

Elena Di Lavore

Born in Milano, Italy, 13/08/1995

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October 10, 2023

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Education

Tallinn University of Technology

PhD

Estonia

2019 - present

- Thesis topic: 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
- Courses:
 - Categories, proofs and processes Quantum computer science
 - Categorical quantum mechanics Graph theory
 - Axiomatic set theory Lambda calculus and types
 - Computational number theory

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
- Courses:
 - Arithmetic Elements of set theory
 - Experimental laboratory of computational Physics 3
 - mathematics
 - Geometry 2 Algebra 1
 - Mathematical logic Game theory

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 (August 2016 - January 2017)
- Courses:

Computer science
 Chemistry
 Business economics and organisation
 Electrical engineering
 Fundamentals of automatic controls
 Mathematical physics
 Advanced analog electronics
 Algorithms and advanced data structures
 Analysis of structures

 Algebraic structures 1

Mathematical Analysis 1, 2, 3
 Experimental physics 1, 2
 Statistics
 Linear algebra and geometry
 Probability
 Numerical mathematics
 P.D.E. analytical and numerical methods
 Functional analysis
 Models and methods for statistical inference

Publications

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

- [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.

Academic commitments

- (since May 2023) Member of the executive board of the journal Compositionality.
- (September 2022) Local co-organiser of the 9th 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.
- Reviewer for conferences (LiCS, MFPS, ACT, ...) and journals (TAC, RAIRO, Compositionality, ...).

Other skills

Language skills

- Italian: mother tongue
- English: C1

Programming languages

- Idris, Matlab
- C, Java: basic knowledge
- R, SQL: basic knowledge

Awards

Kleene Award for [5] 2022
 Exemptions for High Academic Performance (Politecnico di Milano) 2015–2017
 Best Freshers Award (Politecnico di Milano) 2015