

Martin Zimmermann

Curriculum Vitae

Contact

Aalborg University
Department of Computer Science
Selma Lagerlöfs Vej 300
9220 Aalborg
Denmark

Office: Room 1.2.06
Email: mzi@cs.aau.dk
Phone: +45 9940 8770
URL: <https://people.cs.aau.dk/~mzi/>

Positions

since 08/2021 **Associate Professor** at Aalborg University
10/2018 - 07/2021 **Lecturer** at University of Liverpool
05/2013 - 09/2018 **Postdoc** at Saarland University
02/2012 - 04/2013 **Postdoc** at University of Warsaw
02/2009 - 01/2012 **Research Assistant** at RWTH Aachen University

Education

since 09/2021 **Fellow** of the Higher Education Academy UK
12/2015 - 07/2018 **Habilitation** in Computer Science at Saarland University
02/2009 - 01/2012 **PhD** in Computer Science at RWTH Aachen University
09/2003 - 01/2009 **Diploma** in Computer Science at RWTH Aachen University

Awards and Scholarships

2021 **Best Paper Award** at MFCS 2021 for the paper “A Bit of Nondeterminism Makes Pushdown Automata Expressive and Succinct”
2010 **Springorum Medal 2010** for diploma with distinction at RWTH Aachen University
09/2007 - 06/2008 **Fulbright Scholarship** for attending DePaul University, Chicago, USA

Grants

2026 - 2028 **Principal investigator** IRF project “Hyperlogics: Expressiveness, Monitorability and Tools”
06/2019 - 07/2021 **Co-Investigator** EPSRC project “Ontology-Based Management of Many-Dimensional Quantitative Data”
09/2018 Financial support from the DFG to organize the “Ninth International Symposium on Games, Automata, Logics, and Formal Verification” (GandALF 2018) in Saarbrücken
01/2015 - 09/2018 **Principal Investigator** DFG project “Tradeoffs in Controller Synthesis”

Activities

2026 **CSL 2027** PC member
2026 **TIME 2026** PC member
2026 **LAMAS&SR 2026** PC member
2026 **Panhellenic Logic Symposium 2026** Invited Speaker
2026 **LICS 2026** PC member
2026 **FoSSaCS 2026** PC member
2025 **SynCoP 2025** Invited speaker
2025 **OVERLAY 2025** PC member
2025 **RP 2025** PC member
2025 **CONCUR 2025** PC member

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| 2024 | LAMAS&SR 2024 PC member |
| 2024 | GandALF 2024 PC member |
| 2024 | Dagstuhl Seminar “Logics for Dependence and Independence: Expressivity and Complexity” |
| since 2023 | Summer school MOVEP Steering committee member |
| 2023 | Dagstuhl Seminar “The Futures of Reactive Synthesis” |
| 2023 | Summer School Reactive synthesis: Main Achievements and current trends Invited Lecturer |
| 2023 | CSL 2024 PC member |
| 2023 | EUMAS 2023 PC member |
| 2023 | GandALF 2023 PC member |
| 2023 | CONCUR 2023 PC member |
| 2023 | MFCS 2023 PC member |
| 2022 | OVERLAY 2022 PC member |
| 2022 | Bertinoro Workshop “Network Verification and Automation Seminar” Invited Participant |
| 2022 | CSL 2023 PC member |
| 2022 | Summer school MOVEP 2022 PC chair and organizer |
| 2021 | Workshop “Automata Theory and Applications: Games, Learning and Structures” Invited Participant |
| since 2021 | GandALF Steering committee member |
| 2020 | GandALF 2020 PC member |
| 2019 | GandALF 2019 PC member |
| 2018 | GandALF 2018 PC co-chair and organizing chair |
| 2018 | Highlights of Logic, Games, and Automata 2018 PC member |
| 2017 | TIME 2017 PC member |
| 2016 | Workshop “Algorithmic Verification of Real-time Systems” Invited Speaker |
| 2015 | Workshop “Automata, Concurrency and Timed Systems” Invited Speaker |
| 2015 | Dagstuhl Seminar “Non-Zero-Sum-Games and Control” |

Publications All papers are available on my homepage.

