Umberto Tarantino

76 rue du Cardinal Lemoine
75005 Paris, France
+39 345 928 1949
umbertotarantino17@gmail.com
he/they

Research interests

Categorical logic	Topos theory, duality theory
Others	Intuitionistic logic, higher category theory, realizability

Education

Oct 2024 – present	**PhD in Theoretical Computer Science**, *IRIF, Université Paris Cité* Thesis: *Classifying topoi and intuitionistic model theory through ultracategories and polyadic spaces* Advisor: *Sam van Gool*
Sept 2023 – July 2024	**Erasmus+**, *Universiteit van Amsterdam*
Sept 2022 – July 2024	**MSc in Mathematics**, *Università degli studi di Milano* Thesis: *A category of arrow algebras for modified realizability* Advisors: *Benno van den Berg and Silvio Ghilardi* 110/110 cum laude
Sept 2019 – July 2022	**BSc in Mathematics**, *Università degli studi di Milano* 110/110 cum laude

Teaching experience

Sept 2025 – Dec 2025	**Programmation 1 (S5 EIDD)**, *Université Paris Cité* Lab classes
Sept 2024 – Dec 2024	**Programmation 1 (S5 EIDD)**, *Université Paris Cité* Lab classes
Feb 2024 – May 2024	**Topos Theory (M2 MasterMath)**, *Universiteit Utrecht* Exercise classes

Preprints and publications

2025	*Toposes with enough points as categories of étale spaces*, with S. van Gool and J. Marquès Preprint, available at arXiv:2508.09604
2025	*Ultracategories via Kan extensions of relative monads*, with J. Wrigley Preprint, available at arXiv:2506.09788
2025	*A category of arrow algebras for modified realizability* Theory and Applications of Categories, 44(4):132–180

Seminar talks and presentations

July 2025	**Category Theory 2025**, *Masaryk University* Talk: *Where do ultracategories come from?*
April 2025	**Realizability workshop**, *CIRM* Talk: *Arrow algebras, algebraic structures for modified realizability*
February 2025	**GT Sémantique**, *IRIF* Talk: *Arrow algebras, algebraic structures for modified realizability*
December 2024	**Categorical Logic and Higher Categories**, *University of Manchester* Talk: *Triposes and toposes via arrow algebras*
June 2024	**Dutch Categories and Types Seminar**, *Universiteit Leiden* Talk: *Triposes and toposes through arrow algebras*

Awards and scholarships

June 2025	**AILA 3+2 Award** Winner of AILA (Associazione Italiana di Logica e sue Applicazioni) Best Master's Thesis Award
October 2024	**Contrat International IDEX**, *Université Paris Cité* Winner of IDEX scholarship for international PhD students

Languages

Italian, *native*

English, *fluent*, CEFR C1

French, *intermediate*

Technical skills

Programming	C, Java, F#
Others	LaTeX, Z3, SPASS