

41st Annual Symposium on Logic in Computer Science

LICS 2026, July 20–23, 2026, Lisbon, Portugal

Edited by

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■ Contents

Preface	
<i>Claudia Faggian and Joost-Pieter Katoen</i>	0:xi–0:xiv
Conference Organization	
.....	0:xv–0:xxi
List of Authors	
.....	0:xxiii–0:xxix

Invited Papers

A Rational Defense of Reasonable Reflection	
<i>Nada Amin</i>	1:1–1:5
Formal Verification of Security Protocols: 25 Years of ProVerif	
<i>Stéphanie Delaune</i>	2:1–2:9

Regular Papers

Complete ω -Regular Supermartingale Certificates	
<i>Alessandro Abate, Mirco Giacobbe, Sergey Ichtchenko, and Diptarko Roy</i>	3:1–3:28
A Convenient Fibration for Dependently-Typed Probability Theory	
<i>Danel Ahman, Ohad Kammar, and Rasmus Ejlers Møgelberg</i>	4:1–4:27
A Complexity Bound for Determinisation of Min-Plus Weighted Automata	
<i>Shaull Almagor, Guy Arbel, and Sarai Sheinvald</i>	5:1–5:22
Induction and Recursion Principles in a Higher-Order Quantitative Logic for Probability	
<i>Giorgio Bacci and Rasmus Ejlers Møgelberg</i>	6:1–6:27
On Variable-Bounded Non-Linear Expansions of Presburger Arithmetic	
<i>Piotr Bacik, Joris Nieuwveld, Joël Ouaknine, Mihir Vahanwala, Madhavan Venkatesh, and Emil Rugaard Wieser</i>	7:1–7:23
On the Subspace Orbit Problem and the Simultaneous Skolem Problem	
<i>Piotr Bacik and Anton Varonka</i>	8:1–8:27
A Machine-Independent, Log-Sensitive Space-Cost Measure for the Weak Lambda-Calculus	
<i>Thibaut Balabonski</i>	9:1–9:26
Hypersequent Calculi Have Ackermann Complexity	
<i>A. R. Balasubramanian, Vitor Gatti, and Revantha Ramanayake</i>	10:1–10:26
The Complexity of Nested Reset Counter Systems	
<i>A. R. Balasubramanian and Franzisko Schmidt</i>	11:1–11:28
Unbounded Data Nesting for Loops in Higher-Order Programs	
<i>Adriana Baldacchino and Andrzej S. Murawski</i>	12:1–12:25

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Towards Infinite PCSP: A Dichotomy for Monochromatic Cliques <i>Demian Banakh, Alexey Barsukov, and Tamio-Vesa Nakajima</i>	13:1–13:28
Quantum Control and General Recursion Beyond the Unitary Case <i>Kathleen Barsse, Romain Péchoux, and Simon Perdrix</i>	14:1–14:26
Complete Relational Logic for Infinite-Dimensional Quantum Programs with Unbounded Assertions <i>Gilles Barthe, Minbo Gao, Jam Kabeer Ali Khan, Matthijs Muis, Ivan Renison, Keiya Sakabe, Michael Walter, Yingte Xu, Tianshi Yu, and Li Zhou</i>	15:1–15:28
A Computer Formalisation of the Serre Finiteness Theorem <i>Reid Barton, Axel Ljungström, Owen Milner, and Anders Mörtberg</i>	16:1–16:25
The Algebra of Iterative Constructions <i>Kevin Batz, Benjamin Lucien Kaminski, Lucas Kehrer, Gerwin Klein, Todd Schmid, and Henning Urbat</i>	17:1–17:27
Minimization of Streaming Transducers <i>Christian Bianchini and Gabriele Puppis</i>	18:1–18:28
Reachability in VASS Extended with Integer Counters <i>Clotilde Bizière, Wojciech Czerwiński, Roland Guttenberg, Jérôme Leroux, Vincent Michielini, Łukasz Orlikowski, Antoni Puch, and Henry Sinclair-Banks</i>	19:1–19:26
On the Computational Power of Extensional ESO <i>Manuel Bodirsky and Santiago Guzmán-Pro</i>	20:1–20:26
Automata for MSO over Infinite Trees with Quantification over Borel Sets of Branches <i>Mikołaj Bojańczyk, Antonio Casares, Sven Manthe, and Paweł Parys</i>	21:1–21:24
Low Rank MSO <i>Mikołaj Bojańczyk, Michał Pilipczuk, Wojciech Przybyszewski, Marek Sokolowski, and Giannos Stamoulis</i>	22:1–22:21
Dicey Games: Shared Sources of Randomness in Distributed Systems <i>Léonard Brice, Thomas A. Henzinger, and K. S. Thejaswini</i>	23:1–23:26
Layered Automata: A Canonical Model for Automata over Infinite Words <i>Antonio Casares, Christof Löding, and Igor Walukiewicz</i>	24:1–24:26
Lazy Intermediate Representations for Algebraic Effects <i>Simon Castellan and Hugo Paquet</i>	25:1–25:27
The Size of Interpolants in Modal Logics <i>Balder ten Cate, Louwe B. Kuijer, and Frank Wolter</i>	26:1–26:26
Eliminating Reversals from Cubical Type Theories <i>Evan Cavallo and Christian Sattler</i>	27:1–27:27
A Complete Equational Theory for Real-Clifford+CH Quantum Circuits <i>Alexandre Clément</i>	28:1–28:26
Commutative Algebras of Series <i>Lorenzo Clemente</i>	29:1–29:23

