

# Davide Manca, M. Sc.

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🌐 <https://d-manca-logic.github.io/>

🌐 <https://www.mathematik.uni-wuerzburg.de/mathematicallogic/team/manca-davide/>

## Education

I have developed an interest in mathematical logic during the final year of my Bachelor in Bari. During my stay in Turin, I have attended courses in set theory, model theory and philosophy of mathematics.

- 2013 – 2018  **B. Sc. in Mathematics**, Università degli studi di Bari Aldo Moro, Italy.  
Final grade: 110/110
- 2018 – 2021  **M. Sc. in Mathematics**, University of Turin, Italy.  
Final grade: 110/110 cum laude.
- 2022 – 2025  **PhD candidate in Mathematics**, Technische Universität Darmstadt (until March 2023), Julius-Maximilians-Universität Würzburg (since April 2023), Germany  
Dissertation submitted in February 2025.  
Supervisor: Prof. Dr. Anton Freund.





I moved from Darmstadt to Würzburg as prof. Freund obtained a permanent position there.

## Employment

- 2022 – 2025  **Researcher (Wissenschaftlicher Mitarbeiter)**, at Technische Universität Darmstadt (until March 2023), Universität Würzburg (since April 2023), Germany.



## Research interests and publications

I have worked in the field of proof theory. In particular, my research work dealt with the reverse mathematics of well orders and similar structures, such as better quasi-orders and their variants.

- 1  A. Freund and D. Manca, “Normal functions and maximal order types,” *Journal of Logic and Computation*, vol. 34, no. 6, pp. 1064–1081, 2024, ISSN: 0955-792X, 1465-363X.
- 2  D. Manca, “Some results on the reverse mathematics of finite better quasi-orders,” *Submitted*, 2024, currently under revision.
- 3  A. Freund and D. Manca, “Weak well orders and Fraïssé’s conjecture,” *The Journal of Symbolic Logic*, pp. 1–16, 2023.  DOI: 10.1017/jsl.2023.70.




## Conferences:

I have given the following talks:


- March 2025 (*Invited*)  **Better quasi-orders on labeled trees**, Weihrauch Complexity: Structuring the Realm of Non-Computability, Schloss Dagstuhl – Leibniz Center for Informatics, Germany.
- June 2024   **$\Delta_2^0$ -better quasi orders in reverse mathematics**, Logic Colloquium 2024, University of Gothenburg, Sweden.

## Conferences: (continued)

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- February 2024        **Untitled talk on the reverse mathematics of  $\Delta_2^0$ -bqo's**, Trends in proof Theory 2024, University of Wien, Austria.
- June 2023        **On a weak notion of well order**, Logic Colloquium 2023, University of Milan, Italy.
- January 2023        **Hereditarily countable sets with urelements in a quasi order**, Trends in Proof Theory 2023, University of Ghent, Belgium.

Upcoming conferences:

- August 2025 (*Invited*)        **Infinitary Proof Theory: Techniques and Applications**, Casa Matemática Oaxaca, Mexico.

## Teaching

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I have given some of the exercise classes in Prof. Freund's logic courses:

- Winter semester 2024-2025, teaching duty shared with K. Kowalik.
- Summer semester 2022, teaching duty shared with P. Uftring

## Languages

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Italian (Native), English (Advanced), German (Basic).