

Program of the
Twenty-Seventh Annual
ACM/IEEE Symposium on
LOGIC IN COMPUTER SCIENCE
(LICS 2012)

24–28 June 2012

Dubrovnik, Croatia

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We gratefully acknowledge the support of Microsoft Research (Cambridge).

Sunday

9:00-10:30 Amphitheater	<i>Tutorial: Jan Willem Klop with Jörg Endrullis. <i>Term Rewriting and Lambda Calculus</i></i>
10:30-11:00	Coffee
11:00-12:30 Amphitheater	<i>Tutorial: Jan Willem Klop with Jörg Endrullis. <i>Continued</i></i>
12:30-14:00	Lunch
14:00-15:30 Amphitheater	<i>Tutorial: André Platzer. <i>Logics of Dynamical Systems</i></i>
15:30-16:00	Coffee
16:00-17:30 Amphitheater	<i>Tutorial: André Platzer. <i>Continued</i></i>
18:30-20:30 Hotel Valamar Lacroma	Reception

Monday	
9:00-10:00 Amphitheater	<i>Invited Lecture: Robert J. Aumann. Backward Induction in Games of Perfect Information</i>
10:00-10:30	Coffee
10:30-12:30 Amphitheater	<p>Paul-André Melliès. <i>Game Semantics in String Diagrams</i></p> <hr style="border-top: 1px dashed black;"/> <p>Pierre Clairambault, Julian Gutierrez, Glynn Winskel. <i>The Winning Ways of Concurrent Games</i></p> <hr style="border-top: 1px dashed black;"/> <p>Krishnendu Chatterjee, Laurent Doyen. <i>Partial-Observation Stochastic Games: How to Win when Belief Fails</i></p> <hr style="border-top: 1px dashed black;"/> <p>Viktor Engemann, Stephan Kreutzer, Sebastian Siebertz. <i>First-Order and Monadic Second-Order Model-Checking on Ordered Structures</i></p>
10:30-12:30 Room B04	<p>Sebastian Müller, Iddo Tzameret. <i>Short Propositional Refutations for Dense Random 3CNF Formulas</i></p> <hr style="border-top: 1px dashed black;"/> <p>Hubie Chen, Victor Dalmau. <i>Decomposing Quantified Conjunctive (or Disjunctive) Formulas</i></p> <hr style="border-top: 1px dashed black;"/> <p>Stefan Göller, Jean Christoph Jung, Markus Lohrey. <i>The Complexity of Decomposing Modal and First-Order Theories</i></p> <hr style="border-top: 1px dashed black;"/> <p>Emanuel Kieroński, Jakub Michaliszyn, Ian Pratt-Hartmann, Lidia Tendera. <i>Two-Variable First-Order Logic with Equivalence Closure</i></p>
12:30-14:00	Lunch
14:00-16:00 Amphitheater	<p>Alexander Rabinovich, Sasha Rubin. <i>Interpretations in Trees with Countably Many Branches</i></p> <hr style="border-top: 1px dashed black;"/> <p>Amelie Gheerbrant, Balder ten Cate. <i>Complete Axiomatizations of Fragments of Monadic Second-Order Logic on Finite Trees</i></p> <hr style="border-top: 1px dashed black;"/> <p>Adrien Piérard, Eijiro Sumii. <i>A Higher-Order Distributed Calculus with Name Creation</i></p> <hr style="border-top: 1px dashed black;"/> <p>David Sabel, Manfred Schmidt-Schauß. <i>Conservative Concurrency in Haskell</i></p> <hr style="border-top: 1px dashed black;"/> <p>Naohiko Hoshino. <i>Step Indexed Realizability Semantics for a Call-by-Value Language Based on Basic Combinatorial Objects</i></p> <hr style="border-top: 1px dashed black;"/> <p>Daniel Neider, Roman Rabinovich, Martin Zimmermann. <i>Down the Borel Hierarchy: Solving Muller Games via Safety Games</i></p> <hr style="border-top: 1px dashed black;"/> <p>Krishnendu Chatterjee, Yaron Velner. <i>Mean-Payoff Pushdown Games</i></p> <hr style="border-top: 1px dashed black;"/> <p>Konstantinos Mamouras. <i>Canonical Progress Measures for Parity Games</i></p>
16:00-16:30	Coffee
16:30-19:00 Amphitheater	<p>Pablo Barceló, Leonid Libkin, Miguel Romero. <i>Approximations of Conjunctive Queries</i></p> <hr style="border-top: 1px dashed black;"/> <p>Hubie Chen, Moritz Müller. <i>An Algebraic Preservation Theorem for Aleph-Zero Categorical Quantified Constraint Satisfaction</i></p> <hr style="border-top: 1px dashed black;"/> <p>Peter Schuster. <i>Induction in Algebra: A First Case Study</i></p> <hr style="border-top: 1px dashed black;"/> <p>Robert Atkey. <i>The Semantics of Parsing with Semantic Actions</i></p> <hr style="border-top: 1px dashed black;"/> <p>Martin Avanzini, Naohi Eguchi, Georg Moser. <i>A New Order-Theoretic Characterisation of the Polytime Computable Functions</i></p> <hr style="border-top: 1px dashed black;"/> <p>Matthieu Perrinel. <i>On the Expressivity of Linear Logic Subsystems Characterizing Polynomial Time</i></p> <hr style="border-top: 1px dashed black;"/> <p>Marc Lasson, Chantal Keller. <i>Parametricity in an Impredicative Sort</i></p> <hr style="border-top: 1px dashed black;"/> <p>Thomas Seiller. <i>Graphs of Interaction: Additives</i></p> <hr style="border-top: 1px dashed black;"/> <p>Damiano Mazza. <i>An Infinitary Affine Lambda-Calculus Isomorphic to the Full Lambda-Calculus</i></p>