The Uniformisation of Monadic Second-Order Logic over Countable Ordinals <i>Thomas Colcombet and Alexander Rabinovich</i>	30:1–30:24
Constructive Higher Sheaf Models with Applications to Synthetic Mathematics <i>Thierry Coquand, Jonas Höfer, and Christian Sattler</i>	31:1–31:26
A Categorical Account of the Metropolis–Hastings Algorithm <i>Rob Cornish and Andi Q. Wang</i>	32:1–32:26
Interpreting De Finetti’s Theorem in the Category of Integrable Cones <i>Raphaëlle Crubillé</i>	33:1–33:25
On Higher-Order Probabilistic Verification via the Weighted Relational Model of Linear Logic <i>Ugo Dal Lago, Guido Fiorillo, and Paolo Pistone</i>	34:1–34:27
Star Complexity of Parikh Images of Languages over Infinite Alphabets <i>Yoav Danieli</i>	35:1–35:26
Dynamic Planar Graph Isomorphism Is in DynFO <i>Samir Datta, Asif Khan, Felix Tschirbs, Nils Vortmeier, and Thomas Zeume</i>	36:1–36:25
Complexity of Satisfiability in Kochen-Specker Partial Boolean Algebras <i>Anuj Dawar and Nihil Shah</i>	37:1–37:25
Well-Quasi-Ordered Classes of Bounded Clique-Width <i>Maël Dumas and Aliaume Lopez</i>	38:1–38:24
A Naturally-Colored Translation from LTL to Parity and COCOA <i>Rüdiger Ehlers and Ayrat Khalimov</i>	39:1–39:24
Decidability Results for Fragments of First-Order Logic via a Symbolic Model Property <i>Neta Elad and Sharon Shoham</i>	40:1–40:27
Definitional Proof Irrelevance Made Accessible <i>Thiago Felicissimo, Yann Leray, Loïc Pujet, Nicolas Tabareau, Éric Tanter, and Théo Winterhalter</i>	41:1–41:26
Decidability of Interpretability <i>Roman Feller and Michael Pinsker</i>	42:1–42:26
Guarded Negation Transitive Closure Logic <i>Diego Figueira, Santiago Figueira, and Yoshiki Nakamura</i>	43:1–43:29
The Guarded Fragment with Nested Equivalences <i>Oskar Fiuk</i>	44:1–44:26
Monads and Distributive Laws in Substructural Contexts <i>Soichiro Fujii, Yun Chen Tsai, Yoav Montacute, and Ichiro Hasuo</i>	45:1–45:28
The Logic of Bunched Implications Is Undecidable <i>Nikolaos Galatos, Peter Jipsen, Søren Brinck Knudstorp, and Revantha Ramanayake</i>	46:1–46:23
Constructing Small Monadic Decompositions in Presburger Arithmetic <i>Moses Ganardi and Marin Ricos</i>	47:1–47:22