Under Submission Sarah Winter and Martin Zimmermann: **Logics for Context-free Hyperproperties**. arXiv:2605.04657
Gaëtan Regaud and Martin Zimmermann: **The Complexity of Generalized HyperLTL with Stuttering and Contexts (journal version)**. arXiv:2504.08509
Thomas M. Grosen, Sean Kauffman, Kim G. Larsen, and Martin Zimmermann: **Monitoring Timed Properties (Revisited) (journal version)**. arXiv:2206.14590
Sean Kauffman, Kim G. Larsen, and Martin Zimmermann: **The Complexity of Data-Free Nfer (journal version)**. arXiv:2407.03155
Alessandro Cimatti, Thomas M. Grosen, Kim G. Larsen, Stefano Tonetta and Martin Zimmermann **Exploiting Assumptions for Effective Monitoring of Real-Time Properties under Partial Observability (journal version)**. arXiv:2409.05456
Andreas Krebs, Arne Meier, Jonni Virtema, and Martin Zimmermann: **Asynchronous Team Semantics for Temporal Logics**. arXiv:2409.18667

Journal Papers Gaëtan Regaud and Martin Zimmermann: **The Complexity of HyperQPTL**. *Information Processing Letters*, 193, 2026
Hadar Frenkel, Gaëtan Regaud, and Martin Zimmermann: **The Complexity of Second-order HyperLTL**. *Logical Methods in Computer Science*, 22(1), 2026

Sarah Winter and Martin Zimmermann: **Tracy, Traces, and Transducers: Computable Counterexamples and Explanations for HyperLTL Model-Checking**. *Acta Informatica*, 62, 2025

Martin Fränzle, Thomas M. Grosen, Kim G. Larsen, and Martin Zimmermann: **Efficient Runtime Verification of Real-Time Systems under Parametric Communication Delays**. Accepted for publication in *Formal Aspects of Computing* (arXiv:240418282)

Enzo Erlich, Mario Grobler, Shibashis Guha, Ismaël Jecker, Karoliina Lehtinen, and Martin Zimmermann: **History-deterministic Parikh Automata**. *Transactions on Computational Logic*, 26(3), 2025

Martin Fränzle, Paul Kröger, Sarah Winter, and Martin Zimmermann: **On the Existence of Reactive Strategies Resilient to Delay**. *Logical Methods in Computer Science* (Special Issue GandALF 2023), 21(1), 2025

Marie Fortin, Louwe B. Kuijter, Patrick Totzke, and Martin Zimmermann: **HyperLTL Satisfiability is Highly Undecidable, HyperCTL* is Even Harder**. *Logical Methods in Computer Science*, 21(1), 2025

Satya Prakash Nayak, Daniel Neider, Rajarshi Roy, and Martin Zimmermann: **Robust Computation Tree Logic**. *Innovations in Systems and Software Engineering* (Special Issue NFM 2022), 21, 2025

Martin Zimmermann: **Robust Probabilistic Temporal Logics**. *Information Processing Letters*, 188, 2025

Shibashis Guha, Ismaël Jecker, Karoliina Lehtinen, and Martin Zimmermann: **A Bit of Nondeterminism Makes Pushdown Automata Expressive and Succinct**. *Logical Methods in Computer Science*, 20(1), 2024

Sean Kauffman and Martin Zimmermann: **The Complexity of nfer**. *Science of Computer Programming* (Special Issue TASE 2022), 231, 2024

Corto Mascle, Daniel Neider, Maximilian Schwenger, Paulo Tabuada, Alexander Weinert, and Martin Zimmermann: **From LTL to rLTL Monitoring: Improved Monitorability through Robust Semantics**. *Formal Methods in System Design*, 59, 2021

