



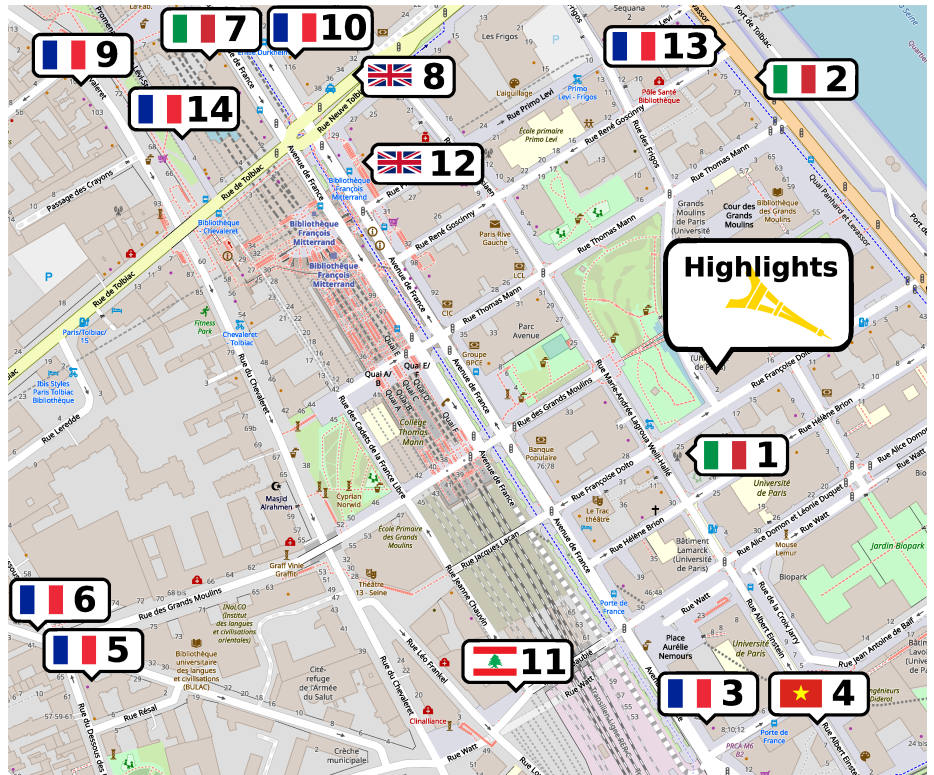
Highlights 2022

of Logic, Games and Automata

Paris, June 28–July 1st, 2022

Welcome to Highlights! This document contains practical information and the synopsis of the program. For the talk abstracts, please refer to the conference website: <https://highlights-conference.org/>.

The conference takes place at the **Halle aux Farines**, located at **2 Rue Marguerite Duras, Paris**. The picnic on Wednesday evening will take place at the **Parc de Bercy**, a 10-minute walk from the conference venue. The locations of the conference and picnic, as well as restaurant suggestions for lunches, are below:



- 1. FØ PIZZA.** 25 Rue Françoise Dolto. *Excellent pizza place, take away possible* —
 - 2. Loma.** 73 Quai Panhard et Levasor. *Pizza place* —
 - 3. Boulangerie Honorine.** 48 Avenue de France. *Sandwiches, salads and very nice desserts* —
 - 4. Street Bida.** 1 Rue Nicole-Reine Lepaute. *Vietnamese food, take away or sit in* —
 - 5. Le Caminito Cabaret.** 48-50 Rue du Dessous des Berges. *Great French food, family size restaurant* —
 - 6. Le Limousin.** 42 Rue Cantagrel. *Very good French food, family size restaurant* —
 - 7. IT - Italian Trattoria.** 125 Avenue de France. *Italian food chain, can be paired with an excellent ice cream at Amorino next door* —
 - 8. The Frog & British Library.** 114 Avenue de France. *As close as it can get to a British pub close to the Highlights venue* —
 - 9. Le Débonnaire.** 107 Rue du Chevaleret. *Cafe-style French food, vegan options* —
 - 10. Exki.** 116 Avenue de France. *Organic food with many vegetarian/vegan options and allergens clearly indicated* —
 - 11. Libshop.** 12 Rue Julie Daubié. *Very nice Lebanese food* —
 - 12. Pret a Manger.** 110 Avenue de France. *The well known chain: sandwiches, soups and salads, vegan and vegetarian options, allergens clearly displayed* —
 - 13. Éric Kayser.** 77 Quai Panhard et Levasor. *Boulangerie with sandwich and salads, vegetarian options* —
 - 14. Big Fernand.** 8 Promenade Claude Lévi-Strauss. *French-style hamburger chain* —
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Wifi. The **eduroam** network is available. If you need guest Wifi access, please ask a volunteer.

