Tommaso Moraschini
Department of Philosophy
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https://moraschini.github.io/index.html

Born 25.8.1988

Education and qualification
- *Habilitation for the position of full professor (catedrático)* by the AQU 2023
- *PhD in Pure and Applied Logic*, University of Barcelona 6.2016
- *Master in Philosophical Sciences*, University of the Studies of Milan, 7.2013
- *Master in Pure and Applied Logic*, University of Barcelona 7.2012

Employment history

2020–present Reader (tenure track), Department of Philosophy of the University of Barcelona
2018–2019 Senior Research Assistant, Institute of Computer Sciences of the Czech Academy of Science
2016–2017 Research Assistant, Institute of Computer Sciences of the Czech Academy of Science
2013–2016 PhD Student, University of Barcelona

Current position
- Beatriz Galindo fellow at the Philosophy Department of the University of Barcelona (2020–2023)
- Member of the Institute of Mathematics (IMUB) of the University of Barcelona
- Coordinator for the University of Barcelona for the Master in Pure and Applied Logic

Research interests
- Mathematical Logic
- (Abstract) Algebraic Logic
- Intuitionistic and Modal Logic
- Universal Algebra and Duality Theory

Basic scientometric data
- 31 journal papers + 2 conference papers + 2 book chapter + 2 submitted manuscripts
- 40+ conference talks (11 as an invited speaker) + 3 invited talks at workshops

Prizes and awards
- *Ada Lettieri award* for the best research paper or monograph in logic by the Italian Logic Association 2021
- *Josef Hlávka award* for scientific literature 2019
- *Award for Best Young Researchers of Czech Academy of Sciences* 2018
- *Best PhD Thesis in Logic award* from the University of Barcelona 2017

Invited or plenary conference talks (`https://moraschini.github.io/conferences.html`)

11. Profiniteness and spectra of Heyting algebras. *XXVII Meeting of the Italian Association for Logic and its Applications*, Caserta, Italy, 2022.
10. Shalqvist correspondence for deductive systems. Algebraic Logic special session of the *Western Sectional Meeting of the American Mathematical Society*, Denver, Colorado, 2022.
9. Plonka sums and logics of variable inclusion. Invited talk at *Trends in Logic*, Cagliari, Italy, 2022.
8. Profiniteness and spectra of Heyting algebras. Algebraic Logic special session of the *North American Meeting of the ASL*, South Bend, Indiana, 2021.
7. On equational completeness theorems. *virtUMA*, Argentina, 2020.
6. The poset of all logics. *TACL*, Nice, France, 2019.
5. On interpretations between propositional logics. *BLAST*, Boulder, Colorado, 2019.
4. Relational semantics, ordered algebras, and quantifiers for deductive systems. *LATD*, Bern, Switzerland, 2018.
3. A course in Abstract Algebraic Logic. Tutorial at *TACL* summer school, Olomouc, Czech Republic, 2017.
2. Classifying Strongly Finite Logics in the Leibniz Hierarchy. *SLALM*, Buenos Aires, Argentina, 2014.
1. Logics associated with a quasi-primal algebra. Plenary talk at *AAA*88, Warsaw, Poland, 2014.

Invited talks at workshops

3. The relevance principle meets structural completeness. Invited talk at the workshop New Directions in Relevance Logic, online, 2022.
2. On equational completeness theorems. Invited speaker at the workshop on Duality, Order, (Co)algebras, Topology, and Related topics, Cagliari, Italy, 2021.
1. Varieties of De Morgan monoids and axiomatic extensions of Relevance Logic. First Algebra Week, Siena, Italy, 2018.