Tuesday

9:00-10:30 Amphitheater	<p>Clemens Grabmayer, Jörg Endrullis, Dimitri Hendriks, Jan Willem Klop, Lawrence S. Moss. <i>Automatic Sequences and Zip-Specifications</i></p> <p>Nathanaël Fijalkow, Hugo Gimbert, Youssouf Oualhadj. <i>Deciding the Value 1 Problem of Probabilistic Leaktight Automata</i></p> <p>Arnaud Carayol, Olivier Serre. <i>Collapsible Pushdown Automata and Labeled Recursion Schemes: Equivalence, Safety and Effective Selection</i></p> <p>Paweł Parys. <i>On the Significance of the Collapse Operation</i></p> <p>Frédéric Herbreteau, B. Srivathsan, Igor Walukiewicz. <i>Better Abstractions for Timed Automata</i></p> <p>Tony Tan. <i>An Automata Model for Trees with Ordered Data Values</i></p>
10:30-11:00	Coffee
11:00-12:30 Amphitheater	<p>André Platzer. <i>The Complete Proof Theory of Hybrid Systems</i></p> <p>Parosh Abdulla, Mohamed Faouzi Atig, Jari Stenman. <i>Dense-Timed Pushdown Automata</i></p> <p>Serge Grigorieff, Pierre Valarcher. <i>Functionals using Bounded Information and the Dynamics of Algorithms</i></p>
11:00-12:30 Room B04	<p>Michael Elberfeld, Martin Grohe, Till Tantau. <i>Where First-Order, Monadic Second-Order Logic Coincide</i></p> <p>Andreas Krebs, A V Sreejith. <i>Non-definability of Languages by Generalized First-Order Formulas over $(N, +)$</i></p> <p>Pablo Barceló, Diego Figueira, Leonid Libkin. <i>Graph Logics with Rational Relations and the Generalized Intersection Problem</i></p>
12:30-14:00	Lunch
14:00-16:00 Amphitheater	<p>Invited Lecture: Leonid Levin. <i>Turing's Password: What Internet Cannot Leak</i></p> <p>Invited Lecture: Joan Feigenbaum. <i>Privacy, Anonymity, and Accountability in Ad-Supported Services</i></p>
16:00-16:30	Coffee
16:30-17:30 Amphitheater	<p>Sicun Gao, Jeremy Avigad, Edmund Clarke. <i>Delta-Decidability over the Reals</i></p> <p>Antti Kuusisto, Jeremy Meyers, Jonni Virtema. <i>Undecidable First-Order Theories of Affine Geometries</i></p> <p>Kim Larsen, Radu Mardare, Prakash Panangaden. <i>A Metric Analogue of Stone Duality for Markov Processes</i></p> <p>Akitoshi Kawamura, Norbert Müller, Carsten Rösnick, Martin Ziegler. <i>Uniform Polytime Computable Operators on Univariate Real Analytic Functions</i></p>
18:30-22:00 Restaurant Klarisa (Old Town)	Banquet