Daniel Neider, Alexander Weinert, and Martin Zimmermann: **Robust, Expressive, and Quantitative Linear Temporal Logics: Pick any Two for Free**. *Information and Computation* (Special Issue GandALF 2019), 285(B), 2022

Martin Zimmermann: **Approximating the Minimal Lookahead Needed to Win Infinite Games**. *Information Processing Letters*, 177, 2022

Karoliina Lehtinen and Martin Zimmermann: **Good-for-games ω -Pushdown Automata**. *Logical Methods in Computer Science*, 18(1), 2022

Sarah Winter and Martin Zimmermann: **Finite-state Strategies in Delay Games**. *Information and Computation* (Special Issue GandALF 2017), 272, 2020

Daniel Neider, Alexander Weinert, and Martin Zimmermann: **Synthesizing Optimally Resilient Controllers**. *Acta Informatica* 57(1), 2020

Sven Schewe, Alexander Weinert, and Martin Zimmermann: **Parity Games with Weights**. *Logical Methods in Computer Science* (Special Issue CSL 2018), 15(3), 2019

Alexander Weinert and Martin Zimmermann: **Visibly Linear Dynamic Logic**. *Theoretical Computer Science*, 747, 2018

Swen Jacobs, Leander Tentrup, and Martin Zimmermann: **Distributed Synthesis for Parameterized Temporal Logics**. *Information and Computation* (Special Issue GandALF 2016), 262(2), 2018

Hazem Torfah and Martin Zimmermann: **The Complexity of Counting Models of Linear-time Temporal Logic**. *Acta Informatica*, 55(3), 2018

Martin Zimmermann: **Parameterized Linear Temporal Logics Meet Costs: Still not Costlier than LTL**. *Acta Informatica* (Special Issue GandALF 2015), 55(2), 2018

Alexander Weinert and Martin Zimmermann: **Easy to Win, Hard to Master: Optimal Strategies in Parity Games with Costs**. *Logical Methods in Computer Science*, 13(3), 2017

Peter Faymonville and Martin Zimmermann: **Parametric Linear Dynamic Logic**. *Information and Computation* (Special Issue GandALF 2014), 253(3), 2017

Martin Zimmermann: **Delay Games with WMSO+U Winning Conditions**. *RAIRO ITA*, 50(2), 2016

Felix Klein and Martin Zimmermann: **How Much Lookahead is Needed to Win Infinite Games?**. *Logical Methods in Computer Science*, 12(3), 2016

Florian Horn, Wolfgang Thomas, Nico Wallmeier, and Martin Zimmermann: **Optimal Strategy Synthesis for Request-Response Games**. *RAIRO ITA*, 49(3), 2015

Daniel Neider, Roman Rabinovich, and Martin Zimmermann: **Down the Borel Hierarchy: Solving Muller Games via Safety Games**. *Theoretical Computer Science* (Special Issue GandALF 2012), 560, 2014

Nathanaël Fijalkow and Martin Zimmermann: **Parity and Streett Games with Costs**. *Logical Methods in Computer Science*, 10(2), 2014

Martin Zimmermann: **Optimal Bounds in Parametric LTL Games**. *Theoretical Computer Science* (Special Issue GandALF 2011), 493, 2013

John Fearnley and Martin Zimmermann: **Playing Muller Games in a Hurry**. *International Journal of Foundations of Computer Science* (Special Issue GandALF 2010), 23(3), 2012

Conference Papers

Bruno Maria René Gonzalez, Peter Gjøøl Jensen, Stefan Schmid, Jiří Srba, and Martin Zimmermann: **TAPAAL HyperLTL: A Tool for Checking Hyperproperties of Petri Nets**. In *Proceedings of ATVA 2025*, volume 16145 of *LNCS*, 2025

Gaëtan Regaud and Martin Zimmermann: **The Complexity of Generalized HyperLTL with Stuttering and Contexts**. In *Proceedings of GandALF 2025*, volume 428 of *EPTCS*, 2025