Grants (principal investigator)

- Local PI of the Horizon 2020 Marie Skłodowska-Curie RISE project *MOSAIC* 101007627, funded by the European Union, 2021–2024
- PI of the i+D+I research project *The geometry of non-classical logics* PID2019-110843GA-I00, funded by the Spanish Ministry of Science, Innovation and Universities, 2020–2023
- co-PI of the research project *Enhancing human resources in theoretical computer science* PPLZ 100301751, co-funded by the European Union and the Czech Operational Programme Research, Development and Education, 2018–2020

Grants (team member)

- *Research group in mathematical logic*, 2021SGR00348 funded by the Agency for Management of University and Research Grants of the Government of Catalonia, 2021–2025
- *Research group in non-classical logics* 2017SGR0095, funded by the Agency for Management of University and Research Grants of the Government of Catalonia, 2017–2021
- *Predicate graded logics and their applications in computer science* GA17-04630S, funded by the Czech Science Foundation, 2017–2019
- *Totally ordered monoids* 15-07724Y, funded by the Czech Science Foundation, 2015–2017
- Horizon 2020 Marie Skłodowska-Curie RISE project *SYSMICS* 689176, funded by the European Union, 2016–2018
- *Modelling vague quantifiers in mathematical fuzzy logic* I1897-N25 and GF15-34650L, co-funded by theAustrian Science Fundation and Czech Science Foundation, 2015–2018
- *Center of Excellence-Institute for Theoretical Computer Science* (CE-ITI) GBP202/12/G061, funded by the the Czech Science Foundation, 2012–2018
- *An Order-Based Approach to Non-Classical Propositional and Predicate Logics* GA13-14654S, funded by the Czech Science Foundation, 2013–2016
- *Algebraic Logic and Non-Classical Logics* MTM2011-25747, funded by the Ministry of Science and Innovation of Spain, 2012–2015
- *Research group in non-classical logics* 2009SGR-1433, funded by the Agency for Management of University and Research Grants of the Government of Catalonia, 2014–2016

Committee membership

- Chair of the program committee and member of the organizing committee of *TACL* 2024
- Member of the organizing committee of the *Proof Society* meeting 2023
- Member of the program committee of *LATD* 2023
- Member of the program committee of *Modal logics: proof theory and applications* 2023
- Member of the program committee of *PhDs in Logic* 2022
- Member of the program committee of *AiML* 2022
- Member of the program committee of *LATD* 2022
- Chair of program and organizing committee of the *Workshop on Admissible Rules and Unification* 2019
- Member of the organizing committee of *TACL* 2017
- Member of Spanish evaluation board for research projects
- I served for the Argentinian grant agency and for the Italian Association for Logics and its Applications
- I was a committee member in various master and PhD defenses

Research supervision

PhD Theses

- M. Martins. Bi-intuitionistic logics of trees. University of Barcelona, in progress.
- D. Fornasiere. Sahlqvist theory for protoalgebraic logics. University of Barcelona, in progress.
- J.J. Wannenburg. Varieties of De Morgan monoids and axiomatic extensions of relevance logic. University of Pretoria, 2020.

Master Theses

- Currently supervising S. Cristancho, P. Sempere, I.M. Liberal, M. Munoz for the University of Barcelona and S. Lemal for the ILLC.
- R. Almeida. Polyatomic Logics and Generalised Blok-Esakia Theory with Applications to Orthologic and KTB. ILLC, University of Amsterdam, 2022.
- A. Chernev. Degrees of FMP in extensions of bi-intuitionistic logic. ILLC, University of Amsterdam, 2022.
- J. Carr. Hereditary Structural Completeness over K4: Revisited. ILLC, University of Amsterdam, 2021.
- A. Dmitrieva. Positive modal logic beyond distributivity. ILLC, University of Amsterdam, 2021.
- L. Tasiou. Profinite bi-Heyting algebras. University of Amsterdam, 2021.
- D. Fornasiere. Representable Forests and Diamond Systems. ILLC, University of Amsterdam, 2021.
- M. Martins. Bi-Gödel algebras and co-trees. University of Amsterdam, 2021.
- J. Herrera Hernández. Inconsistency lemmas: an algebraic approach. University of Barcelona, 2020.
- T. Benjamins. Locally finite varieties of Heyting algebras of width 2. University of Amsterdam, 2020.

