

# Elena Di Lavore

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Postdoctoral researcher in theoretical computer science at the University of Pisa.

## Publications

- [1] Elena Di Lavore, Alessandro Gianola, Mario Román, Nicoletta Sabadini, and Paweł Sobociński. “Span(Graph): a Canonical Feedback Algebra of Open Transition Systems”. In: *Software and Systems Modeling* 22 (2023), pp. 495–520. DOI: [10.1007/s10270-023-01092-7](#). arXiv: [2010.10069 \[math.CT\]](#).
- [2] Elena Di Lavore and Mario Román. “Evidential Decision Theory via Partial Markov Categories”. In: *2023 38th Annual ACM/IEEE Symposium on Logic in Computer Science (LICS)*. 2023, pp. 1–14. DOI: [10.1109/LICS56636.2023.10175776](#).
- [3] Elena Di Lavore and Paweł Sobociński. “Monoidal Width”. In: *Logical Methods in Computer Science* 19 (3 Sept. 2023). DOI: [10.46298/lmcs-19\(3:15\)2023](#).
- [4] Elena Di Lavore and Paweł Sobociński. “Monoidal Width: Capturing Rank Width”. In: *Proceedings Fifth International Conference on Applied Category Theory*, Glasgow, United Kingdom, 18-22 July 2022. Ed. by Jade Master and Martha Lewis. Vol. 380. Electronic Proceedings in Theoretical Computer Science. Open Publishing Association, 2023, pp. 268–283. DOI: [10.4204/EPTCS.380.16](#).
- [5] Elena Di Lavore, Giovanni de Felice, and Mario Román. “Monoidal Streams for Dataflow Programming”. In: *Proceedings of the 37th Annual ACM/IEEE Symposium on Logic in Computer Science*. 2022, pp. 1–14. DOI: [10.1145/3531130.3533365](#). arXiv: [2202.02061 \[cs.LO\]](#).
- [6] Elena Di Lavore, Alessandro Gianola, Mario Román, Nicoletta Sabadini, and Paweł Sobociński. “A Canonical Algebra of Open Transition Systems”. In: *Formal Aspects of Component Software*. Ed. by Gwen Salaün and Anton Wijs. Vol. 13077. Cham: Springer International Publishing, 2021, pp. 63–81. ISBN: 978-3-030-90636-8. DOI: [10.1007/978-3-030-90636-8\\_4](#). arXiv: [2010.10069v1 \[math.CT\]](#).
- [7] Elena Di Lavore, Jules Hedges, and Paweł Sobociński. “Compositional Modelling of Network Games”. In: *29th EACSL Annual Conference on Computer Science Logic (CSL 2021)*. Ed. by Christel Baier and Jean Goubault-Larrecq. Vol. 183. Leibniz International Proceedings in Informatics (LIPIcs). Dagstuhl, Germany: Schloss Dagstuhl–Leibniz-Zentrum für Informatik, 2021, 30:1–30:24. ISBN: 978-3-95977-175-7. DOI: [10.4230/LIPIcs.CSL.2021.30](#). arXiv: [2006.03493 \[cs.GT\]](#).
- [8] Giovanni de Felice, Elena Di Lavore, Mario Román, and Alexis Toumi. “Functorial Language Games for Question Answering”. In: *Electronic Proceedings in Theoretical Computer Science*. Vol. 333. Open Publishing Association, Feb. 2021, pp. 311–321. DOI: [10.4204/eptcs.333.21](#).

**Note.** As customary in mathematics, all my publications list the authors in alphabetical order.

## Awards

European (EuroProofNet) grant for a Short Term Scientific Mission . . . . .	2024
Kleene Award to the best student paper [5], ACM/IEEE LiCS . . . . .	2022
Exemptions for High Academic Performance (Politecnico di Milano) . . . . .	2015–2017
Best Freshers Award (Politecnico di Milano) . . . . .	2015

## Academic commitments

- (since Dec 2023) Member of the steering committee of the Applied Category Theory Adjoint School.
- (since May 2023) Member of the executive board of the journal Compositionality.
- (Sep 2022) Local co-organiser of the 9<sup>th</sup> Symposium on Compositional Structures.
- (May 2022) Program committee member of the Applied Category Theory conference.
- (2022-2023) Organiser of the Applied Category Theory Adjoint School.
- (2020) Student in the Applied Category Theory Adjoint School mentored by Valeria de Paiva.
- Reviewer for conferences (LiCS, MFPS, ...) and journals (TAC, RAIRO, MSCS, ...).

## Education

### Tallinn University of Technology

*PhD in Theoretical Computer Science*

Estonia

2019 - 2023

- Thesis: Monoidal Width  
Supervisor: Professor Paweł Sobociński
- Teaching experience as TA for the introductory course on Category Theory

### University of Oxford

*MSc in Mathematics and Foundations of Computer Science*

United Kingdom

2018 - 2019

- Thesis: Subgame Perfection in Compositional Game Theory  
Supervisors: Dr Jules Hedges, Dr Jamie Vicary
- Mark: merit

### Università di Pisa

*BSc in Mathematics*

Italy

2017 - 2018

- Thesis: Data-driven Estimation for Nash Equilibria  
Supervisor: Professor Giancarlo Bigi
- Mark: 110 cum laude / 110

### Politecnico di Milano

*BSc in Mathematical Engineering*

Italy

2014 - 2017

- Thesis: Floquet Theory Applied to a Perturbed Wave Equation  
Supervisor: Professor Gianni Arioli
- Mark: 110 cum laude / 110
- Studies abroad: Erasmus program at Linnaeus University, Växjö, Sweden

## Academic talks

- (08 Mar 2024) Oxford Advanced Seminar on Informatic Structures.
- (08 Jan 2024) Directions and Perspectives in the  $\lambda$ -calculus at the University of Bologna.
- (22 Nov 2023) 34th Nordic Workshop on Programming Theory.
- (01 Aug 2023) Applied Category Theory conference.
- (18 Jul 2023) Coresources workshop at the University of Cambridge.
- (27 Jun 2023) Logic in Computer Science conference.
- (25 Jun 2023) International Workshop on Quantitative Logical methods.
- (14 Jun 2023) Categories Networking Project opening workshop.
- (26 Apr 2023) Italian Category Theory Fest 2023.
- (01 Aug 2022) Women in Logic workshop.
- (22 Jul 2022) Applied Category Theory conference.
- (26 Jun 2022) 29th Foundational Methods in Computer Science workshop.
- (25 May 2022) Comonads Meetup at the University of Cambridge.
- (24 May 2022) Mathematical Foundations Seminar at the University of Bath.
- (13 Dec 2021) Symposium on Compositional Structures 8.
- (26 Jan 2021) Computer Science Logic 2021 conference.

## Other skills

**Language skills:** Italian (native), English (C1).

**Programming languages:** basic knowledge of Idris, Matlab, C, R.