Sarah Winter and Martin Zimmermann: **Prophecies all the Way: Game-based Model-Checking for HyperQPTL beyond $\forall^*\exists^*$** . In *Proceedings of CONCUR 2025*, volume 348 of *LIPICs*, 2025

Thomas M. Grosen, Sean Kauffman, Kim G. Larsen, and Martin Zimmermann: **Time for Timed Monitorability**. In *Proceedings of CONCUR 2025*, volume 348 of *LIPICs*, 2025

Hadar Frenkel and Martin Zimmermann: **The Complexity of Second-order HyperLTL**. In *Proceedings of CSL 2025*, volume 326 of *LIPICs*, 2025

Alessandro Cimatti, Thomas M. Grosen, Kim G. Larsen, Stefano Tonetta and Martin Zimmermann **Exploiting Assumptions for Effective Monitoring of Real-Time Properties under Partial Observability**. In “Proceedings of SEFM 2024”, volume 15280 of *LNCS*, 2024

Martin Fränzle, Thomas M. Grosen, Kim G. Larsen, and Martin Zimmermann **Monitoring Real-Time Systems under Parametric Delay**. In “Proceedings of iFM 2024”, volume 15234 of *LNCS*, 2024

Christian Schilling and Martin Zimmermann: **The Reachability Problem for Neural-Network Control Systems**. In “Post-proceedings of AISOLA 2023”, volume 14129 of *LNCS*, 2024

Sean Kauffman, Kim G. Larsen, and Martin Zimmermann: **The Complexity of Data-Free nfer**. In “Proceedings of RV 2024”, volume 15191 of *LNCS*, 2024

Martin Fränzle, Sarah Winter, and Martin Zimmermann: **Strategies Resilient to Delay: Games under Delayed Control vs. Delay Games**. In “Proceedings of GandALF 2023”, volume 390 of *EPTCS*, 2023

Aniello Murano, Daniel Neider, and Martin Zimmermann: **Robust Alternating-time Temporal Logics**. In “Proceedings of JELIA 2023”, volume 14281 of *LNCS*, 2023

Enzo Erlich, Shibashis Guha, Ismaël Jecker, Karoliina Lehtinen, and Martin Zimmermann: **History-deterministic Parikh Automata**. In “Proceedings of CONCUR 2023”, volume 279 of *LIPICs*, 2023

Sarah Winter and Martin Zimmermann: **Weak Muller Conditions Make Delay Games Hard**. In “Aspects of Computation and Automata Theory with Applications”, volume 42 of *Lecture Notes Series, Institute for Mathematical Sciences, National University of Singapore*, 2023

Shibashis Guha, Ismaël Jecker, Karoliina Lehtinen, and Martin Zimmermann: **Parikh Automata over Infinite Words**. In *Proceedings of FSTTCS 2022*, volume 250 of *LIPICs*, 2022

Satya Prakash Nayak, Daniel Neider, and Martin Zimmermann: **Robustness-by-Construction Synthesis: Adapting to the Environment at Runtime**. In *Proceedings of ISOLA 2022*, volume 13701 of *LNCS*, 2022

Thomas M. Grosen, Sean Kauffman, Kim G. Larsen, and Martin Zimmermann: **Monitoring Timed Properties (Revisited)**. In *Proceedings of FORMATS 2022*, volume 13465 of *LNCS*, 2022

Sean Kauffman and Martin Zimmermann: **The Complexity of Evaluating nfer**. In *Proceedings of TASE 2022*, volume 13299 of *LNCS*, 2022

Satya Prakash Nayak, Daniel Neider, Rajarshi Roy, and Martin Zimmermann: **Robust Computation Tree Logic**. In *Proceedings of NFM 2022*, volume 13260 of *LNCS*, 2022

Marie Fortin, Louwe B. Kuijjer, Patrick Totzke, and Martin Zimmermann: **HyperLTL Satisfiability is Σ_1^1 -complete, HyperCTL* Satisfiability is Σ_1^2 -complete**. In *Proceedings of MFCS 2021*, volume 202 of *LIPICs*, 2021

