



32ND EACSL ANNUAL CONFERENCE ON COMPUTER SCIENCE LOGIC 2024 (CSL 2024)

FEBRUARY 19-23, 2024

PROGRAM

19 FEBRUARY

FICS 2024 1ST DAY

20 FEBRUARY

CSL 2024 1ST DAY
FICS 2024 2ND DAY

21 FEBRUARY

CSL 2024 2ND DAY

22 FEBRUARY

CSL 2024 3RD DAY
RASIOWA AND ACKERMANN
AWARDS
SOCIAL DINNER

23 FEBRUARY

CSL 2024 4TH DAY
LMW 2024
ICT TABLE



INVITED SPEAKERS



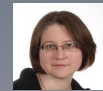
GEORG GOTTLÖB
UNIVERSITÀ DI OXFORD



BALDER TEN CATE
UNIVERSITÀ DI AMSTEDAM



MARTA KWIATKOWSKA
UNIVERSITÀ DI OXFORD



BARBARA KÖNIG
*UNIVERSITÄT
DUISBURG-ESSEN*



MOSHE Y. VARDI
RICE UNIVERSITY

WELCOME MESSAGE

FROM:

MATTEO LORITO
RECTOR OF FEDERICO II
UNIVERSITY

CO-CHAIRS

ANIELLO MURANO
*UNIVERSITÀ DI NAPOLI
FEDERICO II*

ALEXANDRA SILVA
CORNELL UNIVERSITY

CENTRO CONGRESSI DI ATENEO
UNIVERSITÀ DEGLI STUDI DI NAPOLI, FEDERICO II
VIA PARTENOPE, 36 NAPOLI



This is the CSL booklet for print use.
Full information about CSL can be found at:
<https://cs12024.github.io/Home/>

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About

CSL

CSL is the annual conference of the *European Association for Computer Science Logic* (EACSL). It is an interdisciplinary conference, spanning across basic and application-oriented research in mathematical logic and computer science. CSL'24 is hosted by the University of Naples Federico II.

CSL'24 will be held on 20-23 February 2024 and will be co-located with the *12th International Workshop on Fixed Points in Computer Science* (FICS'24), and *The Logic Mentoring Workshop* (LMW'24). FICS'24 will be held on February 19-20. LMW'24 will be held on February 23.

Organizing committee

Chairs

Aniello Murano	(University of Naples Federico II)
Alexandra Silva	(Cornell University)

Local Organizers

Marco Aruta	(University of Naples Federico II)
Davide Catta	(University of Naples Federico II)
Francesco Chiariello	(University of Naples Federico II)
Michał Tomasz Godziszewski	(University of Naples Federico II)
Alfredo Valerij Laino	(University of Naples Federico II)
Munyque Mittelman	(University of Naples Federico II)

Program Committee

Shaul Almagor	(Technion)
Christel Baier	(TU Dresden)
Filippo Bonchi	(University of Pisa)
James Brotherston	(University College London)
Valentina Castiglioni	(Reykjavik University)
Taolue Chen	(Birkbeck, University of London)
Diana Costa	(Universidade de Lisboa)
Silvia Ghilezan	(University of Novi Sad)
Nina Gierasimczuk	(Technical University of Denmark)
Wojtek Jamroga	(Polish Academy of Sciences)
Benjamin Lucien Kaminski	(Saarland University)
Tobias Kappé	(Open Univ. of the Netherlands and ILLC, Univ. of Amsterdam)
Shin-Ya Katsumata	(National Institute of Informatics)
Marie Kerjean	(CNRS, LIPN, Université Sorbonne Paris Nord)
Juha Kontinen	(University of Helsinki)
Clemens Kupke	(University of Strathclyde)
Martin Lange	(University of Kassel)
Carsten Lutz	(Universität Bremen)
Nicolas Markey	(IRISA, CNRS & INRIA & Univ. Rennes 1)
Larry Moss	(Indiana University Bloomington)
Pierre Ohlmann	(University of Warsaw)
Guillermo Perez	(University of Antwerp)
Nir Piterman	(Chalmers University of Technology)
Jurriaan Rot	(Radboud University)
Lutz Schröder	(Friedrich-Alexander-Universität Erlangen-Nürnberg)
Sonja Smets	(University of Amsterdam)
Paweł Sobociński	(Tallinn University of Technology)
Luca Spada	(Università di Salerno)
Sam Staton	(University of Oxford)
Christine Tasson	(LIP6 - Sorbonne Université)
Andrea Turrini	(Institute of Software, Chinese Academy of Sciences)
Sam van Gool	(Université Paris Cité)
Martin Zimmermann	(Aalborg University)

FICS Program

CT: Contributed Talk, IT: Invited Talk.

