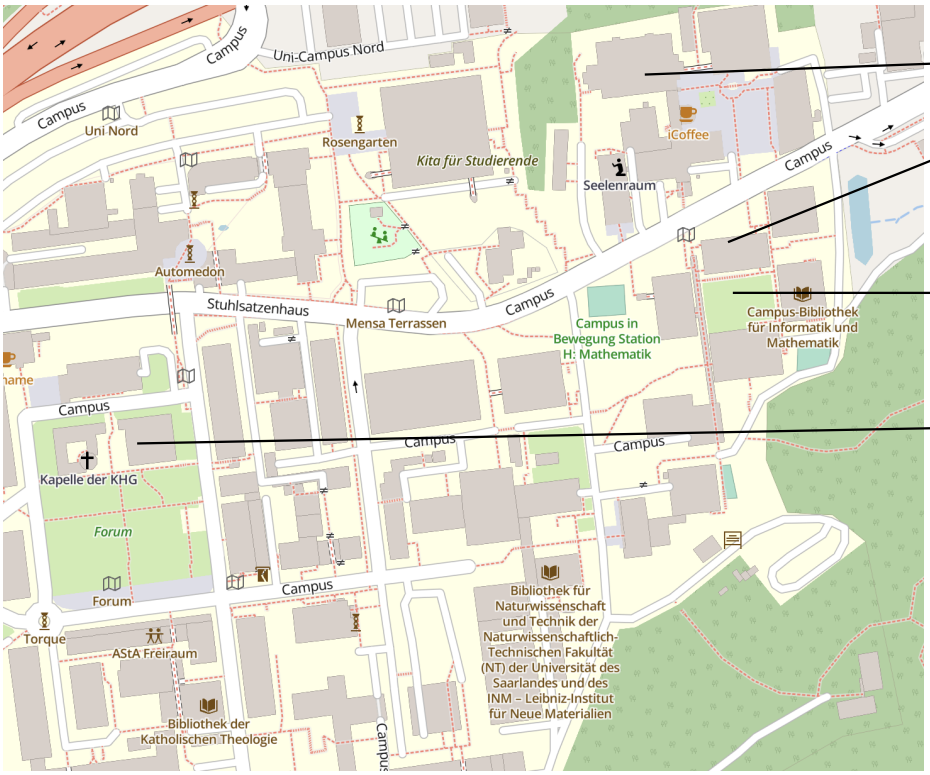
Highlights 2025, schedule

September 1-5, 2025, Saarbrücken

The talks take place either at the **Günter-Hotz-Hörsaal** (GHH) in the **E 2.2 building** or **Hörsaal I** (HS1) in the **E 1.3 building**.



Building E 1.3
(Hörsal 1)

Building E 2.2
(Günter Hotz Hörsal,
posters, and coffee breaks)

Picknick

Lunches

More at `https://www.google.com/maps/d/viewer?mid=1iKu63bVaXwi3pAQUA2U7KmwoDamQ0Jk`.

Monday September 1, tutorial day

Monday 9h00–12h00, Tutorial 1	
	Günter-Hotz-Hörsaal
	chair Benjamin Kaminski
9h00	**Christof Löding**
	From finite to infinite words: congruences and learning for finite automata

— Lunch —

Monday 13h30–16h30, Tutorial 2	
	Günter-Hotz-Hörsaal
	chair Wojciech Czerwiński
13h30	**Szymon Toruńczyk**
	Monadically dependent classes and the model checking problem

Tuesday September 2

Monday 8h55–9h00, Opening	
	Günter-Hotz-Hörsaal

Tuesday 9h00–10h00, Keynote I	
	Günter-Hotz-Hörsaal *chair Christel Baier*
9h00	**Mahsa Shirmohammadi** *Differential Tree Automata*

