

# Curriculum Vitae

Luca Reggio

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## Contact

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## Personal information

*Name and surname:* Luca Reggio

*Nationality:* Italian

*Date of birth:* July 31, 1989

*Place of birth:* Monza, Italy

## Current position

**09/2024 – ongoing**      **Tenure-track Researcher (RTD-B)**  
Dipartimento di Matematica *Federigo Enriques*,  
Università degli Studi di Milano Statale

**01/2025 – ongoing**      **Honorary Research Fellow**  
Department of Computer Science, University College London (UCL)

## Previous positions

**02/2022 – 08/2024**      **Senior Research Fellow**  
Department of Computer Science, University College London (UCL)

**02/2020 – 01/2022**      **Marie Skłodowska-Curie Research Fellow**  
Department of Computer Science, University of Oxford  
Project: “Duality for finite models: relating structure to power”  
Supervisor: Samson Abramsky

**08/2019 – 01/2020**      **Postdoctoral researcher**  
Mathematical Institute, University of Bern  
Supervisor: George Metcalfe

**10/2018 – 07/2019**      **Postdoctoral researcher**  
Institute of Computer Science of the Czech Academy of Sciences, Prague  
Supervisor: Petr Cintula

## Education

**09/2015 – 09/2018**

**Doctorat de Mathématiques**, *mention très honorable*

Institut de Recherche en Informatique Fondamentale (IRIF), Paris-Diderot, Université de Paris

*Title*: “Quantifiers and duality”

*Defence*: September 10, 2018 in Paris

*PhD supervisor*: Mai Gehrke

**09/2012 – 04/2015**

**Masters of Mathematics**, *cum laude*

Department of Mathematics, Università degli Studi di Milano Statale

*MSc thesis*: “Stone duality above dimension zero”

*MSc thesis supervisor*: Vincenzo Marra

**09/2008 – 02/2012**

**Bachelor of Mathematics**, *with full marks*

Department of Mathematics, Università di Trento

## List of publications

Copies of all articles and manuscripts listed below are available at the following address:

<https://lucareggio.github.io/publications/>

1. C. Borlido, P. Karazeris, **L. Reggio**, K. Tsamis (2024). Filtral pretoposes and compact Hausdorff locales, *Theory and Applications of Categories* **41**, 1439–1475.  
URL: <http://www.tac.mta.ca/tac/volumes/41/41/41-41abs.html>
2. S. Abramsky, **L. Reggio** (2024). An invitation to game comonads, *ACM SIGLOG News* **11**, issue 3, 5–48. DOI: 10.1145/3687256.3687260.
3. S. Abramsky, **L. Reggio** (2024). Arboreal categories and equi-resource homomorphism preservation theorems, *Annals of Pure and Applied Logic* **175**, issue 6, 103423. DOI: 10.1016/j.apal.2024.103423.
4. S. Abramsky, **L. Reggio** (2023). Arboreal categories: an axiomatic theory of resources. Extended version of the ICALP’21 paper, *Logical Methods in Computer Science* **19**, issue 3, 14:1–14:36. DOI: 10.46298/lmcs-19(3:14)2023.
5. M. Abbadini, **L. Reggio** (2023). Barr-exact categories and soft sheaf representations. *Journal of Pure and Applied Algebra* **227**, issue 12, 107413. DOI: 10.1016/j.jpaa.2023.107413.
6. G. Metcalfe, **L. Reggio** (2023). Model completions for universal classes of algebras: necessary and sufficient conditions, *Journal of Symbolic Logic* **88**, issue 1, 381–417. DOI: 10.1017/jsl.2022.1.
7. M. Gehrke, T. Jakl, **L. Reggio** (2023). A Cook’s tour of duality in logic: From quantifiers, through Vietoris, to measures, In: *Samson Abramsky on Logic and Structure in Computer Science and Beyond, Outstanding Contributions to Logic* **25**, Springer. DOI: 10.1007/978-3-031-24117-8\_4.

