

Feb. – Apr. 2018    *The University of Texas at Austin*  
and Jan. – May 2017    Department of Computer Science  
Collaboration with Marijn J.H. Heule

## Awards and Scholarships

- Best Paper Award of the 9th International Joint Conference on Automated Reasoning (IJCAR 2018)
- Both Best Paper Awards of the 26th International Conference on Automated Deduction (CADE-26)
- Best Paper Award of the 13th Haifa Verification Conference (HVC 2017)
- Best Paper Nomination of the 25th International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 2019)
- Marshall Plan Scholarship of the Austrian Marshall Plan Foundation
- Excellence Scholarship of TU Wien
- Excellence Scholarship of the University of Applied Sciences Hagenberg

## Professional Service

- Program committee member for the following conferences: 34th AAAI Conference on Artificial Intelligence (AAAI 2020), 24th European Conference on Artificial Intelligence (ECAI 2020), 26th International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 2020), 23rd International Conference on Theory and Applications of Satisfiability Testing (SAT 2020), 27th International Conference on Automated Deduction (CADE-27), 21st International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC 2019);
- Reviewing for the following conferences: International Symposium on Theoretical Aspects of Computer Science (STACS 2019), International Conference on Computer Aided Verification (CAV 2018), International Symposium on Formal Methods (FM 2018), International Conference on Automated Deduction (CADE-26), International Conference on Theory and Applications of Satisfiability Testing (SAT 2017 and 2019), International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR 2015 and 2017), International Conference on Artificial Intelligence (IJCAI 2015, 2016, and 2019);

## Journal Publications

- [1] Marijn J. H. Heule, Benjamin Kiesl, and Armin Biere. “Strong Extension-Free Proof Systems”. In: *Journal of Automated Reasoning* (2019).
- [2] Benjamin Kiesl, Martina Seidl, Hans Tompits, and Armin Biere. “Local Redundancy in SAT: Generalizations of Blocked Clauses”. In: *Logical Methods in Computer Science* 14.4 (2018).

## Conference Publications

- [3] Benjamin Kiesl, Marijn J.H. Heule, and Armin Biere. “Truth Assignments as Conditional Autarkies”. In: *Proc. of the 17th Symposium on Automated Technology for Verification and Analysis (ATVA 2019)*. 2019.
- [4] Marijn J. H. Heule, Benjamin Kiesl, and Armin Biere. “Encoding Redundancy for Satisfaction-Driven Clause Learning”. In: *Proc. of the 25th Int. Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 2019)*. **Best Paper Nomination**.
- [5] Marijn J. H. Heule, Benjamin Kiesl, and Armin Biere. “Clausal Proofs of Mutilated Chessboards”. In: *Proc. of the 11th Int. NASA Formal Methods Symposium (NFM 2019)*. 2019.
- [6] Benjamin Kiesl, Adrián Rebola-Pardo, and Marijn J.H. Heule. “Extended Resolution Simulates DRAT”. In: *Proc. of the 9th Int. Joint Conference on Automated Reasoning (IJCAR 2018)*. **Best Paper Award**.
- [7] Marijn J.H. Heule, Benjamin Kiesl, Martina Seidl, and Armin Biere. “PRuning Through Satisfaction”. In: *Proc. of the 13th Haifa Verification Conference (HVC 2017)*. **Best Paper Award**.
- [8] Benjamin Kiesl, Marijn J.H. Heule, and Martina Seidl. “A Little Blocked Literal Goes a Long Way”. In: *Proc. of the 20th Int. Conference on Theory and Applications of Satisfiability Testing (SAT 2017)*.
- [9] Benjamin Kiesl, Martina Seidl, Hans Tompits, and Armin Biere. “Blockedness in Propositional Logic: Are You Satisfied With Your Neighborhood?” In: *Proc. of the 26th Int. Joint Conference on Artificial Intelligence (IJCAI 2017)*.
- [10] Benjamin Kiesl and Martin Suda. “A Unifying Principle for Clause Elimination in First-Order Logic”. In: *Proc. of the 26th Int. Conference on Automated Deduction (CADE-26)*. **Best Paper Award**. 2017.
- [11] Marijn J.H. Heule, Benjamin Kiesl, and Armin Biere. “Short Proofs Without New Variables”. In: *Proc. of the 26th Int. Conference on Automated Deduction (CADE-26)*. **Best Paper Award**. 2017.
- [12] Benjamin Kiesl, Martin Suda, Martina Seidl, Hans Tompits, and Armin Biere. “Blocked Clauses in First-Order Logic”. In: *Proc. of the 21st Int. Conference on Logic for Programming, Artificial Intelligence and Reasoning (LPAR-21)*. 2017.
- [13] Benjamin Kiesl, Martina Seidl, Hans Tompits, and Armin Biere. “Super-Blocked Clauses”. In: *Proc. of the 8th Int. Joint Conference on Automated Reasoning (IJCAR 2016)*.