— Break —

Tuesday 10h30–12h18, Contributed talks I		
	Günter-Hotz-Hörsaal Games *chair Mahsa Sirmohammadi*	Hörsaal I Logic and Model Theory *chair Szymon Toruńczyk*
10h30	**Olivier Idir** *A characterisation of Eve-positionality through ordered Büchi tiles*	**Sophie Pinchinat** *The Formula Synthesis Problem - Focus on Propositional Dynamic Logic*
10h42	**Guy Avni** *Analyzing the Interaction of Optimal Strategies in Mean-Payoff Bidding Games*	**Radosław Piórkowski** *MSO Characterization of Register Automata Languages*
10h54	**Suman Sadhukhan** *Mean-payoff and Energy Discrete-Bidding Games*	**Enzo Erlich** *Expressivity of Linear Temporal Logic for Pomset Languages of Higher Dimensional Automata*
11h06	**Irmak Sağlam** *Fair Energy and Mean-Payoff Games*	**Marco Sälzer** *The Expressive Power of Temporal GNNs Through the Lens of Logic*
11h18	**Michaël Cadilhac** *Fast value iteration: A uniform approach to efficient algorithms for energy games*	**Angelo Matteo** *Towards Automaton-Based Characterisations of FO over Trees*
11h30	**Caroline Lemke** *Galois Energy Games to Solve All Kinds of Quantitative Reachability Problems*	**Marin Ricros** *Growth of monadic decompositions in Presburger arithmetic*
11h42	**Nir Piterman** *Solving Streett and Emerson-Lei Games with Universal Trees*	**Alexander Rabinovich** *The Church synthesis problem over continuous time*
11h54	**Shrisha Rao** *Antichain-Based Algorithms to Solve Parity Games*	**Sven Manthe** *The Borel monadic theory of order is decidable*
12h06	**Antonio Casares** *The memory of omega-regular objectives*	**Sophie Brinke** *Compactness in Semiring Semantics*

— Lunch —

Tuesday 14h00–15h12, Contributed talks II		
	Günter-Hotz-Hörsaal Learning and Teaching *chair Christof Löding*	Hörsaal I Stochastic models *chair Clemens Dubslaff*
14h00	**Amazigh Amrane** *Active Learning Techniques for Pomset Recognizers*	**Stefanie Mohr** *Risk-aware Markov Decision Processes Using Cumulative Prospect Theory*
14h12	**Noa Izsak** *Learning Broadcast Protocols with LeoParDS*	**Soumyajit Paul** *Accelerating Markov Chain Model Checking: Good-for-Games Meets Unambiguous Automata*
14h24	**Quentin Aristote** *Learning automata weighted over number rings: concretely (and categorically)*	**Pranshu Gaba** *Optimising Expectation with Guarantees for Window Mean Payoff in Markov Decision Processes*
14h36	**Prince Mathew** *Learning Deterministic One-Counter Automata in Polynomial Time*	**James C. A. Main** *Taming Infinity one Chunk at a Time: Concisely Represented Strategies in One-Counter MDPs*
14h48	**Mona Alluwaym** *Efficient Learning of Weak Deterministic Büchi Automata*	**Sathiyanarayana Venkatesan Ramesh** *Sound and Complete Proof Rules for Almost-Sure Termination*
15h00	**Thomas Zeume** *Learning Formal Foundations of Computer Science with Iltis*	

— Break —

Tuesday 15h45–17h15, Panel discussion	
	Günter-Hotz-Hörsaal *chair Wojciech Czerwiński*
15h45	**Joël Ouaknine**, **Sophie Pinchinat**, **Szymon Toruńczyk**, and **Georg Zetzsche** *Future Research in Automata, Games and Logic*