8. **L. Reggio** (2022). Polyadic sets and homomorphism counting, *Advances in Mathematics* **410**, Part A, 108712. DOI: 10.1016/j.aim.2022.108712.
9. M. Gehrke, T. Jakl, **L. Reggio** (2022). A duality theoretic view on limits of finite structures: Extended version, *Logical Methods in Computer Science* **18**, issue 1, 16:1–16:38. DOI: 10.46298/lmcs-18(1:16)2022.
10. S. Abramsky, **L. Reggio** (2021). Arboreal categories and resources, *International Colloquium on Automata, Languages, and Programming (ICALP), LIPIcs* **198**, 115:1–115:20. DOI: 10.4230/LIPIcs.ICALP.2021.115.
11. A. Dawar, T. Jakl, **L. Reggio** (2021). Lovász-type theorems and game comonads, *Proceedings of the 36th Annual ACM/IEEE Symposium on Logic in Computer Science (LiCS)*, 1–13. DOI: 10.1109/LICS52264.2021.9470609.
12. **L. Reggio** (2021). Beth definability and the Stone-Weierstrass Theorem, *Annals of Pure and Applied Logic* **172**, issue 8, 102990. DOI: 10.1016/j.apal.2021.102990.
13. M. Gehrke, D. Petrişan, **L. Reggio** (2020). Quantifiers on languages and codensity monads, *Mathematical Structures in Computer Science* **30**(10), issue 10, 1054–1088. Extended version of the LiCS’17 paper. DOI: 10.1017/s0960129521000074.
14. V. Marra, **L. Reggio** (2020). A characterisation of the category of compact Hausdorff spaces, *Theory and Applications of Categories* **35**, 1871–1906. URL: <http://www.tac.mta.ca/tac/volumes/35/51/35-51abs.html>
15. M. Abbadini, **L. Reggio** (2020). On the axiomatisability of the dual of compact ordered spaces, *Applied Categorical Structures* **28**, 921–934. DOI: 10.1007/s10485-020-09604-y.
16. M. Gehrke, T. Jakl, **L. Reggio** (2020). A duality theoretic view on limits of finite structures, *International conference on Foundations of Software Science and Computation Structures (FoSSaCS)*, 299–318. DOI: 10.1007/978-3-030-45231-5\_16.
17. **L. Reggio** (2020). Codensity, profiniteness and algebras of semiring-valued measures, *Journal of Pure and Applied Algebra* **224**, 181–205. DOI: 10.1016/j.jpaa.2019.05.002.
18. S. J. van Gool, **L. Reggio** (2018). An open mapping theorem for finitely copresented Esakia spaces, *Topology and its Applications* **240**, 69–77. DOI: 10.1016/j.topol.2018.03.006.
19. M. Gehrke, D. Petrişan, **L. Reggio** (2017). Quantifiers on languages and codensity monads, *Proceedings of the 32nd Annual ACM/IEEE Symposium on Logic in Computer Science (LiCS)*, 1–12. DOI: 10.1109/LICS.2017.8005140.
20. V. Marra, **L. Reggio** (2017). Stone duality above dimension zero: the algebraic theory of  $C(X)$ , *Advances in Mathematics* **307**, 253–287. DOI: 10.1016/j.aim.2016.11.012.
21. M. Gehrke, D. Petrişan, **L. Reggio** (2016). The Schützenberger product for syntactic spaces, *International Colloquium on Automata, Languages, and Programming (ICALP), LIPIcs* **55**: 112:1–112:14. DOI: 10.4230/LIPIcs.ICALP.2016.112.

## Preprints

- **L. Reggio**, C. Riba. Finitely accessible arboreal adjunctions and Hintikka formulae.  
DOI: 10.48550/arXiv.2304.12709.
- **L. Reggio**. A model category for modal logic. DOI: 10.48550/arXiv.2310.12068.
- S. Abramsky, T. Laure, **L. Reggio**. Existential and positive games: a comonadic and axiomatic view.  
DOI: 10.48550/arXiv.2503.01247.
- J. Marquès, **L. Reggio**. Poset-enriched pretoposes and compact ordered spaces.  
DOI: 10.48550/arXiv.2508.09944.