Shibashis Guha, Ismaël Jecker, Karoliina Lehtinen, and Martin Zimmermann: **A Bit of Nondeterminism Makes Pushdown Automata Expressive and Succinct**. In *Proceedings of MFCS 2021*, volume 202 of *LIPICs*, 2021

Aniello Murano, Sasha Rubin, and Martin Zimmermann: **Optimal Strategies in Weighted Limit Games**. In *Proceedings of GandALF 2020*, volume 326 of *EPTCS*, 2020

Daniel Neider, Patrick Totzke, and Martin Zimmermann: **Optimally Resilient Strategies in Pushdown Safety Games**. In *Proceedings of MFCS 2020*, volume 170 of *LIPICs*, 2020

Karoliina Lehtinen and Martin Zimmermann: **Good-for-games ω -Pushdown Automata**. In *Proceedings of LICS 2020*, ACM, 2020

Corto Mascle, Daniel Neider, Maximilian Schwenger, Paulo Tabuada, Alexander Weinert, and Martin Zimmermann: **From LTL to rLTL Monitoring: Improved Monitorability through Robust Semantics**. In *Proceedings of HSCC 2020*, ACM, 2020

Swen Jacobs, Mouhammad Sakt, and Martin Zimmermann: **Promptness and Bounded Fairness in Concurrent and Parameterized Systems**. In *Proceedings of VMCAI 2020*, volume 11990 of *LNCS*, 2020

Corto Mascle and Martin Zimmermann: **The Keys to Decidable HyperLTL Satisfiability: Small Models or Very Simple Formulas**. In *Proceedings of CSL 2020*, volume 152 of *LIPICs*, 2020

Daniel Neider, Alexander Weinert, and Martin Zimmermann: **Robust, Expressive, and Quantitative Linear Temporal Logics: Pick any Two for Free**. In *Proceedings of GandALF 2019*, volume 305 of *EPTCS*, 2019

Sven Schewe, Alexander Weinert, and Martin Zimmermann: **Parity Games with Weights**. In *Proceedings of CSL 2018*, volume 119 of *LIPICs*, 2018

Daniel Neider, Alexander Weinert, and Martin Zimmermann: **Synthesizing Optimally Resilient Controllers**. In *Proceedings of CSL 2018*, volume 119 of *LIPICs*, 2018

Matthew Hague, Roland Meyer, Sebastian Muskalla, and Martin Zimmermann: **Parity to Safety in Polynomial Time for Pushdown and Collapsible Pushdown Systems**. In *Proceedings of MFCS 2018*, volume 117 of *LIPICs*, 2018

Andreas Krebs, Arne Meier, and Jonni Virtema, and Martin Zimmermann: **Team Semantics for the Specification and Verification of Hyperproperties**. In *Proceedings of MFCS 2018*, volume 117 of *LIPICs*, 2018

Martin Zimmermann: **Finite-state Strategies in Delay Games**. In *Proceedings of GandALF 2017*, volume 256 of *EPTCS*, 2017

Martin Zimmermann: **Games with Costs and Delays**. In *Proceedings of LICS 2017*, IEEE Computer Society, 2017

Patricia Bouyer, Piotr Hofman, Nicolas Markey, Mickael Randour, and Martin Zimmermann: **Bounding Average-energy Games**. In *Proceedings of FOSSACS 2017*, volume 10203 of *LNCS*, 2017

Bernd Finkbeiner and Martin Zimmermann: **The First-Order Logic of Hyperproperties**. In *Proceedings of STACS 2017*, volume 66 of *LIPICs*, 2017

Felix Klein and Martin Zimmermann: **Prompt Delay**. In *Proceedings of FSTTCS 2016*, volume 65 of *LIPICs*, 2016