Wednesday September 3

Wednesday 9h00–10h00, Keynote Speaker II

Günter-Hotz-Hörsaal

chair Benjamin Kaminski

9h00 **Yu-Fang Chen**

An automata-based framework for quantum program verification

— Break —

Wednesday 10h30–12h30, Contributed talks III

	Günter-Hotz-Hörsaal Transducers, strings and queries *chair León Bohn*	Hörsaal I Concurrent games, synthesis and equilibria *chair Guy Avni*
10h30	**Lê Thành Dũng Nguyễn** *The structure of polynomial growth for tree automata/transducers and MSO set queries*	**Sougata Bose** *Solving Concurrent Mean-payoff Games using Limited Memory*
10h42	**Thomas Colcombet** *String-to-string MSO-set-interpretations*	**Luc Lapointe** *Synthesizing coalition strategies in parameterized concurrent games*
10h54	**Charles Peyrat** *Macro Tree Transducers of Linear Height Size-To-Height Increase*	**Marta Grobelna** *Stopping Criteria for Value Iteration on Concurrent Stochastic Reachability and Safety Games*
11h06	**Saina Sunny** *Approximate Problems for Finite Transducers*	**Corto Mascle** *Distributed synthesis, well quasi-orders and memory for games*
11h18	**Gaëtan Regaud** *An algebraic theory of weighted languages over infinite words*	**Daniel Hausmann** *Manna-Pnueli Games for Reactive Synthesis*
11h30	**Michal Hečko** *Negated String Containment is Decidable*	**Florian Horn** *The Complexity of Correlated Equilibria in Extensive Form Games*
11h42	**David Chocholatý** *Z3-Noodler and Mata: An Automata-based Approach to String Solving*	**Léonard Brice** *Finding equilibria: simpler for pessimists, simplest for optimists*
11h54	**Isa Vialard** *A tropical approach to subword complexity for compressed words*	**Marius Belly** *The Superstable Matching Problem*
12h06	**Jennifer Todtenhoefer** *Recent results in work-sensitive dynamic complexity*	**Pavol Kebis** *Quantitative Language Automata*
12h18	**Sarah Kleest-Meißner** *Reaching New Limits: Discovery of Multi-Dimensional Disjunctive Subsequence-Queries with Intervals*	

— Lunch —

Wednesday 14h00–15h36, Contributed talks IV

	Günter-Hotz-Hörsaal Vector addition systems *chair A. R. Balasubramanian*	Hörsaal I Automata I *chair Nir Piterman*
14h00	**Henry Sinclair-Banks** *Which Semilinear Target Sets Make Reachability in 1-VASS Easy?*	**Ayrat Khalimov** *Translation from LTL to COCOA without Detours*
14h12	**Georg Zetzsche** *A complexity dichotomy for reaching semilinear sets in integer 1-VASS*	**David Lidell** *Translations from LTL with Past to Omega-Automata*
14h24	**Rida Ait El Manssour** *On Algebraic-Closure of 1-VASS Matrix Languages*	**K. S. Thejaswini** *Resolving Nondeterminism with Randomness*
14h36	**Łukasz Orlikowski** *Reachability in 3-VASS is Elementary*	**David Purser** *Resolving Nondeterminism by Chance*
14h48	**Łukasz Kamiński** *Reachability in symmetric VASS*	**Karolina Drabik** *Fined-Grained Complexity of Ambiguity Problems on Automata and Directed Graphs*
15h00	**Wojciech Czerwiński** *Reachability in One-Dimensional Pushdown Vector Addition Systems is Decidable*	**Neha Rino** *The fine-grained complexity of NFA Intersection Emptiness*
15h12	**Roland Guttenberg** *PVASS Reachability is Decidable*	**Jan J.M. Martens** *Minimal DFAs Witnessing Language Inequivalence*
15h24	**Sławomir Lasota** *Which extensions of vector addition systems have decidable reachability?*	**Omid Yaghoubi** *Regularity via Communication Complexity (video)*