## Theses

- **L. Reggio**, *Quantifiers and duality*, Ph.D. thesis, Université Sorbonne Paris Cité, 2018.  
Available at <https://luca Reggio.github.io/publications>.
- **L. Reggio**, *Stone duality above dimension zero*, Master's thesis, University of Milano, 2015.  
Available at <https://luca Reggio.github.io/publications>.

## Invited presentations at international conferences (selection)

1. *Game comonads: logical and homotopical aspects*, at *38th Summer Conference on Topology and its Applications*, Coimbra, July 2024.
2. *Game comonads and resource-sensitive model theory*, at *Topology, Algebra, and Categories in Logic (TACL)*, Barcelona, July 2024.
3. *Polyadic spaces, homomorphism counting and  $\omega$ -categorical theories*, at *XXII Congresso dell'Unione Matematica Italiana, sezione Logica Matematica*, Pisa, September 2023.
4. *Resource-sensitive model theory: a categorical view*, at *Category Theory 2023*, Louvain-la-Neuve, July 2023.
5. *The algebraic theory of  $C(X)$  and its logic*, at *XXVII Incontro di Logica*, Caserta, September 2022. Triennial conference of the Italian Association for Logic and its Applications (AILA).
6. *Lovász-type theorems and polyadic spaces*, at *BLAST 2021 (Special session on Stone and Priestley dualities)*, New Mexico University and online, June 2021.
7. *Dualities in logic: old and new results*, at *XXI Congresso dell'Unione Matematica Italiana, sezione Logica Matematica*, Pavia, September 2019.
8. *Dualities in logic*, tutorial in two parts at *PhDs in Logic XI*, Bern, April 2019.
9. *Pretoposes and topological representations*, at *ToLo VI: Topological Methods in Logic*, Tbilisi State University, July 2018.
10. *Towards a general Stone-Gelfand duality*, at *ToLo V: Topological Methods in Logic*, Tbilisi State University, June 2016.

### Contributed presentations at international conferences (selection)

1. *Pos-pretoposes and compact ordered spaces*, at *Category Theory 2025*, Brno, July 2025.
2. *Regular categories and soft sheaf representations*, at *Topology, Algebra, and Categories in Logic (TACL)*, Coimbra, June 2022.
3. *Game comonads and homomorphism counting in finite model theory*, at *Logic Colloquium*, Poznań and online, July 2021.
4. *Arboreal categories and resources*, at the *48th International Colloquium on Automata, Languages, and Programming (ICALP)*, Glasgow and online, July 2021.
5. *Lovász-type theorems and game comonads*, at the *36th Annual Symposium on Logic in Computer Science (LiCS)*, Rome and online, June 2021.
6. *A pretopos theoretic characterisation of compact Hausdorff spaces*, at *Journées niçoises: Logique catégorique, topos et dualités*, Nice, January 2018.
7. *Axiomatising the dual of compact Hausdorff spaces*, at *Topology, Algebra, and Categories in Logic (TACL)*, Ischia, June 2015.

Between 2015 and 2025, I gave over 60 presentations at local seminars and international workshops. For a complete list, see: <https://lucareggio.github.io/talks>

### Funding

<b>10/2024 – 09/2027</b>	<b>Rita Levi-Montalcini Fellowship</b> , MUR (Italian Ministry of University and Research). Project <i>Syntactic spaces: Topological and geometric methods for first-order logics</i> , hosted by the Department of Mathematics of Università degli Studi di Milano Statale.
<b>02/2020 – 01/2022</b>	<b>Marie Skłodowska-Curie Individual Fellowship</b> , Horizon 2020. Project <i>Duality for finite models</i> (D-FINED), hosted by the Department of Computer Science of Oxford University and supervised by Samson Abramsky.
<b>01/2019 – 12/2020</b>	<b>CAS-ICS postdoctoral position</b> , jointly funded by the Czech Academy of Sciences and the Institute of Computer Science, two years of full funding for the applicant's postdoctoral research.
<b>10/2018 – 09/2020</b>	<b>Fellowship for Junior Researchers</b> of the Institute of Computer Science of the Czech Academy of Sciences. In January 2019 I renounced to this fellowship to take up the previous one.
<b>10/2015 – 09/2018</b>	<b>Sorbonne Paris Cité Volant International PhD scholarship</b> , three years of full funding for the applicant's PhD research project, awarded by Sorbonne Paris Cité.