Monday, February 19th

8:30–9:00	Registration		
8:50–10:20	Session 1, Chair: Alexis Saurin		
8:50–9:00	Opening		
9:00–9:50	IT	Anupam Das University of Birmingham	On the Computational Strength of Circular Proofs
9:50–10:20	CT	Bahareh Afshari, Giacomo Barlucchi and Graham E. Leigh	The Limit of Recursion in State-based Systems
10:20–10:45	Coffee break		
10:45–12:45	Session 2, Chair: Anupam Das		
10:45–11:15	CT	Gianluca Curzi, Matteo Acclavio and Giulio Guerrieri	Non-Uniform Polynomial Time and Non-Wellfounded Parsimonious Proofs
11:15–11:45	CT	Borja Sierra-Miranda	Cyclic Proofs for iGL via Corecursion
11:45–12:15	CT	Bahareh Afshari and Johannes Kloibhofer	Cut Elimination for Cyclic Proofs: A Case Study in Temporal Logic
12:15–12:45	CT	Esaïe Bauer and Alexis Saurin	Cut-Elimination for the Circular Modal μ -Calculus: the Benefits of Linearity
12:45–14:00	Lunch		
14:00–16:00	Session 3, Chair: Benedikt Ahrens		
14:00–14:30	CT	Zeinab Galal and Jean-Simon Pacaud Lemay	Combining Fixpoint and Differentiation Theory
14:30–15:00	CT	Luigi Santocanale and Gregory Chichery	Lifting Final Coalgebras and Initial Algebras, a Reconstruction
15:00–15:30	CT	Paige Randall North and Maximilien Peroux	Coinductive Control of Inductive Data Types
15:30–16:00	CT	Tadeusz Litak	Ruitenburg's Theorem Mechanized and Contextualized
16:00–16:30	Coffee break		
16:30–18:30	Session 4, Chair: Zeinab Galal		
16:30–17:00	CT	Mohamed Hamza Bandukara and Nikos Tzevelekos	Nominal Logics For Fresh Register Automata
17:00–17:30	CT	Rémy Cerdà	Nominal Algebraic-Coalgebraic Data Types, with Applications to Infinitary λ -Calculi
17:30–18:00	CT	Ralph Matthes, Kobe Wullaert and Benedikt Ahrens	Substitution for Non-Wellfounded Syntax with Binders through Monoidal Categories

18:00–18:30	CT	Farzad Jafarrahmani and Noam Zeilberger	A Fibrational Characterization for Unicity of Solutions to Generalized Context-Free Systems
18:00–20:00	CSL 2024 & FICS 2024 Welcome Event! (Centro Congressi)		

Tuesday, February 20th (in parallel with CSL)

8:30–9:00	Registration		
9:00–9:30	CSL Opening		
9:30–10:30	Session 5		
9:30–10:30	IT	Barbara König Universität Duisburg-Essen	Approximating fixpoints of approximated functions
10:30–11:00	Coffee break		
11:00–13:00	Session 6		
11:00–11:30	CT	Daniel Hausmann	Faster Game Solving by Fixpoint Acceleration
11:30–12:00	CT	Florian Bruse, David Kronenberger and Martin Lange	Characterizing the Exponential-Space Hierarchy Via Partial Fixpoints
12:00–12:30	CT	Leonardo Pacheco	The μ -calculus' Alternation Hierarchy is Strict over Non-Trivial Fusion Logics
12:30–13:00	CT	Daniel Hausmann, Nir Piterman, Irmak Saglam and Anne-Kathrin Schmuck	Fixpoints for Fair Parity/ \perp Games
13:00–13:05	Workshop conclusion		

CSL Program

CT: Contributed Talk, IT: Invited Talk.