Teaching experience

- *Abstract Logic*. Master of Pure and Applied Logic, University of Barcelona 2022–2023
- *Abstract Algebraic Logic*. Master of Pure and Applied Logic, University of Barcelona 2021–2022
- *Algebraic Logic*. Master of Pure and Applied Logic, University of Barcelona 2020–2021
- *Orders, Lattices, and Boolean Algebras*. Master of Pure and Applied Logic, University of Barcelona 2020–2021
- *The Algebra of Logic*. June project at the Institute for Logic, Language and Computation, University of Amsterdam and at the University of Verona 2021
- *Algebraic Logic*. June project at the Institute for Logic, Language and Computation, University of Amsterdam 2020

Stays abroad

- Institute for Logic, Language and Computation of the University of Amsterdam (June 2023)
- Institute of Logic and Computation of Vienna University of Technology (December 2019)
- Institute for Logic, Language and Computation of the University of Amsterdam (October 2019)
- Faculty of Philosophy of the University of Barcelona (January–March 2019)
- Department of Mathematics of University of Pretoria (November 2018)
- Faculty of Philosophy of the University of Barcelona (January–February 2018)
- Department of Mathematics of University of Pretoria (September–October 2017)
- Faculty of Philosophy of the University of Barcelona (January–February 2017)
- Institute of Theory of Information and Automation of the Czech Academy of Sciences (May 2016)
- Department of Mathematics of University of Pretoria (November–December 2015)
- Institute of Theory of Information and Automation of the Czech Academy of Sciences (July 2015)
- Department of Mathematics of University of Pretoria (January–February 2015)

Journal papers

31. T. Moraschini, K. Yamamoto, and J.J. Wannenburg. Elementary equivalence in positive logic via prime products. To appear in the *Journal of Symbolic Logic*, 2023
30. D. Fornasiere and T. Moraschini. Intuitionistic Sahlqvist theory for deductive systems. Published online in the *Journal of Symbolic Logic*, 2023.
29. J. Gispert, Z. Haniková, T. Moraschini and M. Stronkowski. Structural completeness in many-valued logics with rational constants. *Notre Dame Journal of Formal Logic*, 2022.
28. N. Bezhanishvili and T. Moraschini. Hereditarily structurally complete intermediate logics: Citkin's theorem via Esakia duality. Published online in in *Studia Logica*, 2022.
27. T. Lavička, T. Moraschini and J.G. Raftery. The algebraic significance of weak excluded middle laws. To appear in the *Mathematical Logic Quarterly*, 63(3):261-299, 2022.
26. G. Bezhanishvili, N. Bezhanishvili, T. Moraschini, and M. Stronkowski. Profiniteness and representability of spectra of Heyting algebras. *Advances in Mathematics*, 391, 2021.
25. T. Moraschini. On equational completeness theorems. Published online in the *Journal of Symbolic Logic*, 2021.
24. R. Jansana and T. Moraschini. The poset of all logics I: Interpretations and lattice structure. *Journal of Symbolic Logic*, 86(3):935-964, 2021.
23. R. Jansana and T. Moraschini. The poset of all logics II: Leibniz classes and hierarchy. Published online in the *Journal of Symbolic Logic*, 2021.
22. R. Jansana and T. Moraschini. The poset of all logics III: finitely presentable logics. *Studia Logica*, 109:539-580, 2021.