## Participation in research projects

<b>02/2022 – 08/2024</b>	<b>Resources in computation</b> , funded by the Engineering and Physical Sciences Research Council (EPSRC). P.I.: Samson Abramsky.
<b>02/2020 – 06/2023</b>	<b>Resources and co-resources: a junction between semantics and descriptive complexity</b> , funded by the Engineering and Physical Sciences Research Council (EPSRC). P.I.: Samson Abramsky and Anuj Dawar.
<b>08/2019 – 01/2020</b>	<b>Hidden quantifiers</b> , funded by the Swiss National Science Foundation (SNSF). P.I.: George Metcalfe.
<b>01/2019 – 07/2019</b>	<b>Predicate graded logics and their applications to computer science</b> , funded by the Czech Science Foundation (GACR). P.I.: Carles Noguera.
<b>09/2015 – 09/2018</b>	<b>DuaLL: Duality in formal languages and logic</b> , funded by the European Research Council (ERC), Advanced Grant. P.I.: Mai Gehrke.

## Teaching

<b>Fall 2025</b>	Lecturer of <b>Logica Algebrica e Catoriale</b> for the MSc in Mathematics, Università degli Studi di Milano Statale.
<b>Fall 2025</b>	Lecturer of <b>Logica Matematica 1</b> for the MSc in Mathematics, Università degli Studi di Milano Statale.
<b>Fall 2024</b>	Lecturer of <b>Logica Matematica 1</b> for the MSc in Mathematics, Università degli Studi di Milano Statale.
<b>Fall 2024</b>	Lecturer of <b>Matematica Generale</b> for the BSc in Biological Sciences, Università degli Studi di Milano Statale.
<b>Spring 2023</b>	Teaching assistant. Undergraduate course <b>Discrete Mathematics</b> , UCL.
<b>Summer 2022</b>	Lecturer, with Tomáš Jakl, for the advanced course <b>An Invitation to Game Comonads</b> at the <i>33rd ESSLLI Summer School</i> , Galway.
<b>Fall 2021</b>	Lecturer. Master course <b>Categories, Proofs and Processes</b> , University of Oxford.
<b>Spring 2021</b>	Class tutor. Undergraduate course <b>Logic and Proof</b> , University of Oxford.
<b>Fall 2020</b>	Guest lecturer and class tutor. Master course <b>Categories, Proofs and Processes</b> , University of Oxford.
<b>Spring 2020</b>	Assessor for two Part C and Oxford Masters in Mathematical Sciences dissertations.
<b>Fall 2019</b>	Teaching assistant. Master course <b>Model theory</b> , University of Bern.
<b>Fall 2019</b>	Co-organiser of the seminar <b>Duality Theory</b> for Master's students, University of Bern.

## Supervision

<b>Fall 2024 – ongoing</b>	Co-supervisor for a PhD thesis in Mathematics (Caterina Sioli, Università degli Studi di Milano Statale).
<b>Spring 2022</b>	Co-supervisor for a research internship ( <i>stage de M1</i> ) at UCL (Thomas Laure, ENS Paris).
<b>Spring 2020</b>	Co-supervisor for a <i>mémoire de M2</i> in Mathematics (Jérémy Marquès, Univ. de Nice).

## Qualifications

- 05/2022** *Abilitazione scientifica nazionale, settore concorsuale 01/A1: Logica matematica e matematiche complementari.*  
Ministero dell'Università e della Ricerca.
- 02/2021** *Qualification aux fonctions de maître de conférences en Mathématiques.*  
Ministère de l'Enseignement Supérieur français, n° de qualification 21225342956.