Wenesday 15h36–17h00, Break + poster session

Lobby

Thursday September 4

Thursday 9h00–10h00, Keynote Speaker III

Günter-Hotz-Hörsaal

chair Sławomir Lasota

9h00 **Liat Peterfreund**

From Standardization to Theory and Back: A Formal Look at the GQL Standard

— Break —

Thursday 10h30–12h30, Contributed talks V

	Günter-Hotz-Hörsaal Logic and algebraic approaches *chair Michaël Cadilhac*	Hörsaal I Verification and graphs *chair Antonio Casares*
10h30	**Valentin Goranko** *Local Basic Strategy Logic*	**Lucie Guillou** *Wait-Only Broadcast Protocols are Easier to Verify*
10h42	**Sebastian Pfau** *Boolean Basis and Succinctness of Modal Logic via Hella-Vilander games*	**Mohammed Foughali** *A Theory of (Linear-Time) Timed Monitors*
10h54	**Chase Ford** *An expressive coalgebraic modal logic for cellular automata*	**Sayan Mukherjee** *Prompt Runtime Enforcement*
11h06	**Benjamin Lucien Kaminski** *The Algebra of Iterative Constructions*	**Eric Alsmann** *On the Expressiveness and the Complexity of Verification in State Space Models*
11h18	**Mahsa Naraghi** *On the Algebraic Closure of Context-Free Matrix Languages*	**Dhruv Nevatia** *Reachability Analysis of the Domain Name System*
11h30	**Henning Urbat** *Algebraic Language Theory with Effects*	**Rafał Stefański** *Polyregular Model Checking*
11h42	**Richard Mandel** *Using EDT0L systems to solve quadratic equations in Baumslag-Solitar groups*	**Paul Eichler** *01-Abstraction for Efficient Parameterized Model Checking*
11h54	**Lorenzo Clemente** *The commutativity problem for effective varieties of formal series, and applications*	**Hongjian Jiang** *HornStr: Invariant Synthesis for Regular Model Checking as Constrained Horn Clauses*
12h06	**Robert Green** *Non-commutative D-finite & D-algebraic power series and formal languages (video)*	**Giannos Stamoulis** *Some extensions of first-order logic on graphs*
12h18	**Wojciech Przybyszewski** *What's in a flip? (video)*	

— Lunch —

Thursday 14h00–15h24, Contributed talks VI

	Günter-Hotz-Hörsaal Dynamical systems and counting *chair Georg Zetzsche*	Hörsaal I Circuits and decision trees *chair Yu-Fang Chen*
14h00	**Piotr Bacik** *The Skolem Problem and the power of p-adics*	**Steef Hegeman** *Uniformity for Parameterized Circuit Complexity*
14h12	**Joël Ouaknine** *On large zeros of linear recurrence sequences*	**Dimitrios Thanos** *Parallel Equivalence Checking of Stabilizer Quantum Circuits on GPUs*
14h24	**Toghrul Karimov** *Ergodicity for linear dynamical systems via o-minimality*	**Jingyi Mei** *Quantum Circuit Compilation with sharp-SAT*
14h36	**Anton Varonka** *On Piecewise Affine Reachability with Bellman Operators*	**Sabine Rieder** *Trading Optimality for Explainability in MDPs via Decision Trees*
14h48	**Harshit Jitendra Motwani** *LP-Based Weighted Model Integration over Non-Linear Real Arithmetic*	**Debraj Chakraborty** *Symbiotic Local Search for Small Decision Tree Policies in MDPs*
15h00	**A. R. Balasubramanian** *General Decidability Results for Systems with Continuous Counters*	**Muqsit Azeem** *Explainable Representation of Finite-Memory Policies for POMDPs using Decision Trees*
15h12	**Chris Köcher** *NoPE: The Counting Power of Transformers with No Positional Encodings*	**Clemens Dubslaff** *Decision Diagrams for Explainability*

— Break —

Thursday 15h50–17h00, Business meeting

Günter-Hotz-Hörsaal

15h50 *Highlights Business Meeting*

Friday September 5

Friday 9h00–10h00, Keynote Speaker IV	
	Günter-Hotz-Hörsaal *chair Thomas Colcombet*
9h00	**Shaull Almagor** *Determinisation of Tropical Weighted Automata*

— Break —

Friday 10h30–12h06, Contributed talks VII	
	Günter-Hotz-Hörsaal Automata II *chair Shaull Almagor*
10h30	**Mathieu Lehaut** *Asynchronous automata over tree-like architectures*
10h42	**Mihir Vahanwala** *Automata on Self-Similar Words*
10h54	**León Bohn** *Saturation Problems for Families of Automata*
11h06	**Ondrej Lengal** *Elevator Emerson-Lei Automata*
11h18	**Elina Sudit** *Omega-Regular Robustness*
11h30	**Rüdiger Ehlers** *Rerailing Automata*
11h42	**Aditya Prakash** *The 2-Token Theorem: Recognising History-Deterministic Parity Automata Efficiently*
11h54	**Mathias Berry** *Determinism by pruning vs history determinism on Inf and Sup automata over infinite words*

— Lunch —