Contact. The local organizers are **Antoine Amarilli** <a3nm@a3nm.net> and **Daniela Petrisan** <petrisan@irif.fr>.

Code of Conduct. Highlights is committed to be a respectful forum for its participants, free from any discrimination or harassment of any nature, particularly when abuse of power is involved. All Highlights attendees are expected to behave accordingly. If you experience or witness a code of conduct violation, please call: +33 7 68 61 23 89.

Conference Program

Note: In addition to the on-site program below, there are some online talks that you can see on the conference website.

Tuesday 12h30–13h00, **Registration:** Hall Marguerite Duras

Tuesday 13h00–15h45, Tutorial I: Amphitheatre 2A

13h00 Dana Fisman: *Tutorial on Automata Learning*

Tuesday 15h45–16h15, **Coffee Break:** Hall Marguerite Duras

Tuesday 16h15–19h00, Tutorial II: Amphitheatre 2A

16h15 S. Akshay: *Boolean Functional Synthesis: A View from Theory and Practice*

Wednesday 8h45–9h15, **Registration:** Hall Marguerite Duras

Wednesday 9h15–10h15, Keynote I: Amphitheatre 2A

9h15 Tatiana Starikovskaya: *Regular Expression Search in a Stream*

Wednesday 10h15–10h55, **Coffee Break and Posters:** Hall Marguerite Duras

Wednesday 10h55–12h25, Contributed Talks I

	Amphitheatre 2A Databases, Streaming, Transducers	Amphitheatre 6C Verification
10h55	Ismaël Jecker <i>A Rational and Complete Notion of Delay for Streaming String Transducers</i>	Pascal Bergsträßer <i>Ramsey Quantifiers over Automatic Structures: Complexity and Applications to Verification</i>
11h05	Gaëtan Staquet <i>Active Learning of Automata for JSON-Streaming Validation</i>	Clément Tamines <i>Pareto-Rational Verification</i>
11h15	Mikołaj Bojańczyk <i>Folding Transducers</i>	Nicolas Waldburger <i>Parameterized Verification of Round-Based Shared-Memory Systems</i>
11h25	Adrien Boiret <i>Symbolic Register Tree Transducers with Symbolic Register Lookahead</i>	Chana Weil-Kennedy <i>Parameterized Analysis of Reconfigurable Broadcast Networks</i>
11h35	Victor Marsault <i>Simple-Run Semantics for RPQs</i>	A. R. Balasubramanian <i>Complexity of Coverability in Bounded Path Broadcast Networks</i>
11h45	Anthony Widjaja Lin <i>Data Path Queries over Embedded Graph Databases</i>	Corto Mascle <i>Avoiding Deadlocks in Lock-Sharing Systems</i>
11h55	Albert Gutowski <i>Finite Entailment of UCRPQs over ALC Ontologies</i>	Muhammad Usama Sardar <i>Understanding Trust Assumptions for Remote Attestation via Formal Verification</i>
12h05	Sarah Kleest-Meißner <i>Discovering Event Queries from Traces: Laying Foundations for Subsequence-Queries with Wildcards and Gap-Size Constraints</i>	Benjamin Lucien Kaminski <i>Quantitative Strongest Post</i>
12h15	Joachim Niehren <i>Schema-Based Automata Determinization</i>	Wojtek Jamroga <i>A Survey of Requirements for COVID-19 Mitigation Strategies</i>

Wednesday 12h25–14h30, **Lunch** (on your own)

Wednesday 14h30–15h30, Discussion Session on the Climate Crisis and the Future of Highlights: Amphitheatre 2A