## Prizes and awards

- 08/2022** **EACSL sponsorship** for the course *An Invitation to Game Comonads* at the 33rd ESSLLI Summer School. Awarded by the European Association for Computer Science Logic.
- 06/2020** **Premio Speciale Paolo Gentilini** for PhD theses in mathematical logic and its applications to theoretical computer science. Awarded by the Italian Association for Logic and its Applications (AILA).
- 11/2019** **Premio Ada Lettieri** for the paper *Stone duality above dimension zero* (Adv. Math. **307**, 2017), written jointly with Vincenzo Marra. Awarded by AILA.
- 05/2015** **AILA Prize 2015** for the best Master's theses in Logic.

## Organisation of scientific meetings

- 12/2025** **6th ItaCa Workshop**, international workshop at Università degli Studi di Milano Statale. Member of the organising and scientific committees.
- 10/2024 – ongoing** **Seminario di Logica, Algebra e Categorie (LAC)**, weekly seminar at Università degli Studi di Milano Statale. Organiser.
- 09/2023** **Workshop on Springer Volume “Samson Abramsky on Logic and Structure in Computer Science and Beyond”**, international workshop at University College London. Member of the organising and scientific committees.
- 09/2022** **Resources in Computation**, international workshop at University College London. Member of the organising and scientific committees.
- 06/2019** **Topology, Algebra, and Categories in Logic (TACL)**, international conference at Université Côte d'Azur. Member of the organising committee.
- 09/2018** **Quantifiers and Duality**, international workshop at Université Paris-Diderot. Member of the organising and programme committees.
- 09/2017 – 07/2018** **Dualité de Stone, langages formels et logique**, weekly seminar at Université Côte d'Azur. Organiser.

## Committees

- 07/2026** Member of the **program committee** of the conference *ICALP 2026* (Egham).
- 09/2025** Member of the **program committee** of the conference *TbiLLC 2025* (Tbilisi).
- 07/2025** Member of the **program committee** of the summer school *ESSLLI 2025* (Bochum).

<b>10/2024</b>	Member of the <b>Commissione Trasferimenti e Riconoscimento Titoli Esteri</b> , Dipartimento di Matematica, Università degli Studi di Milano Statale.
<b>07/2024</b>	Member of the <b>program committee</b> of the workshop <i>Structure Meets Power 2024</i> (Tallinn).
<b>06/2024</b>	Member of the <b>program committee</b> of the conference <i>WoLLIC 2024</i> (Bern).
<b>09/2023</b>	Member of the <b>PhD defence committee</b> for the PhD thesis of Jérémie Marquès (Nice).
<b>09/2023</b>	Member of the <b>PhD defence committee</b> for the PhD thesis of Aliaume Lopez (Paris).
<b>06/2022</b>	Member of the <b>programme committee</b> of the conference <i>TACL 2022</i> (Coimbra).
<b>02/2021</b>	Member of the <b>admissions committee</b> for the Oxford MSc in Advanced Computer Science (Oxford).
<b>04/2020</b>	Member of the <b>scientific committee</b> of the conference <i>PhDs in Logic XII</i> (Berlin).

### Reviewing activities

1. **Scientific expert:** remote evaluation of scientific proposals for the Marie Skłodowska-Curie Fellowship program, calls HORIZON-MSCA-2023-PF-01 (Fall 2023) and HORIZON-MSCA-2024-PF-01 (Fall 2024).
2. **Assessor** for two Part C and Oxford Masters in Mathematical Sciences dissertations, University of Oxford, Spring 2020.
3. **Reviewer** for  $\sim 30$  articles submitted to international journals, including *Journal of Symbolic Logic*, *Annals of Pure and Applied Logic*, *Journal of Logic and Analysis*, *Journal of Pure and Applied Algebra*, *Journal of Algebra*, *Topology and its Applications*, *Theory and Applications of Categories*, *Applied Categorical Structures*, *Cahiers de Topologie et Géométrie Différentielle Catégoriques*, *Mathematical Structures in Computer Science*, and international conferences, including *LiCS*, *CSL*, *ICALP*, *CALCO*, *RAMiCS*.

### Language skills

**Italian** (native speaker), **French** (fluent), **English** (fluent).