

Maximilian Haensch

Max-Planck-Institute for Physics,
85748 Garching, Germany

Born on 22 September 2001. German

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CURRENT RESEARCH INTERESTS

Non-Perturbative Methods in QFT, Holography, Resurgence Theory, Integrability

EDUCATION

Technical University Munich & Ludwig-Maximilians-University Munich Munich, Germany 10.2023
Elite Master Course Theoretical and Mathematical Physics (M.Sc.) 03.2026

- Deutschlandstipendium Scholarship for academic excellence
- Student Representative 2024/25
- **GPA: 1.0/1.0** *passed with high distinction*

University of Washington Seattle Seattle, USA 09.2022
Visiting Graduate Student in Graduate School of Physics –06.2023

- Study Abroad funded through DAAD scholarship
- **GPA: 4.0/4.0**

Justus-Liebig-University Giessen Giessen, Germany 10.2019
Physics Bachelor of Science (B.Sc.) –09.2022

- Graduated with 208 ECTS instead of the standard 180, additional undergraduate and graduate-level mathematics courses
- Bachelor Thesis: *Analytic Structure of Effective Low Energy Models of QCD*
- **GPA: 1.1/1.0** *very good with distinction*

I adjusted this grade to fit into the same grading scheme as my master's grade. My official GPA is a 0.8 with 0.7 being the best grade.

ACADEMIC RESEARCH EXPERIENCE

Max-Planck Institute for Physics Garching, Germany 11.2024
Positivity Properties in Amplitudes and Integrability –present

- Graduate research for master thesis
- Research on special functions in amplitudes with applications to integrability and positivity bootstraps
- Advisor: [Prof. Johannes Henn](#)

Justus-Liebig-University Giessen Giessen, Germany 03.2022
Yang-Lee Edge Singularities in QCD –09.2022

- Undergraduate research for bachelor thesis
- Research on critical phenomena in QCD, Yang-Lee singularities, phase diagram of effective QCD theories, induced mixing in critical modes
- Results published in 08.2024
- Advisors: [Dr. Fabian Rennecke](#), [Prof. Lorenz von Smekal](#)

PUBLICATIONS

1. M. Haensch,
Positivity properties of observables in maximally supersymmetric Yang–Mills theory
preprint, [arXiv:2606.30368](#)
2. M. Haensch, F. Rennecke, L. v. Smekal,
Medium induced mixing, spatial modulations, and critical modes in QCD
Phys Rev D 110, 036018, [arXiv:2308.16244](#)

CONFERENCES, SCHOOLS AND WORKSHOPS ATTENDED (*scheduled)

Observables in gauge theory and gravity, Paris [Link]	12/2025
Symbology@15, MPP [Link]	12/2025
7th School of Analytic Computing in High-Energy and Gravitational Theoretical Physics [Link]	10/2025
Annual Universe+ Meeting, Ringberg [Link]	07/2025
Positivity in Positive Geometry, MPP [Link]	01/2025
Universe+ Online Seminar Series, online [Link]	09/2024 - 07/2025
Advanced School on Quantum Spacetime, Warsaw [Link]	09/2024

OUTREACH

Student Representative Munich, Germany	09.2024
Ludwig-Maximilians-University Munich	–09.2025
• One of two students elected to be student representative. Work includes helping prospective and current students with various questions, representing the student body within the program’s steering committee, and organizing events to facilitate bonding in the TMP community	

TEACHING EXPERIENCE

Teaching Assistant/Quantum Mechanics Munich, Germany	10.2024
Ludwig-Maximilians-University Munich	–02.2025
• Led weekly tutorials for the Quantum Mechanics lecture and graded exams and homework sheets	
Teaching Assistant/Mathematical Methods for Physicists Munich, Germany	10.2023
Ludwig-Maximilians-University Munich	–03.2024
• Led weekly tutorials for the Mathematical Methods lecture, graded exams and homework sheets, and instructed a preparatory course for students retaking the exam	
Teaching Assistant/Quantum Mechanics Giessen, Germany	10.2021
Justus-Liebig-University Giessen	–02.2022
• Led weekly tutorials for the Quantum Mechanics lecture and graded exams and homework sheets	

SELECTED AWARDS, GRANTS & SCHOLARSHIPS

Deutschlandstipendium Scholarship – <i>Technical University Munich</i>	2024-2025
Awarded in recognition of academic excellence demonstrated during my first Master’s year	
DAAD-ISAP Scholarship – <i>German Academic Exchange Service</i>	2022-2023
Covering full living costs and tuition for my visiting stay at the UW Seattle	
Award for excellent Achievements in Physics – <i>German Physical Society</i>	06/2019
High-school diploma award for excellent achievements in physics	

Last updated on Thu 9th Jul, 2026. Certificates, references, and transcripts available upon request.