Wednesday 15h30–16h10, **Coffee Break and Posters:** Hall Marguerite Duras

Wednesday 16h10–17h40, Contributed Talks II

	Amphitheatre 2A Skolem Problem	Amphitheatre 6C Games I
16h10	Joris Nieuwveld <i>Progress on the Skolem Problem</i>	Antonio Casares <i>On the Size of Good-for-games Rabin Automata and its Link with the Memory in Muller Games</i>
16h20	George Kenison <i>On the Skolem Problem for Reversible Sequences</i>	Pierre Ohlmann <i>Well-Ordered Monotonic Universal Graphs for Half Positionality</i>
16h30	Arka Ghosh <i>Orbit-Finite Systems of Linear Equations</i>	Pierre Vandenhove <i>Half-Positional Deterministic Büchi Automata</i>
16h40	James Worrell <i>The Pseudo-Reachability Problem for Linear Dynamical Systems</i>	Alexandre Terefenko <i>Multi-Player Attack Trees</i>
16h50	Isa Vialard <i>On the Cartesian Product of Well-Orderings</i>	Marie Van Den Bogaard <i>On the Complexity of SPEs in Parity Games</i>
17h00	Edon Kelmendi <i>Computing the Density of the Positivity Set for Linear Recurrence Sequences</i>	Jędrzej Kołodziejski <i>Countdown Mu-Calculus, Automata and Games</i>
17h10	Klara Nosan <i>The Membership Problem for Hypergeometric Sequences with Rational Parameters</i>	Guy Avni <i>Computing Threshold Budgets in Discrete-Bidding Games</i>
17h20	Nikhil Balaji <i>Identity Testing for Radical Expressions</i>	Dylan Bellier <i>Dependency Matrices: Multi-player Delay Games</i>
17h30	Moritz Lichter <i>Choiceless Polynomial Time with Witnessed Symmetric Choice</i>	Léonard Brice <i>The Complexity of SPEs in Mean-Payoff Games</i>

Wednesday 18h00 onwards, **Picnic at Parc de Bercy** (snacks provided, we welcome extra food and drinks to share)

Thursday 9h15–10h15, Keynote II: Amphitheatre 2A9h15 Markus Lohrey: *Straight-Line Programs: From Compression to Algorithmics*Thursday 10h15–10h55, **Coffee Break and Posters:** Hall Marguerite Duras**Thursday 10h55–12h05, Contributed Talks III**

	Amphitheatre 2A Pushdown Automata, Grammars, and Variants	Amphitheatre 6C Synthesis
10h55	Dorota Celińska-Kopczyńska <i>Generating Tree Structures for Hyperbolic Tessellations</i>	Shaun Azzopardi <i>How to Synthesize when your Environment is a Program</i>
11h05	Kyveli Doveri <i>Antichains Algorithms for the Inclusion Problem Between ω-VPL</i>	Priyanka Golia <i>Program Synthesis as Dependency Quantified Formula Modulo Theory</i>
11h15	K. S. Thejaswini <i>Adaptive Synchronisation of Pushdown Automata</i>	Sasha Rubin <i>Stochastic Best-Effort Synthesis</i>
11h25	Guillaume Maurras <i>A Robust Class of Languages of 2-Nested Words</i>	Sophie Pinchinat <i>Formula Synthesis in Propositional Dynamic Logic with Shuffle</i>
11h35	Chris Köcher <i>Verifying Multi-Pushdown Automata</i>	Mathieu Lehaut <i>Distributed Synthesis of First Order Specifications for Agents with Partial Information</i>
11h45	Stefan Hoffmann <i>Directable and Synchronizable Parikh Automata</i>	Hugo Gimbert <i>Distributed Asynchronous Games With Causal Memory are Undecidable</i>
11h55	Asaf Yeshurun <i>Determinization of One-Counter Nets</i>	Michaël Cadilhac <i>Implementing Automata Algorithms: Low-Level Parallelism in Modern CPUs</i>

Thursday 12h05–14h30, **Lunch** (on your own) with **Highlights Mentoring Scheme****Thursday 14h30–15h30, Keynote III: Amphitheatre 2A**14h30 Marta Kwiatkowska: *Probabilistic Model Checking for Strategic Equilibria-Based Decision Making: Advances and Challenges*Thursday 15h30–16h10, **Coffee Break and Posters:** Hall Marguerite Duras**Thursday 16h10–17h10, Contributed Talks IV**

	Amphitheatre 2A Games II	Amphitheatre 6C Vector Addition Systems
16h10	Benjamin Bordais <i>From Local to Global Determinacy in Concurrent Graph Games</i>	Georg Zetsche <i>The Complexity of Bidirected Reachability in Valence Systems</i>
16h20	Alexandros Evangelidis <i>On the Performance Evaluation of Algorithms for Stochastic Games</i>	Moses Ganardi <i>Reachability in Bidirected Pushdown VASS</i>
16h30	Muqsit Azeem <i>Optimistic and Topological Value Iteration for Simple Stochastic Games</i>	Piotr Hofman <i>Language Inclusion for Boundedly-Ambiguous Vector Addition Systems is Decidable</i>
16h40	Nathan Thomasset <i>Finite-Memory Strategies for Games in Two-Player Games</i>	Pascal Baumann <i>Regular Separability in Büchi Vector Addition Systems</i>
16h50	Federica Adobbati <i>A Two-Player Asynchronous Game on Petri Nets with Partial Observability</i>	Henry Sinclair-Banks <i>Coverability in 2-VASS with One Unary Counter</i>
17h00	James C. A. Main <i>Different Strokes in Randomised Strategies: Revisiting Kuhn's Theorem Under Finite-Memory Assumptions</i>	David Purser <i>The Boundedness and Zero Isolation Problems for Weighted Automata over Nonnegative Rationals</i>