Alexander Weinert and Martin Zimmermann: **Visibly Linear Dynamic Logic**. In *Proceedings of FSTTCS 2016*, volume 65 of *LIPICs*, 2016

Kim G. Larsen, Simon Laursen, and Martin Zimmermann: **Limit your Consumption! Finding Bounds in Average-energy Games**. In *Proceedings of QAPL 2016*, volume 227 of *EPTCS*, 2016

Leander Tentrup, Alexander Weinert, and Martin Zimmermann: **Approximating Optimal Bounds in Prompt-LTL Realizability in Doubly-exponential Time**. In *Proceedings of GandALF 2016*, volume 226 of *EPTCS*, 2016

Swen Jacobs, Leander Tentrup, and Martin Zimmermann: **Distributed PROMPT-LTL Synthesis**. In *Proceedings of GandALF 2016*, volume 226 of *EPTCS*, 2016

Alexander Weinert and Martin Zimmermann: **Easy to Win, Hard to Master: Optimal Strategies in Parity Games with Costs**. In *Proceedings of CSL 2016*, volume 62 of *LIPICs*, 2016

Martin Zimmermann: **Parameterized Linear Temporal Logics Meet Costs: Still not Costlier than LTL**. In *Proceedings of GandALF 2015*, volume 193 of *EPTCS*, 2015

Felix Klein and Martin Zimmermann: **What are Strategies in Delay Games? Borel Determinacy for Games with Lookahead.** In *Proceedings of CSL 2015*, volume 41 of *LIPICs*, 2015

Martin Zimmermann: **Delay Games with WMSO+U Winning Conditions.** In *Proceedings of CSR 2015*, volume 9139 of *LNCS*, 2015

Felix Klein and Martin Zimmermann: **How Much Lookahead is Needed to Win Infinite Games?.** In *Proceedings of ICALP 2015, part II*, volume 9135 of *LNCS*, 2015

Hazem Torfah and Martin Zimmermann: **The Complexity of Counting Models of Linear-time Temporal Logic.** In *Proceedings of FSTTCS 2014*, volume 29 of *LIPICs*, 2014

Peter Faymonville and Martin Zimmermann: **Parametric Linear Dynamic Logic.** In *Proceedings of GandALF 2014*, volume 161 of *EPTCS*, 2014

Nathanaël Fijalkow and Martin Zimmermann: **Cost-Parity and Cost-Streett Games.** In *Proceedings of FSTTCS 2012*, volume 18 of *LIPICs*, 2012

Wladimir Fridman and Martin Zimmermann: **Playing Pushdown Parity Games in a Hurry.** In *Proceedings of GandALF 2012*, volume 96 of *EPTCS*, 2012

Daniel Neider, Roman Rabinovich, and Martin Zimmermann: **Down the Borel Hierarchy: Solving Muller Games via Safety Games.** In *Proceedings of GandALF 2012*, volume 96 of *EPTCS*, 2012

Wladimir Fridman, Christof Löding, and Martin Zimmermann: **Degrees of Lookahead in Context-free Infinite Games.** In *Proceedings of CSL 2011*, volume 12 of *LIPICs*, 2011

Martin Zimmermann: **Optimal Bounds in Parametric LTL Games.** In *Proceedings of GandALF 2011*, volume 54 of *EPTCS*, 2011

John Fearnley and Martin Zimmermann: **Playing Muller Games in a Hurry.** In *Proceedings of GandALF 2010*, volume 25 of *EPTCS*, 2010

Martin Zimmermann: **Time-optimal Winning Strategies for Poset Games.** In *Proceedings of CIAA 2009*, volume 5642 of *LNCS*, 2009

Festschriften

Kim G. Larsen and Martin Zimmermann: **You May Delay, but Time Will Not: Timed Games Under Delayed Control.** In *Design and Verification of Cyber-Physical Systems: From Theory to Applications*, volume 16060 of *LNCS*, 2026

Posters

Satya Prakash Nayak, Daniel Neider, and Martin Zimmermann: **Adaptive Strategies for rLTL Games.** In *Proceedings of HSCC 2021*, ACM, 2021

Theses

Martin Zimmermann: **Tradeoffs in Infinite Games.** Habilitation Thesis, Saarland University, 2018

Martin Zimmermann: **Solving Infinite Games with Bounds.** PhD Thesis, RWTH Aachen University, 2012

Martin Zimmermann: **Time-optimal Winning Strategies in Infinite Games.** Diploma Thesis, RWTH Aachen University, 2009

Talks

Slides are available on my homepage.

