Elena Di Lavore

Born in Milano, Italy, 13/08/1995

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April 19, 2023

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Education

Tallinn University of Technology Estonia
PhD *2019 - present*

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

University of Oxford United Kingdom
MSc in Mathematics and Foundations of Computer Science *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 Italy
BSc in Mathematics *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 mathematics	Physics 3
Geometry 2	Algebra 1
Mathematical logic	Game theory

Politecnico di Milano Italy
BSc in Mathematical Engineering *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.* to appear in Logic in Computer Science 2023. 2023. arXiv: 2301.12989 [cs.LO].

[3] 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].

[4] Elena Di Lavore and Paweł Sobociński. *Monoidal Width: Capturing Rank Width.* to appear in Applied Category Theory 2022. 2022. arXiv: 2202.07582 [math.CT].

[5] 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].

[6] 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].

[7] 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

- (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).

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 [3] 2022
Exemptions for High Academic Performance (Politecnico di Milano) 2015–2017
Best Freshers Award (Politecnico di Milano) 2015