Wednesday

9:00-10:30 Amphitheater	<p>Invited Lecture: Robert L. Constable. <i>On Building Constructive Formal Theories of Computation Noting the Roles of Turing, Church, and Brouwer</i></p> <hr style="border-top: 1px dashed black;"/> <p style="text-align: center;">Kleene Award: Christoph Berkholz. <i>Lower Bounds for Existential Pebble Games and k-Consistency Tests</i></p>
10:30-11:00	Coffee
11:00-12:30 Amphitheater	<p>Samson Abramsky, Lucien Hardy. <i>Logical Bell Inequalities</i></p> <hr style="border-top: 1px dashed black;"/> <p>Jamie Vicary. <i>Higher Semantics of Quantum Protocols</i></p> <hr style="border-top: 1px dashed black;"/> <p>Jean-Baptiste Jeannin, Dexter Kozen. <i>Capsules and Separation Logic</i></p> <hr style="border-top: 1px dashed black;"/> <p>John Wickerson, Mike Dodds, Matthew Parkinson. <i>Ribbon Proofs for Separation Logic</i></p> <hr style="border-top: 1px dashed black;"/> <p>Arnon Avron, Beata Konikowska, Anna Zamansky. <i>Modular Construction of Cut-Free Sequent Calculi for Paraconsistent Logics</i></p> <hr style="border-top: 1px dashed black;"/> <p>Stefan Hetzl, Lutz Straßburger. <i>Herbrand-Confluence for Cut Elimination in Classical First-Order Logic</i></p>
12:30-14:00	Lunch
14:00-16:00 Amphitheater	<p>Dmitriy Traytel, Andrei Popescu, Jasmin Christian Blanchette. <i>Foundational, Compositional (Co)datatypes for Higher-Order Logic: Category Theory Applied to Theorem Proving</i></p> <hr style="border-top: 1px dashed black;"/> <p>Daniel Bundala, Joel Ouaknine, James Worrell. <i>On the Magnitude of Completeness Thresholds in Bounded Model Checking</i></p> <hr style="border-top: 1px dashed black;"/> <p>Javier Esparza, Pierre Ganty, Rupak Majumdar. <i>A Perfect Model for Bounded Verification</i></p> <hr style="border-top: 1px dashed black;"/> <p>Manindra Agrawal, S. Akshay, Blaise Genest, P. S. Thiagarajan. <i>Approximate Verification of the Symbolic Dynamics of Markov Chains</i></p>
14:00-16:00 Room B04	<p>Jean-Philippe Bernardy, Guilhem Moulin. <i>A Computational Interpretation of Parametricity</i></p> <hr style="border-top: 1px dashed black;"/> <p>Guilhem Jaber, Nicolas Tabareau, Matthieu Sozeau. <i>Extending Type Theory with Forcing</i></p> <hr style="border-top: 1px dashed black;"/> <p>Andrea Schalk, Hugh Steele. <i>Constructing Fully Complete Models for Multiplicative Linear Logic</i></p> <hr style="border-top: 1px dashed black;"/> <p>Hugo Herbelin. <i>A Constructive Proof of Dependent Choice, Compatible with Classical Logic</i></p>
16:00-16:30	Coffee
16:30-17:30 Amphitheater	<p>Daniel Leivant. <i>The Comprehension Cube, its Primitive Recursive Corner</i></p> <hr style="border-top: 1px dashed black;"/> <p>Annabelle McIver, Larissa Meinicke, Carroll Morgan. <i>A Kantorovich-Monadic Powerdomain for Information Hiding, with Probability and Nondeterminism</i></p> <hr style="border-top: 1px dashed black;"/> <p>Thomas Dinsdale-Young, Lars Birkedal, Philippa Gardner, Matthew Parkinson, Hongseok Yang. <i>Views: Compositional Reasoning for Concurrent Programs</i></p> <hr style="border-top: 1px dashed black;"/> <p>Libor Barto, Marcin Kozik, Ross Willard. <i>Near Unanimity Constraints Have Bounded Pathwidth Duality</i></p>
17:30-19:30 Amphitheater	LICS Business Meeting and Award Presentations

