

## Education (\*Admitted)

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**\*PhD Physics**, Massachusetts Institute of Technology, Cambridge (USA) Sep 2025 -  
Incoming graduate student at the Center for Theoretical Physics

**B. Sc. Physics**, Technical University of Munich, Garching (Germany) 2021 -  
Thesis: *Neural Network Parametrisation of Generalised Wilson Loops in Lattice QCD* [[link](#)]  
Supervisor: Prof. Nora Brambilla  
Top 5% of my year (as of May 2024)  
Co-authored two papers [[1](#), [2](#)]

## Publications

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Total number of citations: 3  
h-index: 1

### Articles Submitted for Publication.....

- [1] Enrico Garaldi and **Verena 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](#)].
- [2] Enrico Garaldi and **Verena 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](#)].

## Awards and Honors

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**DAAD RISE worldwide scholarship** Full funding for a research internship abroad (€1984) 2023  
**Deutschlandstipendium** Germany's national scholarship (€3600) 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, grade homework and exams  
Courses: Winter 2024/25: Introduction to Scientific Programming (IN8008) *Ø1.5 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 University of Stuttgart 2022

## Undergraduate Research Projects

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**Bachelor's thesis**, Technical University of Munich, Garching (Germany) Apr - Sep 2024  

- Implementation of a neural network for the computation of static quarkonium potentials on the lattice
- Supervisor: Prof. Nora Brambilla

**Internship**, Nicolaus Copernicus Astronomical Center, Warsaw (Poland) Aug - Oct 2023  

- Project title: Chemical abundances in a planet-host star of the Praesepe open cluster
- Analysis of stellar high-resolution spectra, study of the correlation between chemical abundances in the stellar atmosphere and the existence of planets around the star
- Supervisor: Prof. Rodolfo Smiljanic

**Internship**, Max Planck Institute for Astrophysics, Garching (Germany)

Sep - Oct 2022

- Co-authored two papers that are currently under review [\[1, 2\]](#)
- I continued collaborating with my supervisor on this project until July 2023.
- Analysis of data from the Thesan simulations, study of the galaxy-Lyman- $\alpha$  cross-correlation and the correlation between Lyman- $\alpha$  optical depth of quasar sightlines and the distribution of galaxies around them
- Supervisor: Dr. Enrico Garaldi

## Skills

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**Programming:** C++, Python, Bash, basic knowledge of Git

**Libraries:** PyTorch, NumPy, matplotlib, scipy, pandas, h5py

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