Graphical Algebraic Geometry: From Ideals and Varieties to Quantum Calculi <i>Dichuan Gao, Razin A. Shaikh, and Aleks Kissinger</i>	48:1–48:28
Meta-Mathematics of Algebraic Complexity <i>Michal Garlík, Svyatolav Gryaznov, Jiaqi Lu, Rahul Santhanam, and Iddo Tzameret</i>	49:1–49:25
An Algebraic Approach to Formal System Metatheory <i>Francesco Gavazzo</i>	50:1–50:31
LFPL: Revisited and Mechanized <i>Nathaniel Glover and Jan Hoffmann</i>	51:1–51:26
The ∞ -Category of ∞ -Categories in Simplicial Type Theory <i>Daniel Gratzer, Jonathan Weinberger, and Ulrik Buchholtz</i>	52:1–52:26
PVASS Reachability Is Decidable <i>Roland Guttenberg, Eren Keskin, and Roland Meyer</i>	53:1–53:25
A Categorical Perspective on Constraint Satisfaction: The Wonderland of Adjunctions <i>Maximilian Hadek, Tomáš Jakl, and Jakub Opršal</i>	54:1–54:27
Classifying 2-Groups in Homotopy Type Theory <i>Perry Hart and Owen Milner</i>	55:1–55:25
One Rig to Control Them All <i>Chris Heunen, Robin Kaarsgaard, and Louis Lemonnier</i>	56:1–56:24
Causality in Pure Quantum Computation with Quantum Control <i>Kengo Hirata and Takeshi Tsukada</i>	57:1–57:28
Fat Cell Structures and Generalized Algebraic Theories <i>Xu Huang and Carlo Angiuli</i>	58:1–58:27
Generalized Decidability via Brouwer Trees <i>Tom de Jong, Nicolai Kraus, Aref Mohammadzadeh, and Fredrik Nordvall Forsberg</i>	59:1–59:27
Computation and Size of Interpolants for Hybrid Modal Logics <i>Jean Christoph Jung, Jędrzej Kołodziejski, and Frank Wolter</i>	60:1–60:27
Complexity Classes Arising from Circuits over Finite Algebraic Structures <i>Piotr Kawałek and Jacek Krzaczkowski</i>	61:1–61:26
The Logic of Intersection Subtyping <i>Olivier Laurent</i>	62:1–62:26
Oracles Just for Fan: A Robust Computational Interpretation of the Fan Theorem <i>Titouan Leclercq and Étienne Miquey</i>	63:1–63:27
Checking History Determinism for Parity Automata Is in NP <i>Karoliina Lehtinen, Keya Prakash, and Michał Skrzypczak</i>	64:1–64:24
A Unified Treatment of the Substitution Tensor for Presheaves, Nominal Sets, Renaming Sets, and so on <i>Fabian Lenke, Stefan Milius, and Henning Urbat</i>	65:1–65:27
Cellular Methods in Homotopy Type Theory <i>Axel Ljungström and Loïc Pujet</i>	66:1–66:25

Existential Positive Transductions of Sparse Graphs <i>Nikolas Mählmann and Sebastian Siebertz</i>	67:1–67:25
Mixing Any Cocktail with Limited Ingredients: On the Structure of Payoff Sets in Multi-Objective POMDPs and Its Impact on Randomised Strategies <i>James C. A. Main and Mickael Randour</i>	68:1–68:27
The Complexity of Downward Closures of Indexed Languages <i>Richard Mandel, Corto Mascle, and Georg Zetsche</i>	69:1–69:28
Differential Tree Automata <i>Rida Ait El Manssour, Vincent Cheval, Mahsa Shirmohammadi, and James Worrell</i>	70:1–70:22
Verifying Exact Samplers for Continuous Distributions with a Discrete Program Logic <i>Markus de Medeiros, Puming Liu, Kwing Hei Li, Alejandro Aguirre, Lars Birkedal, and Joseph Tassarotti</i>	71:1–71:28
Local Combinatorial Analogues for Bounded VC Dimension <i>Olga Medrano Martín del Campo</i>	72:1–72:22
A Cartesian Closed Fibration of Higher-Order Regular Languages <i>Paul-André Melliès and Vincent Moreau</i>	73:1–73:25
From Co-Coverages to Radicals in Complete Lattices <i>Daniel Misselbeck-Wessel</i>	74:1–74:29
Distinguishing Graphs by Counting Homomorphisms from Sparse Graphs <i>Daniel Neuen and Tim Seppelt</i>	75:1–75:29
Fixed-Parameter Tractable Inference for Discrete Probabilistic Programs, via String Diagram Algebraisation <i>Benedikt Peterseim and Milan Lopuhaä-Zwakenberg</i>	76:1–76:26
Problems with Fixpoints of Polynomials of Polynomials <i>Cécilia Pradic and Ian Price</i>	77:1–77:27
Randomness Extraction Fails for Finite-State Dimension <i>Subin Pulari and Akhil S</i>	78:1–78:26
Wiring the π -Calculus to Denotational Semantics <i>Ken Sakayori, Davide Sangiorgi, Simon Castellan, and Pierre Clairambault</i>	79:1–79:28
Model Checking for Low Monodimensionality Fragments of CMSO on Topological-Minor-Free Graph Classes <i>Ignasi Sau, Nicole Schirrmacher, Sebastian Siebertz, Giannos Stamoulis, Dimitrios M. Thilikos, and Alexandre Vigny</i>	80:1–80:27
Axiomatizability of Alexandrov Dynamic Topological Logic <i>Niels C. Vooijs and David Fernández-Duque</i>	81:1–81:26
The Finite Length Property of the Rado Graph and Friends <i>Jingjie Yang, Mikołaj Bojańczyk, and Bartek Klin</i>	82:1–82:27
Contextual MetaML: Syntax and Full Abstraction <i>Haoxuan Yin, Andrzej S. Murawski, and C.-H. Luke Ong</i>	83:1–83:27
Forgetting Event Order in Higher-Dimensional Automata <i>Safa Zouari</i>	84:1–84:26