Prophecies all the Way: Game-based Model-Checking for HyperQPTL beyond $\forall^*\exists^*$ CONCUR 2025

Game-based Model-Checking of HyperLTL TU Dortmund 2025

The Complexity of Second-order HyperLTL CSL 2025

History-deterministic Pushdown Automata IRIF 2024

Synthesis of Infinite-state Systems FMCPs 2023

On Parikh Automata: Infinite Words, Games, and History-determinism Highlights 2022

A Bit of Nondeterminism Makes Pushdown Automata Expressive and Succinct Highlights 2021

How undecidable are HyperLTL and HyperCTL* Highlights 2021

Optimal Strategies in Weighted Limit Games GandALF 2020

Optimally Resilient Strategies in Pushdown Safety Games MFCS 2020, Highlights 2020

Temporal Logics for Information-flow Policies Royal Holloway 2020, NetVAS 2022, FMCPS 2023

Robust, Expressive, and Quantitative Linear Temporal Logics: Pick any Two for Free GandALF 2019

Synthesizing Optimally Resilient Strategies Highlights 2018

Finite-state Strategies in Delay Games GandALF 2017

The First-order Logic of Hyperproperties Centre Fédéré en Vérification (Brussels) 2017, RWTH Aachen University 2017, STACS 2017, Leibniz University Hannover 2017, Highlights 2017

Easy to Win, Hard to Master: Playing Parity Games with Costs Optimally AVERTS 2016, University of Liverpool 2017

Prompt Delay FSTTCS 2016

Distributed Prompt-LTL Synthesis GandALF 2016

Visibly Linear Dynamic Logic Highlights 2016, FSTTCS 2016

Approximating Optimal Bounds in Prompt-LTL Realizability in Doubly-exponential Time QAPL 2016

Limit your Consumption! Finding Bounds in Average-energy Games QAPL 2016

Unbounded Lookahead in WMSO+U Games University of Warsaw 2015

Parameterized Linear Temporal Logics Meet Costs: Still not Costlier than LTL GandALF 2015

What are Strategies in Delay Games Borel Determinacy for Games with Lookahead CSL 2015

Delay Games with WMSO+U Winning Conditions Dagstuhl 2015, Avacs Meeting 2015, CSR 2015, Highlights 2015

Parametric Linear Temporal Logics Aalborg 2015

Infinite Games University of Oldenburg 2014

Optimal Strategy Synthesis for Request-Response Games AVACS Meeting 2014

The Complexity of Counting Models of Linear-time Temporal Logic Highlights 2014, RWTH Aachen University 2015

How much Lookahead is Needed to Win Infinite Games Algosyn/PUMA Meeting 2014, ACTS 2015, Aalborg University 2015, University of Napoli 2018

Cost-Parity and Cost-Streett Games RWTH Aachen University 2012, TU München 2013, Saarland University 2013

Playing Pushdown Parity Games in a Hurry AISS 2012, GandALF 2012, Games 2012

Down the Borel Hierarchy Solving Muller Games via Safety Games University of Warsaw 2011, Algosyn Workshop 2011, Gasics Meeting 2011, LICS 2012, AVACS Meeting 2014

Degrees of Lookahead in Context-free Infinite Games AlMoTh 2011, Gasics Meeting 2011, Games 2011

Playing Muller Games in a Hurry Gasics Meeting 2010, GandALF 2010, MoVeP 2010, Games 2010