21. T. Moraschini and J. Wannenburg. Epimorphisms in varieties of Heyting algebras. *Annals of Pure and Applied Logic*, 171(9), 2020.
20. S. Bonzio, T. Moraschini and M. Pra Baldi. Logics of left variable inclusion and Plonka sums of matrices. *Archive for Mathematical Logic*, 60:49-76 , 2021.
19. T. Moraschini, J.G. Raftery, J. Wannenburg. Epimorphisms in varieties of square-increasing residuated structures. *Algebra Universalis*, 82(6), 2021.
18. T. Moraschini, J.G. Raftery, and J.J. Wannenburg. Singly generated quasivarieties and residuated structures. *Mathematical Logic Quarterly*, 66(2):150-172, 2020.
17. T. Moraschini, J.G. Raftery and J.J. Wannenburg. Varieties of De Morgan monoids: covers of atoms. *Review of Symbolic Logic*, 13(2) : 338-374, 2020.
16. T. Moraschini. Varieties of positive modal algebras and structural completeness. *Review of Symbolic Logic*. 12(3):557-599, 2019.
15. T. Moraschini and J.G. Raftery. On prevarieties of logic. *Algebra Universalis*. 80(37) , 2019.
14. T. Moraschini, J.G. Raftery and J.J. Wannenburg. Epimorphisms, definability and cardinalities. *Studia Logica*, 108 : 255–275, 2020.
13. T. Moraschini. On the complexity of the Leibniz hierarchy. *Annals of Pure and Applied Logic*. 170(7):805-824, 2019.
12. P. Cintula, J. Gil-Férez, T. Moraschini and F. Paoli. An abstract approach to multiset consequence relations. *Review of Symbolic Logic*. 12(2):331-371, 2019.
11. T. Moraschini, J.G. Raftery and J.J. Wannenburg. Varieties of De Morgan monoids: minimality and irreducible algebras. *Journal of Pure and Applied Algebra*, 223(7):2780-2803, 2019.
10. T. Moraschini. A logical and algebraic characterization of adjunctions between generalized quasi-varieties. *Journal of Symbolic Logic*, 83(3):899-919, 2018.
9. T. Moraschini. A Study of the Truth Predicates of Matrix Semantics. *Review of Symbolic Logic*, 11(4):780–804, 2018.
8. T. Moraschini. A computational glimpse to the Leibniz and Frege hierarchies. *Annals of Pure and Applied Logic*, 169(1):1-20, 2018.
7. G. Bezhanishvili, T. Moraschini and J. Raftery. Epimorphisms in Varieties of Residuated Structures. *Journal of Algebra*, 492:185-211, 2017.
6. T. Moraschini. The Semantic Isomorphism Theorem in Abstract Algebraic Logic. *Annals of Pure and Applied Logic*, 167(2):1298-1331, 2016.
5. T. Moraschini. On Everywhere Strongly Logifiable Algebras. *Reports on Mathematical Logic*, 50:83-107, 2015.
4. J.M. Font and T. Moraschini. M-Sets and the Representation Problem. *Studia Logica*, 103(3):21-51, 2015.
3. J.M. Font and T. Moraschini. A Note on Congruences of Semilattices with Sectionally Finite Height. *Algebra Universalis*, 72(3):287-293, 2014.
2. J.M. Font and T. Moraschini. Logics of Varieties, Logics of Semilattices, and Conjunction. *Logic Journal of the IGPL*, 22:818-843, 2014.
1. T. Moraschini. An Algebraic Study of Exactness in Partial Contexts. *International Journal of Approximate Reasoning*, 55:457–468, 2014.

Conference papers

2. R. Horčík, T. Moraschini and A. Vidal. An algebraic approach to the valued constraint satisfaction problem. In proceedings of Computer Science in Logic 2017.
1. J.M. Font and T. Moraschini. On the Logics Associated With a Given Variety of Algebras. In proceedings of Trends in Logic XIII, 67-80, 2014.

Book chapters

1. T. Moraschini. A gentle introduction to the Leibniz hierarchy. To appear in J. Malinowski and R. Palczewski, editors, *Janusz Czelakowski on Logical Consequence*. Outstanding Contributions to Logic. Springer-Verlag, 2023.
2. H. Albuquerque, J. M. Font, R. Jansana and T. Moraschini. Truth-Equational Logics, Full Models, and the Frege Hierarchy. In J. Czelakowski, editor, *Don Pigozzi on Abstract Algebraic Logic and Universal Algebra*, Outstanding Contributions to Logic, Springer-Verlag, 16:53-79, 2018.

Submitted manuscripts (all available at `https://moraschini.github.io/publications.html`)

2. N. Bezhanishvili, M. Martins and T. Moraschini. Bi-intermediate logics of trees and co-tress.
1. N. Bezhanishvili, A. Dmitrieva, J. de Groot and T. Moraschini. Positive (Modal) Logic Beyond Distributivity.

Languages

- Italian, English, Spanish, and Catalan (fluent) + French and German (basic)