

## Curriculum Vitae

### Mark Kaminski

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### Research Interests

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The main focus of my research so far has been on completeness, decidability and automation of reasoning in modal, temporal and description logics. I am particularly interested in the design and implementation of efficient decision procedures for expressive modal logics.

Besides, my past studies include some work on the semantic expressiveness and deductive completeness of higher-order logic and its fragments.

Presently, I am interested in extending my research to formal methods, in particular to automated verification.

### Education

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2002	Abitur, Otto-Hahn-Gymnasium, Saarbrücken, Germany Grade: 1.0
05/2005	B.Sc. in Computer Science, Saarland University, Germany Grade: 1.0
12/2006	M.Sc. (Hons) in Computer Science, Saarland University, Germany Grade: 1.0
01/2012	Dr. rer. nat., Computer Science, Saarland University, Germany Dissertation: <i>Incremental Decision Procedures for Modal Logics with Nominals and Eventualities</i> Advisor: Gert Smolka Grade: <i>summa cum laude</i>

## Employment

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10/2003 – 02/2004	Teaching Assistant, Saarland University
10/2004 – 03/2005	Teaching Assistant, Saarland University
04/2005 – 08/2005	Teaching Assistant, Saarland University
08/2005 – 12/2005	Visiting Research Scholar, Carnegie Mellon University
01/2007 – present	Junior Researcher (wissenschaftlicher Mitarbeiter), Saarland University

## Scholarships and Awards

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2004 – 2006	Scholarship, German National Merit Foundation (Studienstiftung des deutschen Volkes)
2007	Günter Hotz Award (Günter-Hotz-Medaille)
2007	Kühborth Foundation Prize (Preis der Kühborth-Stiftung)

## Teaching

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Winter 2003/04	Teaching Assistant, Programmierung 1 (under Andreas Podelski and Andrey Rybalchenko)
Winter 2004/05	Teaching Assistant, Programmierung 1 (under Gert Smolka and Guido Tack)
Summer 2005	Teaching Assistant, Introduction to Computational Logic (under Gert Smolka and Lutz Straßburger)
Summer 2007	Introduction to Computational Logic (with Gert Smolka)
Summer 2007	Seminar “Theory of Communicating Systems” (with Gert Smolka and Jan Schwinghammer)
Winter 2008/09	Programmierung 1 (with Gert Smolka)
Winter 2009/10	Seminar “Advanced Topics in Computational Logic” (with Gert Smolka and Chad E. Brown)

## Advising

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- 01/2009 Daniel Götzmann, M.Sc. in Computer Science, Saarland University,  
“Spartacus: A Tableau Prover for Hybrid Logic”
- 08/2009 Sigurd Schneider, B.Sc. in Computer Science, Saarland University,  
“Terminating Tableaux for Modal Logic with Transitive Closure”  
(co-advised with Gert Smolka)
- 04/2011 Tobias Tebbi, B.Sc. in Computer Science, Saarland University,  
“Correctness of Tableau-Based Decision Procedures with Backjumping”  
(co-advised with Gert Smolka)

## Professional Service

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Reviewer for CADE, CSL, IJCAR, Workshop “Methods for Modalities” (M4M), Journal of Applied Logic.

## Publications

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### Journal Publications

1. Mark Kaminski and Gert Smolka. Terminating tableau systems for hybrid logic with difference and converse. *J. Log. Lang. Inf.*, 18(4):437–464, 2009.
2. Mark Kaminski, Sigurd Schneider, and Gert Smolka. Terminating tableaux for graded hybrid logic with global modalities and role hierarchies. *Log. Methods Comput. Sci.*, 7(1:5), 2011.

### Conference Publications

1. Mark Kaminski and Gert Smolka. Terminating tableaux for hybrid logic with the difference modality and converse. In Alessandro Armando, Peter Baumgartner, and Gilles Dowek, editors, *IJCAR 2008*, volume 5195 of *LNCS*, pages 210–225. Springer, 2008.
2. Mark Kaminski, Sigurd Schneider, and Gert Smolka. Terminating tableaux for graded hybrid logic with global modalities and role hierarchies. In Martin Giese and Arild Waaler, editors, *TABLEAUX 2009*, volume 5607 of *LNCS*, pages 235–249. Springer, 2009.
3. Mark Kaminski and Gert Smolka. Terminating tableaux for hybrid logic with eventualities. In Jürgen Giesl and Reiner Hähnle, editors, *IJCAR 2010*, volume 6173 of *LNCS*, pages 240–254. Springer, 2010.

4. Mark Kaminski and Gert Smolka. Terminating tableaux for  $SOQ$  with number restrictions on transitive roles. In Cristian S. Calude and Vladimiro Sassone, editors, *TCS 2010*, volume 323 of *IFIP AICT*, pages 213–228. Springer, 2010.
5. Mark Kaminski and Gert Smolka. Clausal graph tableaux for hybrid logic with eventualities and difference. In Christian G. Fermüller and Andrei Voronkov, editors, *LPAR-17*, volume 6397 of *LNCS*, pages 417–431. Springer, 2010.
6. Mark Kaminski, Thomas Schneider, and Gert Smolka. Correctness and worst-case optimality of Pratt-style decision procedures for modal and hybrid logics. In Kai Brünnler and George Metcalfe, editors, *TABLEAUX 2011*, volume 6793 of *LNCS*, pages 196–210. Springer, 2011.

### Workshop Publications

1. Mark Kaminski and Gert Smolka. Hybrid tableaux for the difference modality. In Carlos Areces and Stéphane Demri, editors, *M4M-5*, volume 231 of *Electr. Notes Theor. Comput. Sci.*, pages 241–257. Elsevier, 2009.
2. Mark Kaminski and Gert Smolka. Terminating tableaux for  $SOQ$  with number restrictions on transitive roles. In Bernardo Cuenca Grau, Ian Horrocks, Boris Motik, and Ulrike Sattler, editors, *DL-2009*, volume 477 of *CEUR Workshop Proceedings*, 2009.
3. Daniel Götzmann, Mark Kaminski, and Gert Smolka. Spartacus: A tableau prover for hybrid logic. In Thomas Bolander and Torben Braüner, editors, *M4M-6*, volume 262 of *Electr. Notes Theor. Comput. Sci.*, pages 127–139. Elsevier, 2010.
4. Mark Kaminski and Gert Smolka. Clausal Tableaux for Hybrid PDL. In Hans van Ditmarsch and David Fernández Duque and Valentin Goranko and Wojtek Jamroga and Manuel Ojeda-Aciego, editors, *M4M-7*, volume 278 of *Electr. Notes Theor. Comput. Sci.*, pages 99–113. Elsevier, 2011.

### Refereed Book Chapters

1. Mark Kaminski and Gert Smolka. A finite axiomatization of propositional type theory in pure lambda calculus. In Christoph E. Benz Müller, Chad E. Brown, Jörg Siekmann, and Richard Statman, editors, *Festschrift in Honor of Peter B. Andrews on His 70th Birthday*, Studies in Logic and the Foundations of Mathematics, pages 243–258. College Publications, 2008.