

Education

2024-X	Ph.D. studies, University of Oxford and Max Planck Institute for Mathematics in the Sciences, supervised by Cornelia Druţu and Anna Wienhard.
2023/24	Master of Science in Mathematical & Theoretical Physics, with distinction, University of Oxford.
2022/23	Bachelor of Science in Mathematics, Heidelberg University.
2019-23	Bachelor of Science in Physics, Heidelberg University.

Publication

[DHT25] Dobrzyniecki, J., Heim, P. **and** Tomza, M. “Tunable Two-Species Spin Models with Rydberg Atoms in Circular and Elliptical States”. in *Phys. Rev. Res.*: **7** (2025). URL: <https://link.aps.org/doi/10.1103/PhysRevResearch.7.013321>.

Invited Talks

04/2025	<i>Rigidity phenomena in rank-one symmetric spaces</i> , Seminar Groups and actions, Université Paris-Saclay
02/2025	<i>Rigidity of quasiisometries in rank-one symmetric spaces</i> , Bristol Junior Geometry Seminar, University of Bristol
02/2025	<i>Rigidity of quasiisometries in rank-one symmetric spaces</i> , Junior Topology and Group Theory Seminar, University of Oxford
12/2024	<i>Beyond Euclidean Geometry - SubRiemannian manifolds and their distance functions</i> , Graduate Talks, Merton College, University of Oxford

Pre-Ph.D. Research Experience

10/23-11/24	Extension of my summer project on quantum simulation with ultracold Rydberg atoms with Jacek Dobrzyniecki and Michał Tomza[DHT25], preprint available here .
05/2024	Dissertation on “ <i>Quasiisometric Rigidity in Rank-One Symmetric Spaces à la Pansu</i> ”, supervised by Cornelia Druţu, available here .
07-09/2023	Research Internship on “ <i>Quantum Simulator with Circular Rydberg Atoms</i> ” at the University of Warsaw under the supervision of Michał Tomza, report available here .
09/2023	Bachelor’s Thesis in Mathematics on “ <i>The Visual Boundaries of Hyperbolic Spaces</i> ”, supervised by Beatrice Pozzetti and Max Riestenberg, available here .
07/2023	Bachelor’s Thesis in Physics on “ <i>Lee-Yang Theorem à la Lieb-Sokal</i> ”, supervised by Manfred Salmhofer, available here .

PAULA HEIM

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Teaching Experience

HT 2025	Tutor for Part A Topology (St. Edmund Hall, University of Oxford)
MT 2024	Teaching Assistant for Topology and Groups (University of Oxford)
Summer 2023	Tutor for Differential Geometry (Heidelberg University)
Summer 2022	Tutor for Theoretical Physics (Heidelberg University)
Winter 2020/22	Tutor for Linear Algebra I (Heidelberg University)
Summer 2021	Tutor for Linear Algebra II (Heidelberg University)
Winter 2020/21	Tutor for Linear Algebra I (Heidelberg University)

Languages and Hobbies

Languages: German, English, French, Polish, Latin

Hobbies: Playing the piano, running, cycling and hiking in the mountains, philosophy.