Time-optimal Strategies for Infinite Games Warwick University 2010

Optimal Bounds in Parametric LTL Games Games 2009, Gasics Meeting 2009, AlMoTh 2010, Gasics Meeting 2010, GandALF 2011, AVACS Meeting 2013

Time-optimal Winning Strategies for Poset Games Gasics Meeting 2009, CIAA 2009

Teaching

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|------------------|---|
| Autumn 2025 | Course Initial Programming and Visualization |
| Autumn 2024 | Course Introductory Programming for Data Science |
| since 2024 | Course Computability and Complexity (taught thrice) |
| since 2023 | Course Algorithms and Computability (taught four times) |
| since 2021 | Course Computer Architecture and Operating Systems (taught five times) |
| 2019 - 2021 | Course COMP313: Formal Methods (taught thrice) |
| Winter 2017/2018 | Course Reactive Synthesis (co-taught with S. Jacobs) |

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| Summer 2016 | Course Infinite Games |
| Summer 2015 | Course Recursion Theory |
| Summer 2014 | Seminar Advanced Topics in Infinite Games (co-taught with B. Finkbeiner) |
| Winter 2013/14 | Course Infinite Games |
| Summer 2013 | Course Verification (co-taught with B. Finkbeiner) |

Supervision

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| 2024 - 2025 | Thomas M. Grosen (PhD student, co-supervised with Kim G. Larsen) |
| 2024 | Gaëtan Regaud (internship) |
| 2022 | Enzo Erlich (internship) |
| 2020 - 2021 | Satya Prakash Nayak (internship and master thesis, co-supervised with Daniel Neider) |
| 2019-2021 | Marie Fortin (postdoc, co-supervised with Boris Konev and Frank Wolter) |
| 2019 | Corto Mascle (internship) |
| 2015 - 2018 | Alexander Weinert (PhD student) |
| 2017 | Moritz Lichter (research immersion lab) |
| 2015 | Tobias Salzmann (master thesis) |

PhD Committees

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|------|--|
| 2024 | Dylan Bellier (ENS Rennes) |
| 2024 | Mario Grobler (University of Bremen) |
| 2023 | Andrej Kiviriga (Aalborg University) |
| 2021 | Anibar Majumdar (Université Paris-Saclay) |
| 2018 | Quentin Hautem (University of Mons) |
| 2017 | Alexander Wieder (Saarland University) |
| 2016 | Hassan Hatefi Ardakani (Saarland University) |
| 2014 | Rayna Dimitrova (Saarland University) |
| 2013 | Rüdiger Ehlers (Saarland University) |

Reviewing

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|--------------------|---|
| Journals | JCSS, SICOMP, I&C, LMCS, TCS, Acta Informatica, TAC, TOCS, TOCL, JLC, FMSD, InfoSys, IJFCS, theoretiCS, SCICO |
| Conferences | RP 2009, LPAR 2010, MFCS 2010, LICS 2010, LATA 2010, FSTTCS 2010, CSL 2011, FSTTCS 2011, LICS 2013, ICALP 2013, TIME 2013, STACS 2014, TACAS 2014, FOSSACS 2014, CAV 2014, YuriFest 2015, STACS 2016, LICS 2016, ATVA 2016, ESOP 2017, STACS 2018, FOSSACS 2018, MFCS 2018, RP 2019, ATVA 2019, FSTTCS 2019, STACS 2020, MFCS 2020, FSTTCS 2020, LICS 2021, MFCS 2021, WOLLIC 2021, FOSSACS 2022, TACAS 2022, LICS 2022, NFM 2022, MFCS 2022, FSTTCS 2022, TACAS 2023, ICALP 2023, AAMAS 2024, LPAR 2024, FM 2024, LAMASSR 2024, ICALP 2025, TACAS 2025, FSTTCS 2025, KR 2026 |
| 2014 - 2020 | Reviewer for Mathematical Reviews. |

May 7, 2026