Preface

Welcome to LICS 2026, the 41st Annual Symposium on Logic in Computer Science, held in Lisbon, Portugal, July 20-23, as part of the 9th Federated Logic Conference (FLoC 2026). LICS is the premier annual international forum on theoretical and practical topics in computer science that relate to logic, broadly construed. We are delighted to welcome you to what promises to be an excellent and exciting edition of the symposium.

Lisbon is a fitting host for FLoC 2026. Few cities in the world combine such a rich intellectual tradition, a warm and welcoming atmosphere, and a vibrant modern research community in computer science and mathematics. We are grateful to the local organisers, led by Bernardo Toninho (NOVA University of Lisbon), for making this event possible.

Submissions and Selection

LICS 2026 received 293 paper submissions – a record number in the history of the symposium, and a clear testament to the vitality of logic in computer science. Seven papers were desk rejected on scope or format grounds. Each of the remaining submissions was carefully reviewed by at least three members of the programme committee or by external reviewers, and authors were given the opportunity to respond to the reviews through a rebuttal process. After an intensive and thorough deliberation, 82 papers were selected for presentation, covering a broad spectrum of topics at the heart of the LICS community.

The programme committee consisted of 54 members from institutions across the world, supported by four associate chairs who played a crucial role in coordinating the review process:

- Thorsten Altenkirch (University of Nottingham)
- Anuj Dawar (University of Cambridge)
- Fabio Gadducci (University of Pisa)
- Orna Kupferman (Hebrew University of Jerusalem)

We are deeply grateful to all PC members and reviewers for the enormous effort they invested in ensuring a fair and rigorous selection process.

Open Access

LICS 2026 marks an important milestone: for the first time in the history of the symposium, the proceedings are published gold open access through LIPIcs (Leibniz International Proceedings in Informatics). This means that all papers are freely and permanently available to anyone, anywhere, without a paywall. We believe this is a significant step forward for the accessibility and openness of our research community, and we hope it sets a positive precedent for future editions.

Invited Speakers

LICS 2026 features two outstanding keynote speakers whose work spans some of the most exciting frontiers at the interface of logic, programming languages, and computer security.

Nada Amin (Harvard University, USA) is an associate professor of computer science at Harvard SEAS. Her research explores new and principled ways of making programming easier, faster, and safer. She is known for her work on type theory, meta-programming, multi-stage programming, and the foundations of programming languages – including her role in the development of the Scala programming language at EPFL. More recently, she has

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been combining programming languages and artificial intelligence to build neuro-symbolic systems that are correct by construction, with applications to program and proof synthesis. Her keynote bridges several of the themes that LICS holds dear: types, semantics, and the logical underpinnings of computation.

Stéphanie Delaune (CNRS, IRISA, Rennes, FR) is a CNRS Research Director at IRISA, one of France’s leading research institutes in computer science and information systems. Her work lies at the intersection of formal methods, logic, and computer security, with a particular focus on the automated verification of cryptographic protocols. She has developed foundational theory and tools for proving security properties – such as secrecy, authentication, anonymity, and privacy – for protocols ranging from electronic passports to contact-less payment systems and electronic voting. Her keynote reflects the growing importance of formal, logic-based methods in guaranteeing the security of our digital infrastructure.

We are honoured to have Nada and Stephanie as invited speakers, and we look forward to their presentations.

LICS Test-of-Time Award

The LICS Test-of-Time Award recognises a small number of papers from the LICS proceedings of twenty years prior that have best stood the test of time – in terms of their lasting scientific impact and the research they have inspired. This year, the award honours two papers from LICS 2006.

The first award goes to: Chih-Hao Luke Ong (Nanyang Technological University, Singapore), for the paper entitled “*On Model-Checking Trees Generated by Higher-Order Recursion Schemes*”.