Monday, February 19th

17:30-18:00	Registration
18:00-20:00	CSL 2024 & FICS 2024 Welcome Event! (Centro Congressi)

Tuesday, February 20th

8:30-9:00	Conference registration		
9:00-9:30	Opening		
9:30-10:30	IT	Barbara König Universität Duisburg-Essen	Approximating fixpoints of approximated functions
10:30-11:00	Coffee break		
11:00-13:05	Session 1 (Complexity Theory, Rewriting, and Monoidal Categories)		
11:00-11:25	CT	Salvador Lucas	Confluence of Conditional Rewriting Modulo
11:25-11:50	CT	Matt Earnshaw, James Hefford and Mario Román	The Produoidal Algebra of Process Decomposition
11:50-12:15	CT	Yannick Forster, Dominik Kirst and Niklas Mück	The Kleene-Post and Post's Theorem in the Calculus of Inductive Constructions
12:15-12:40	CT	Alexandre Clément, Noé Delorme, Simon Perdrix and Renaud Vilmart	Quantum Circuit Completeness: Extensions and Simplifications
12:40-13:05	CT	Manon Blanc and Olivier Bournez	Quantifying the robustness of dynamical systems. Relating time and space to length and precision
13:05-14:30	Lunch		
14:30-15:30	IT	Georg Gottlob University of Oxford	AI & AI - Artificial Intelligence and Artificial Ignorance
15:30-16:00	Coffee break		
16:00-18:05	Session 2 (Team Logic and Neural Network)		
16:00-16:25	CT	Fausto Barbero and Jonni Virtema	Expressivity Landscape for Logics with Probabilistic Interventionist Counterfactuals
16:25-16:50	CT	Geoffrey Cruttwell and Jean-Simon Lemay	Reverse tangent categories
16:50-17:15	CT	Veeti Ahvonen, Damian Heiman and Antti Kuusisto	Descriptive complexity for neural networks via Boolean networks

17:15–17:40	CT	Marius Tritschler	Guarded Hybrid Team Logics
17:40–18:05	CT	Quentin Aristote	Active learning of deterministic transducers with outputs in arbitrary monoids

Wednesday, February 21st

8:40–9:00	Conference registration		
9:00–10:00	IT	Marta Kwiatkowska University of Oxford	Strategy Synthesis for Partially Observable Stochastic Games with Neural Perception Mechanisms
10:00–10:30	Coffee break		
10:30–12:35	Session 3 (Games)		
10:30–10:55	CT	Alexander Kozachinskiy	Energy Games over Totally Ordered Groups
10:55–11:20	CT	Tom van Dijk, Georg Loho and Matthew Maat	The worst-case complexity of symmetric strategy improvement
11:20–11:45	CT	Julian Gutierrez, Anthony Widjaja Lin, Muhammad Najib, Thomas Steeples and Michael Wooldridge	Characterising and Verifying the Core in Concurrent Multi-Player Mean-Payoff Games
11:45–12:10	CT	Daniel Stan, Muhammad Najib, Anthony Widjaja Lin and Parosh Aziz Abdulla	Concurrent Stochastic Lossy Channel Games
12:10–12:35	CT	Benjamin Bordais, Patricia Bouyer and Stephane Le Roux	From Local to Global Optimality in Concurrent Parity Games
13:35–13:50	Lunch		
13:50–15:30	Session 4 (Logic)		
13:50–14:15	CT	Philippe Balbiani, Han Gao, Çigdem Gencer and Nicola Olivetti	A Natural Intuitionistic Modal Logic: Axiomatization and Bi-nested Calculus
14:15–14:40	CT	Stefano Berardi, Peter Schuster and Gabriele Buriola	A general constructive form for Higman's lemma
14:40–15:05	CT	Satoshi Nakata	Local operators in topos theory and separation of semi-classical axioms in intuitionistic arithmetic
15:05–15:30	CT	Anupam Das, Iris van der Giessen and Sonia Marin	Intuitionistic Gödel-Löb logic à la Simpson: labelled systems and birelational semantics
15:30–15:55	Coffee break		
15:55–18:00	Session 5 (Type Theory and Model Theory)		
15:55–16:20	CT	Rasmus Ejlers Møgelberg and Maaïke Zwart	What monads can and cannot do with a bit of extra time

16:20–16:45	CT	Moritz Lichter, Benedikt Pago and Tim Seppelt	Limitations of Game Comonads via Homomorphism Indistinguishability
16:45–17:10	CT	Jonathan Sterling, Daniel Gratzer and Lars Birkedal	Free theorems from univalent reference types: the impact of univalence on denotational semantics
17:10–17:35	CT	Daniël Otten and Benno van den Berg	Conservativity of Type Theory over Higher-order Arithmetic
17:35–18:00	CT	Anuj Dawar and Lauri Hella	Quantifiers Closed Under Partial Polymorphisms

