

## Publications

- [Bon+25] Filippo Bonchi, Cipriano Junior Cioffo, Alessandro Di Giorgio, and Elena Di Lavoro. “Tape Diagrams for Monoidal Monads”. In: *11th Conference on Algebra and Coalgebra in Computer Science (CALCO 2025)*. Ed. by Corina Cîrstea and Alexander Knapp. Vol. 342. Leibniz International Proceedings in Informatics (LIPIcs). Dagstuhl, Germany: Schloss Dagstuhl – Leibniz-Zentrum für Informatik, 2025, 11:1–11:24. ISBN: 978-3-95977-383-6. DOI: [10.4230/LIPIcs.CALCO.2025.11](https://doi.org/10.4230/LIPIcs.CALCO.2025.11). URL: <https://drops.dagstuhl.de/entities/document/10.4230/LIPIcs.CALCO.2025.11>.
- [BDD25] Filippo Bonchi, Alessandro Di Giorgio, and Elena Di Lavoro. “A Diagrammatic Algebra for Program Logics”. In: *Foundations of Software Science and Computation Structures*. Ed. by Parosh Aziz Abdulla and Delia Kesner. Springer Nature Switzerland, 2025, pp. 308–330. ISBN: 978-3-031-90897-2. DOI: [10.1007/978-3-031-90897-2\\_15](https://doi.org/10.1007/978-3-031-90897-2_15).
- [BDR25a] Filippo Bonchi, Elena Di Lavoro, and Anna Ricci. “Strong Induction Is an Up-To Technique”. In: *33rd EACSL Annual Conference on Computer Science Logic (CSL 2025)*. Ed. by Jörg Endrullis and Sylvain Schmitz. Vol. 326. Leibniz International Proceedings in Informatics (LIPIcs). Dagstuhl, Germany: Schloss Dagstuhl – Leibniz-Zentrum für Informatik, 2025, 28:1–28:21. ISBN: 978-3-95977-362-1. DOI: [10.4230/LIPIcs.CSL.2025.28](https://doi.org/10.4230/LIPIcs.CSL.2025.28). URL: <https://drops.dagstuhl.de/entities/document/10.4230/LIPIcs.CSL.2025.28>.
- [BDR25b] Filippo Bonchi, Elena Di Lavoro, and Mario Román. “Effectful Mealy Machines: Bisimulation and Trace”. In: *2025 40th Annual ACM/IEEE Symposium on Logic in Computer Science (LICS)*. 2025, pp. 541–554. DOI: [10.1109/LICS5433.2025.00047](https://doi.org/10.1109/LICS5433.2025.00047). arXiv: [2410.10627v2 \[cs.LO\]](https://arxiv.org/abs/2410.10627v2).
- [Cer+25] Lorenzo Ceragioli, Elena Di Lavoro, Giuseppe Lomurno, and Gabriele Tedeschi. “A Coalgebraic Model of Quantum Bisimulation”. In: *Proceedings Seventh International Conference on Applied Category Theory 2024*, Oxford, United Kingdom, 17 - 21 June 2024. Ed. by Michael Johnson and David Jaz Myers. Vol. 429. Electronic Proceedings in Theoretical Computer Science. Open Publishing Association, 2025, pp. 249–269. DOI: [10.4204/EPTCS.429.14](https://doi.org/10.4204/EPTCS.429.14).
- [DdR25] Elena Di Lavoro, Giovanni de Felice, and Mario Román. “Coinductive Streams in Monoidal Categories”. In: *Logical Methods in Computer Science* Volume 21, Issue 3, 18 (Aug. 2025). ISSN: 1860-5974. DOI: [10.46298/lmcs-21\(3:18\)2025](https://doi.org/10.46298/lmcs-21(3:18)2025). URL: <https://lmcs.episciences.org/10759>.
- [DLd25] Elena Di Lavoro, Wilmer Leal, and Valeria de Paiva. “Dialectica Petri Nets”. In: *Fundamenta Informaticae* Volume 194, Issue 3, 4 (Dec. 2025). ISSN: 1875-8681. DOI: [10.46298/fi.13125](https://doi.org/10.46298/fi.13125). URL: <https://fi.episciences.org/13125>.
- [Di +25] Elena Di Lavoro, Mario Román, Paweł Sobociński, and Márk Széles. “Order in Partial Markov Categories”. In: *Electronic Notes in Theoretical Informatics and Computer Science* Volume 5 - Proceedings of MFPS XLI, 14 (Dec. 2025). ISSN: 2969-2431. DOI: [10.46298/entics.16686](https://doi.org/10.46298/entics.16686). URL: <https://entics.episciences.org/16686>.

- [Gia+24] Francesco Giannini, Stefano Fioravanti, Pietro Barbiero, Alberto Tonda, Pietro Liò, and Elena Di Lavoro. “Categorical Foundation of Explainable AI: A Unifying Theory”. In: *Explainable Artificial Intelligence*. Ed. by Luca Longo, Sebastian Lapuschkin, and Christin Seifert. Springer Nature Switzerland, 2024, pp. 185–206. DOI: [10.1007/978-3-031-63800-8\\_10](https://doi.org/10.1007/978-3-031-63800-8_10).
- [Di 23] Elena Di Lavoro. “Monoidal Width”. PhD thesis. Tallinn, Estonia: Tallinna Tehnikaülikool, Nov. 2023. DOI: [10.23658/taltech.55/2023](https://doi.org/10.23658/taltech.55/2023).
- [Di +23] Elena Di Lavoro, 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](https://doi.org/10.1007/s10270-023-01092-7). arXiv: [2010.10069 \[math.CT\]](https://arxiv.org/abs/2010.10069).
- [DR23a] Elena Di Lavoro 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](https://doi.org/10.1109/LICS56636.2023.10175776). arXiv: [2301.12989 \[cs.LO\]](https://arxiv.org/abs/2301.12989).
- [DS23a] Elena Di Lavoro and Paweł Sobociński. “Monoidal Width”. In: *Logical Methods in Computer Science* 19 (3 Sept. 2023). DOI: [10.46298/lmcs-19\(3:15\)2023](https://doi.org/10.46298/lmcs-19(3:15)2023).
- [DS23b] Elena Di Lavoro 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](https://doi.org/10.4204/EPTCS.380.16).
- [DdR22a] Elena Di Lavoro, 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](https://doi.org/10.1145/3531130.3533365). arXiv: [2202.02061 \[cs.LO\]](https://arxiv.org/abs/2202.02061).
- [de +21] Giovanni de Felice, Elena Di Lavoro, 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](https://doi.org/10.4204/eptcs.333.21).
- [Di +21] Elena Di Lavoro, 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](https://doi.org/10.1007/978-3-030-90636-8_4). arXiv: [2010.10069v1 \[math.CT\]](https://arxiv.org/abs/2010.10069v1).
- [DHS21] Elena Di Lavoro, 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](https://doi.org/10.4230/LIPIcs.CSL.2021.30). arXiv: [2006.03493 \[cs.GT\]](https://arxiv.org/abs/2006.03493).