This paper established the decidability and precise complexity of modal mu-calculus model checking for trees generated by higher-order recursion schemes, and showed that the monadic second-order theory of such trees is decidable. In doing so, it resolved a long-standing open problem at the intersection of logic, automata theory, and programming language semantics, and laid the foundations of higher-order model checking. Over the past two decades the paper has had a profound influence, inspiring a rich body of research connecting recursion schemes, automata, game semantics, and complexity theory, with important applications to the verification of higher-order functional programs.

The second award goes to: Nir Piterman (Chalmers University of Technology, Sweden) for his paper entitled “*From Nondeterministic Buchi and Streett Automata to Deterministic Parity Automata*”.

This paper introduced a determinisation construction for automata on infinite words that significantly improved on Safra’s classical construction from the late 1980s. The approach is simpler and more efficient, while directly yielding deterministic parity automata. Over the past two decades it has become a cornerstone of modern automata theory, playing a central role in the development of algorithms and tools for temporal logic model checking, infinite games, and the synthesis and verification of reactive systems.

We warmly congratulate Luke and Nir on these well-deserved awards.

Kleene Award

Each year, an award in honour of the late S.C. Kleene is given for the best student paper accepted at the LICS conference. The Kleene Award 2026 goes to: Yoav Danieli, single author of the paper entitled “*Star Complexity of Parikh Images of Languages over Infinite Alphabets*”.

This paper studies the expressivity of Parikh images of languages over infinite alphabets, generated by register machines. Specifically, it considers three means of expressing such sets: register grammars, register automata and regular expressions with orbit-finite union.

Many congratulations to Yoav for this achievement.

Distinguished Papers

The following papers have been selected as Distinguished Papers of LICS 2026, recognising outstanding contributions that the programme committee judged to be particularly significant. We congratulate the authors of these papers:

- “*A Complexity Bound for Determinisation of Min-Plus Weighted Automata*”, by Shaull Almagor, Guy Arbel, and Sarai Sheinvald,
- “*PVASS Reachability is Decidable*”, by Roland Guttenberg, Eren Keskin, and Roland Meyer,
- “*Existential Positive Transductions of Sparse Graphs*” by Nikolas Mählmann and Sebastian Siebertz,
- “*The Logic of Bunched Implications is Undecidable*” by Søren Brinck Knudstorp, Nick Galatos, Revantha Ramanayake, and Peter Jipsen,
- “*Quantum Control and General Recursion beyond the Unitary Case*” by Kathleen Barsse, Romain Péchoux, and Simon Perdrix
- “*Wiring the Pi-calculus to Denotational Semantics*” by Ken Sakayori, Davide Sangiorgi, Simon Castellan, and Pierre Clairambault,
- “*The Infinity Category of Infinity Categories in Simplicial Type Theory*” by Daniel Gratzer, Jonathan Weinberger, and Ulrik Buchholtz.
- “*Dynamic Planar Graph Isomorphism is in DynFO*” by Samir Datta, Asif Khan, Felix Tschirbs, Nils Vortmeier, and Thomas Zeume.

Organisation

LICS 2026 would not have been possible without the dedication of many people beyond the programme committee. We would like to express our sincere gratitude to:

- Igor Walukiewicz (University of Bordeaux), Steering Committee Chair, for his guidance and steady support throughout the organisation of the symposium.
- Sam Staton (University of Oxford), Publicity and Proceedings Chair, for his excellent work in making LICS 2026 visible and accessible to the community.
- Valentin Blot (Inria and Nantes Université, France), Workshop Chair, for coordinating the rich programme of affiliated workshops that are part of FLoC 2026.
- Nuno Lopes and Bernardo Toninho (Técnico Lisboa and INESC ID), General Chair and Local Organiser, for the tremendous effort involved in hosting LICS and FLoC in Lisbon.
- Lena Verscht (RWTH Aachen University / Saarland University), for her indispensable help with HotCRP and the compilation of these proceedings, and
- Michael Wagner (Schloss Dagstuhl), for his expert support with the LIPIcs publication process.

Closing Words

Organising LICS is a privilege and a responsibility we have taken seriously. We are proud of the programme we have been able to put together, and we hope that it reflects both the breadth and the depth of the LICS community – from the most foundational questions in logic to the most applied challenges in verification, security, and the theory of programming languages.

We wish everyone a stimulating, inspiring, and enjoyable symposium. And we very much look forward to seeing you all in Lisbon!

- Claudia Faggian, CNRS, Université Paris Cité
- Joost-Pieter Katoen, RWTH Aachen University and University of Twente

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