Thursday, February 22nd

8:40–9:00	Conference registration		
9:00 – 10:00	IT	Balder ten Cate University of Amsterdam	Craig Interpolation for Decidable Fragments of First-Order Logic
10:00–10:30	Coffee break		
10:30–12:35	Session 6 (First Order Logic)		
10:30–10:55	CT	Thomas Place and Marc Zeitoun	A generic characterization of generalized unary temporal logic and two-variable first-order logic
10:55–11:20	CT	Assia Mahboubi and Matthieu Piquerez	A First Order Theory of Diagram Chasing
11:20–11:45	CT	Eva Fluck, Tim Seppelt and Gian Luca Spitzer	Going Deep and Going Wide: Counting Logic and Homomorphism Indistinguishability over Graphs of Bounded Treedepth and Treewidth
11:45–12:10	CT	Sophie Brinke, Erich Grädel and Lovro Mrkonjić	Ehrenfeucht-Fraïssé Games in Semiring Semantics
12:10–12:35	CT	Antoine Mottet	Promise and Infinite-Domain Constraint Satisfaction
12:35–13:45	Lunch		
13:45–14:15	Rasiowa award		
14:15–15:00	Ackermann award		
15:00–15:15	Tea break		
15:15–16:30	Business meeting		
16:30–22:30	Excursion + CSL banquet at Monastero di Santa Chiara (Antico Refettorio)		

Friday, February 23rd (in parallel with LMW and ICT Table)

8:40–9:00	Conference registration		
9:00–9:15	Welcome from Matteo Lorito, Rector of Federico II University		
9:15 – 10:15	IT	Moshe Y. Vardi Rice University	Logical Algorithmics

10:00–10:30	Coffee break		
10:30–12:35	10:30-12:35 Session 7 (Monadic Logic and Automata)		
10:30–10:55	CT	Eldar Fischer and Johann Makowsky	Extensions and Limits of the Specker-Blatter Theorem
10:55–11:20	CT	Anita Badył and Paweł Parys	Extending the WMSO+U Logic With Quantification Over Tuples
11:20–11:45	CT	Mario Grobler, Leif Sabellek and Sebastian Siebertz	Remarks on Parikh-recognizable omega-languages
11:45–12:10	CT	Luisa Herrmann, Vincent Peth and Sebastian Rudolph	Decidable (Ac)counting with Parikh and Muller: Adding Presburger Arithmetic to Monadic Second-Order Logic over Tree-Interpretable Structures
12:10–12:35	CT	Francois Laroussinie, Loriane Leclercq and Arnaud Sangnier	QLTL Model-Checking
12:35–14:00	Lunch		
14:00–15:15	Session 8 (Lambda calculus)		
14:00–14:25	CT	Vincent Moreau and Lê Thành Dũng Nguyễn	Syntactically and semantically regular languages of lambda-terms coincide through logical relations
14:25–14:50	CT	Beniamino Accattoli	Semantic Bounds from Multi Types, Revisited
14:50–15:15	CT	Davide Barbarossa and Paolo Pistone	Tropical Mathematics and the Lambda-Calculus I: Metric and Differential Analysis of Effectful Programs
15:15–15:45	Coffee break		
15:45–17:50	Session 9 (Logic and Arithmetic)		
15:45–16:10	CT	Éric Goubault, Roman Kniazev and Jérémy Ledent	A many-sorted epistemic logic for chromatic hypergraphs
16:10–16:35	CT	Laura Fontanella, Guillaume Geoffroy and Richard Matthews	Realisability models for large cardinals
16:35–17:00	CT	Federico Olimpieri	Coherence by Normalization for Linear Multicategorical Structures
17:00–17:25	CT	Melissa Antonelli, Ugo Dal Lago, Davide Davoli, Isabel Oitavem and Paolo Pistone	Enumerating Error Bounded Polytime Algorithms Through Arithmetical Theories
17:25–17:50	CT	Matteo Acclavio, Gianluca Curzi and Giulio Guerrieri	Infinitary cut elimination via finite approximations
17:50–18:00	Farewell		

LMW Program

SP: Speaker, IT: Invited Talk.

