

## EDUCATION

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- PhD Physics**, Massachusetts Institute of Technology, Cambridge MA (USA) 2025 -  
 • Graduate student at the MIT Center for Theoretical Physics - a Leinweber Institute
- B. Sc. Physics**, Technical University of Munich, Garching (Germany) 2021 - 2025  
 • Passed with distinction  
 • Thesis: *Neural Network Parametrisation of Generalised Wilson Loops in Lattice QCD*  
 • Supervisor: Nora Brambilla

## INTERNSHIPS

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- Internship**, Nicolaus Copernicus Astronomical Center, Warsaw (Poland) Aug - Oct 2023  
 • Project title: *Chemical abundances in a planet-host star of the Praesepe open cluster*  
 • Study of possible correlation between chemical abundances in the stellar atmosphere and the existence of planets around the star, using stellar spectra observed with the *Very Large Telescope (VLT)*  
 • Supervisor: Rodolfo Smiljanic
- Internship**, Max Planck Institute for Astrophysics, Garching (Germany) Sep - Oct 2022  
 • Co-authored two papers [2, 1]  
 • I continued working on this project with my supervisor, Enrico Garaldi, until July 2023.  
 • Study of the Galaxy–Lyman- $\alpha$  cross-correlation in the Thesan simulations (cosmological radiation-hydrodynamic simulations of the Epoch of Reionization)  
 • Study of the relationship between the optical depth along lines of sights and the distribution of galaxies around them using data from the Thesan simulations

## HONORS, FELLOWSHIPS, AND AWARDS

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- MIT physics graduate fellowship** Covers tuition fees and salary for one year ( $\approx \$120,000$ ) 2025
- Distinction** for undergraduate performance at the Technical University of Munich 2025
- Female physicist of the week** Featured on the social media channels of the German Physical Society 2025
- DAAD RISE worldwide scholarship** Full funding for a research internship abroad (€1984) 2023
- Deutschlandstipendium** Germany's national scholarship (€3600) 2021
- e-fellows.net Scholarship** Networking scholarship for students 2021
- Abitur prize** of the German Physical Society (one year of free membership) 2021

## TEACHING

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- Teaching Assistant**, Technical University of Munich, Garching (Germany) 2023 - 2025  
 • Tasks: Lead weekly 90 min. tutorials for 15-20 undergraduate students, graded homework and exams  
 • Courses: Winter 2024/25: Introduction to Scientific Programming (IN8008)  $\varnothing 1.5$  tutorials per week  
 Summer 2024: Theoretical Physics 1: Classical Mechanics (PH0005)  
 Winter 2023/24: Theoretical Physics 2: Electrodynamics (PH0006)

## SUMMER SCHOOLS

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- Dark Matter and the Cosmos** - Summer school by TU Munich, FAU, and the University of Stuttgart 2022

## PROFESSIONAL MEMBERSHIPS

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**German Physical Society (DPG)**

2021 -

## SKILLS

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**Programming:** C++, Python (incl. PyTorch), Bash, basic knowledge of Mathematica

**Languages:** English (C2), German (native speaker)

**Other:** Completed vocational training as foreign language correspondent (German/English) in parallel to secondary school

## PUBLICATIONS (\*UNDER REVIEW)

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- [2] \* E. Garaldi and **V. Bellscheidt**. *The galaxy-IGM connection in THESAN: observability and information content of the galaxy-Lyman- $\alpha$  cross-correlation at  $z \geq 6$* . arXiv: [2410.02850](#) [[astro-ph.CO](#)].
- [1] \* E. Garaldi and **V. Bellscheidt**. *The galaxy-IGM connection in THESAN: the physics connecting the IGM Lyman- $\alpha$  opacity and galaxy density in the reionization epoch*. arXiv: [2410.02853](#) [[astro-ph.CO](#)].