Friday 9h15–10h15, Keynote IV: Amphitheatre 2A9h15 Dexter Kozen: *25 Years of KAT*Friday 10h15–10h55, **Coffee Break and Posters:** Hall Marguerite Duras**Friday 10h55–12h35, Contributed Talks V**

	Amphitheatre 2A Automata, Algebra, Logic	Amphitheatre 6C Temporal Logics
10h55	Arthur Jaquard <i>A Complexity Approach to Tree Algebras: the Exponential Case</i>	Laura Nenzi <i>Learning Model Checking and the Kernel Trick for Signal Temporal Logic on Stochastic Processes</i>
11h05	Bharat Adsul <i>Block Product Decompositions over Countable Words for First Order Logic and its Infinitary Quantifier Extensions</i>	Giuseppe Perelli <i>Timed Trace Alignment with Metric Temporal Logic over Finite Traces</i>
11h15	Uli Fahrenberg <i>Languages of Higher-Dimensional Automata</i>	Ennio Visconti <i>Online Monitoring of Spatio-Temporal Properties for Imprecise Signals</i>
11h25	Chase Ford <i>Graded Monads and Behavioural Equivalence Games</i>	Jonni Virtema <i>Temporal Team Semantics Revisited</i>
11h35	Corentin Barloy <i>The Regular Languages of First-Order Logic with One Alternation</i>	Ritam Raha <i>Scalable Anytime Algorithms for Learning Formulas in Linear Temporal Logic</i>
11h45	Rémi Morvan <i>First-order Separation over Countable Scattered Linear Orders</i>	Léo Tible <i>Fairness and Promptness for Muller Formulas</i>
11h55	Leon Bohn <i>Passive Learning of Deterministic Büchi Automata by Combinations of DFAs</i>	Anissa Kheireddine <i>Model Checking in Calm Waters with BSaLTic</i>
12h05	Thomas Colcombet <i>Uniformization of MSO over Countable Ordinals</i>	Jan Kretinsky <i>LTL-Constrained Steady-State Policy Synthesis</i>
12h15	Christopher Hugenroth <i>Extension Acceptance and Regular ω-Languages</i>	Sebastian Brand <i>A Decision Diagram Operation for Reachability</i>
12h25	Michał Skrzypczak <i>Computing Measure of Regular Languages of Infinite Trees</i>	Kush Grover <i>Planning Via Model Checking with Decision-Tree Controllers</i>

Friday 12h35–14h30, **Lunch** (on your own)**Friday 14h30–15h20, Contributed Talks VI**

	Amphitheatre 2A Markov Decision Processes	Amphitheatre 6C Graphs
14h30	Shibashis Guha <i>PAC Statistical Model Checking of Mean Payoff in Discrete- and Continuous-Time MDP</i>	Jakub Gajarský <i>Model Checking on Interpretations of Classes of Bounded Local Cliquewidth</i>
14h40	Jakob Piribauer <i>Tradeoffs Between Expectation and Variance in Weighted Markov Decision Processes</i>	Sandra Kiefer <i>Treelike Decompositions for Transductions of Sparse Graphs</i>
14h50	Théo Matricon <i>Markov Decision Processes meet Abstraction Refinement</i>	Szymon Toruńczyk <i>Ordered Graphs of Bounded Twin-Width</i>
15h00	Tansholpan Zhanabekova <i>Deciding What is Good-for-MDPs</i>	Lars Jaffke <i>A Logic-Based Algorithmic Meta-Theorem for Mim-Width</i>
15h10		Mikaël Monet <i>(Weighted) Counting of Matchings in Graph Families of Unbounded Treewidth</i>

Friday 15h20–15h50, **Coffee Break and Posters:** Hall Marguerite Duras**Friday 15h50–17h50, Experimental Session on Research Tools and Practices: Amphitheatre 2A**

Highlights Program Committee: C. Aiswarya, Udi Boker, Véronique Bruyère, Dmitry Chistikov, Claire David, Dietrich Kuske, Karoliina Lehtinen, Sebastian Maneth, Kai Salomaa, Alexandra Silva, Michał Skrzypczak, Sophie Tison (chair), Szymon Toruńczyk, Thomas Zeume.

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