Friday, February 23rd (in parallel with CSL and ICT Table)

9:00–9:15		Welcome from Matteo Lorito, Rector of Federico II University	
9:15 – 10:15	IT	Moshe Y. Vardi Rice University	Logical Algorithmics
10:00–10:30		Coffee break	
10:30–11:00		Organised meet and greet session	
11:00–11:30	SP	Isabel Oitavem	Studying Logic in Computer Science: the ABC
11:30–12:00	SP	Laura Fontanella	Proofs as programs: from Curry Howard to realizability models for set theory
12:00–12:30	SP	Paolo Pistone	How to survive a “What is your research about?” kind of question
12:30–14:00		Lunch	
14:00–14:30	SP	Matteo Acclavio	Let Me Be Clear
14:30–15:00	SP	Antoine Mottet	Structure in Research and Computation
15:00–15:30	SP	Maaïke Zwart	Storytelling at conferences - how to present your paper without losing your audience
15:30–16:00		Coffee break	
16:00–16:30	SP	Luisa Herrmann	Work-Family Balance in Academia? Reflections on my PhD time as a parent
16:30–17:00	SP	Iris van der Giessen	Doing a PhD is more than writing a thesis
17:00–17:45		Panel discussion	
17:50–18:00		CSL farewell	

Friday, February 23rd (in parallel with CSL and LMW)

9:00–9:15	Welcome from Matteo Lorito, Rector of Federico II University	
9:15 – 10:00	IT	Moshe Y. Vardi Rice University Logical Algorithmics
10:15–10:45	Coffee break	
10:45–12:45	Morning Industrial Session	
10:45–11:05	Collins Aerospace	
11:05–11:25	Innovaway	
11:25–11:45	Sipos	
11:45–12:00	Amazon	
12:15–12:30	Kineton	
12:30–12:45	Nexsoft	
12:45–14:00	Lunch	
14:00–15:2	Afternoon Industrial Session	
14:00–14:15	Assist Digital	
14:15–14:30	Digital Comoedia	
14:30–14:40	BC Soft	
14:40–14:50	CSA	
14:50–15:00	Nexus	
15:00–15:10	Sinapto	
15:10–15:20	SMS Engineering	
15:20–15:30	Skilledin	
15:20–15:30	Farewell	

Useful Information

Talks will be held at the **Centro Congressi Federico II**, which is located at Via Partenope 36, on the seaside, near Castel dell'Ovo. Please note that the seafront area is car-free and thus, public transportation does not stop in front of the conference hall.

How to reach Centro Congressi Federico II:

- **From Airport:** you can use taxis or take the Alibus line to the "Molo Angioino / Beverello" stop . Continue on foot to Via Acton, take bus 154, get off at the Santa Lucia stop and reach the congress venue (walking distance 5 minutes).
- **From Central Station (Piazza Garibaldi):** you can use taxis or take the Metro Line 1 (Garibaldi, just outside the station) and get off at "Municipio". From there it is possible to reach the Congress venue by taxi or with a pleasant walk through Piazza del Plebiscito (walking distance 15 minutes).

The **social event** on Thursday will be held at the Antico Refettorio of the Complesso Monumentale di Santa Chiara, which is located at Via Santa Chiara, 49/c, in the heart of the city, near Piazza del Gesù.

How to reach Antico Refettorio, Complesso Monumentale di Santa Chiara:

- **From Airport:** you can use taxis or take the Alibus line to the "Piazza Garibaldi" stop . Continue on foot to Garibaldi station (1 minute walking), take Metro Line 1 to Piscinola, get off at the Università stop and reach the social event venue (walking distance 8 minutes).
- **From Central Station (Piazza Garibaldi):** you can use taxis or take the Metro Line 1 (Garibaldi, just outside the station) and get off at "Univerisità". From there it is possible to reach the Social Event venue with a pleasant walk (walking distance 8 minutes).

What to do in Naples

Main touristic attractions in Naples:

- National Archaeological Museum of Naples
- Underground Naples
- Complex of Santa Chiara (the excursion will be here)
- Royal Palace of Naples
- Piazza del Plebiscito
- Spaccanapoli and Via dei Tribunali



Complex of Santa Chiara

And outside Naples:

- Vesuvius National Park
- Pompeii Archaeological Site
- Procida, Ischia, and Capri islands
- Positano
- Royal Palace of Caserta



Positano

Where to eat

Restaurants near the venue:

- Umberto (Via Alabardieri, 30)
- Antichi Saporì Partenopei Restaurant (Via Chiaia, 124)
- Signora Bettola - Chiaia (Vico Satriano, 3B)

Pizzerias in the city center

- Sorbillo (Via dei Tribunali)
- Antica Pizzeria Di Matteo (Via dei Tribunali)
- Starita (Via Materdei)
- Pizzeria da Attilio (Via Pignasecca)
- Pizzeria Salvo (Riviera di Chiaia)
- Isabella De Cham Pizza Fritta (Via Arena della Sanità)