Thursday

9:00-10:30 Amphitheater	Rajeev Alur, Emmanuel Filiot, Ashutosh Trivedi. <i>Regular Transformations of Infinite Strings</i>
	Petr Jančar. <i>Decidability of DPDA Language Equivalence via First-Order Grammars</i>
	Krishnendu Chatterjee, Mathieu Tracol. <i>Decidable Problems for Probabilistic Automata on Infinite Words</i>
9:00-10:30 Room B04	Serge Haddad, Sylvain Schmitz, Philippe Schnoebelen. <i>The Ordinal-Recursive Complexity of Timed-Arc Petri Nets, Data Nets, and Other Enriched Nets</i>
	Carles Creus, Adrià Gascón, Guillem Godoy, Lander Ramos. <i>The HOM Problem is EXPTIME-Complete</i>
	Vivek Nigam. <i>On the Complexity of Linear Authorization Logics</i>
10:30-11:00	Coffee
11:00-12:30 Amphitheater	Benoît Monin, Laurent Bienvenu. <i>von Neumann's Biased Coin Revisited</i>
	Anvesh Komuravelli, Corina S. Păsăreanu, Edmund M. Clarke. <i>Learning Probabilistic Systems from Tree Samples</i>
	Sanjay Jain, Alexei Miasnikov, Frank Stephan. <i>The Complexity of Verbal Languages over Groups</i>
11:00-12:30 Room B04	Deepak Garg, Valerio Genovese, Sara Negri. <i>Countermodels from Sequent Calculi in Multi-Modal Logics</i>
	Jakub Michaliszyn, Jan Otop. <i>Decidable Elementary Modal Logics</i>
	David Baelde and Gopalan Nadathur. <i>Combining Deduction Modulo and Logics of Fixed-Point Definitions</i>
12:30-14:00	Lunch
14:00-16:15 Amphitheater	Yijia Chen and Jörg Flum. <i>On the Ordered Conjecture</i>
	Steve Awodey, Nicola Gambino, Kristina Sojakova. <i>Inductive Types in Homotopy Type Theory</i>
	Jiří Adámek, Stefan Milius, Nathan Bowler, Paul B. Levy. <i>Coproducts of Monads on Set</i>
	Bob Coecke, Ross Duncan, Aleks Kissinger, Quanlong Wang. <i>Strong Complementarity and Non-locality in Categorical Quantum Mechanics</i>
	Yangjia Li, Nengkun Yu, Mingsheng Ying. <i>Termination of Nondeterministic Quantum Programs</i>
16:15-17:00	Coffee