

## Tommaso Moraschini

Department of Philosophy  
University of Barcelona  
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<https://moraschini.github.io/index.html>

**Born** 25.8.1988

## Education and qualification

- *PhD in Pure and Applied Logic*, University of Barcelona 6.2016  
Thesis title: Investigations into the role of translations in abstract algebraic logic  
Supervisors: Professors R. Jansana and J.M. Font
- *Master in Philosophical Sciences*, University of the Studies of Milan, 7.2013  
Thesis title: Some topic in abstract algebraic logic  
Supervisor: Professor S. Bozzi
- *Master in Pure and Applied Logic*, University of Barcelona 7.2012  
Thesis title: The interplay between languages and models in abstract algebraic logic  
Supervisor: Professor J.M. Font

## Employment history

- 2020–present Department of Philosophy, University of Barcelona  
Assistant Professor, Tenure Track (January–present)
- 2018–2019 Institute of Computer Sciences, Czech Academy of Science  
Advanced Research Assistant (January–December)
- 2016–2017 Institute of Computer Sciences, Czech Academy of Science  
Research Assistant (July–December)
- 2013–2016 University of Barcelona  
PhD Student (September–June)

## Research interests

- Mathematical Logic
- (Abstract) Algebraic Logic
- Duality Theory
- Intuitionistic, Modal and Relevance Logics
- Universal Algebra and Category Theory

## Basic scientometric data

- 26 journal papers + 2 conference papers + 1 book chapter + 3 submitted manuscripts

## Prizes and awards

- Beatriz Galindo fellowship (4 years, January 2020–December 2023)
- Josef Hlávka prize [www.hlavkovanadace.cz/cinnost\\_2018.php](http://www.hlavkovanadace.cz/cinnost_2018.php)
- Best Young Researcher of Czech Acad. of Sciences [www.avcr.cz/en/about-us/awards/prizes-of-the-cas/](http://www.avcr.cz/en/about-us/awards/prizes-of-the-cas/)
- Best PhD Thesis award of the University of Barcelona
- CAS-ICS postdoctoral fellowship (2 years, June 2017–June 2019)
- APIF Scholarship of the University of Barcelona (3 years)

## Invited and plenary talks (slides available at <https://moraschini.github.io/conferences.html>)

9. Profiniteness and spectra of Heyting algebras. Invited talk at the Algebraic Logic special session of the North American Meeting of the ASL, South Bend, Indiana, 2021.
8. On equational completeness theorems. Invited talk at virtUMA, Argentina, 2020.
7. The poset of all logics. Invited talk at TACL 2019, Nice, France, 2019.
6. On interpretations between propositional logics. Invited talk at BLAST2019, Boulder, Colorado, 2019.
5. Relational semantics, ordered algebras, and quantifiers for deductive systems. Invited talk at LATD2018, Bern, Switzerland, 2018.
4. Varieties of De Morgan monoids and axiomatic extensions of Relevance Logic. Invited speaker at the First Algebra Week, Siena, Italy, 2018.
3. A course in Abstract Algebraic Logic. Invited tutorial at TACL School 2017, Olomouc, Czech Republic, 2017.

2. Classifying Strongly Finite Logics in the Leibniz Hierarchy. Invited talk at the 16th SLALM, Buenos Aires, Argentina, 2014.
1. Logics associated with a quasi-primal algebra. Plenary talk at AAA88, Warsaw, Poland, 2014.

#### **Grants (principal investigator)**

- Local PI of MOSAIC, 101007627 of Horizon 2020 Marie Skłodowska-Curie RISE, 2021–2024
- *The geometry of non-classical logics* (3 years, June 2020–May 2023),  
Funded by the Spanish Ministry of Science, Innovation and Universities
- *Enhancing human resources in theoretical computer science* (2 years, May 2018–April 2020),  
Funded by the Operational Programme Research, Development and Education

#### **Grants (team member)**

- *Predicate graded logics and their applications in computer science* GA17-04630S of the GAČR 2017-2019
- *Totally ordered monoids* 15-07724Y of the Czech Science Foundation, 2015-2017
- SYSMICS, 689176 of Horizon 2020 Marie Skłodowska-Curie RISE, 2016–2018
- *Modelling vague quantifiers in mathematical fuzzy logic*, joint project of Austrian Science Fund I1897-N25 and Czech Science Foundation GF15-34650L, 2015–2018
- *Center of Excellence-Institute for Theoretical Computer Science (CE-ITI)*, GBP202/12/G061 of the Czech Science Foundation, 2012–2018
- *An Order-Based Approach to Non-Classical Propositional and Predicate Logics*, GA13-14654S of the Czech Science Foundation, 2013–2016
- *Algebraic Logic and Non-Classical Logics*, MTM2011-25747 of the Government of Spain
- *Research grant*, 2009SGR-1433 of the research funding agency AGAUR of the Generalitat de Catalunya

#### **Committee membership**

- Member of the program committee of Advances in Modal Logic 2022
- Member of Spanish evaluation board for research projects
- Member of the evaluation committee of the Lettieri award 2019 of the AILA
- Member of the program committee of LATD 2021
- Chair of program/organizing committee of WARU 2019
- Member of the organizing committee of TACL 2017
- I served as a committee members for various master and PhD defences

#### **Research supervision**

- 1 supervised PhD thesis (J.J. Wannenburg 2020)
- 4 supervised Master theses (T. Benjamins, J. Herrera 2020, M. Martins, D. Fornasiere, A. Dmitrieva 2021)
- Currently supervising 1 PhD students (D. Fornasiere)
- Currently supervising 2 master students (J. Carr, L. Tasiou)

#### **Teaching experience**

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

#### **Stays abroad**

- 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

26. G. Bezhanishvili, N. Bezhanishvili, T. Moraschini, and M. Stronkowski. Profiniteness and representability of spectra of Heyting algebras. To appear in *Advances in Mathematics*, 2021.
25. T. Moraschini. On equational completeness theorems. To appear in the *Journal of Symbolic Logic*, 2021.
24. R. Jansana and T. Moraschini. The poset of all logics I: Interpretations and lattice structure. To appear in the *Journal of Symbolic Logic*, 2021.
23. R. Jansana and T. Moraschini. The poset of all logics II: Leibniz classes and hierarchy. To appear 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. 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>)

1. N. Bezhanishvili and T. Moraschini. Hereditarily structurally complete intermediate logics: Citkin's theorem via Esakia duality.
2. T. Lavička, T. Moraschini and J.G. Raftery. The algebraic significance of weak excluded middle laws.
3. J. Gispert, Z. Haniková, T. Moraschini and M. Stronkowski. Structural completeness in many-valued logics with rational constants.

**Work in progress**

- T. Benjamins, N. Bezhanishvili, and T. Moraschini. Locally finite varieties of Heyting algebras.
- N. Bezhanishvili, P.M. Dekker, and T. Moraschini. Definability and interpolation in Brouwerian semilattices.

**Softwares**

- Leibniz classifier, with A. Vidal <http://uivty.cs.cas.cz/~amanda/publications.html>