

Education

- 2024-X** Ph.D. studies, University of Oxford and Max Planck Institute for Mathematics in the Sciences, supervised by Cornelia Druțu 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, Jacek, Heim, Paula und Tomza, Michał. *Tunable Two-Species Spin Models with Rydberg Atoms in Circular and Elliptical States*. Accepted for publication in Phys. Rev. Res. 2025. arXiv: [2411.14854](https://arxiv.org/abs/2411.14854). URL: <https://arxiv.org/abs/2411.14854>.

Invited Talks

- 02/2025** *Rigidity of quasiisometries in rank-one symmetric spaces*, Bristol Junior Geometry Seminar, University of Bristol
- 02/2025** *Rigidity of quasiisometries in rank-one symmetric spaces*, Junior Topology and Group Theory Seminar, University of Oxford
- 12/2024** *Beyond Euclidean Geometry - SubRiemannian Manifolds and their distance functions*, 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 “*Quasiisometric Rigidity in Rank-One Symmetric Spaces à la Pansu*”, supervised by Cornelia Druțu, available [here](#).
- 07-09/2023** Research Internship on “*Quantum Simulator with Circular Rydberg Atoms*” at the University of Warsaw under the supervision of Michał Tomza, report available [here](#).
- 09/2023** Bachelor’s Thesis in Mathematics on “*The Visual Boundaries of Hyperbolic Spaces*”, supervised by Beatrice Pozzetti and Max Riestenberg, available [here](#).
- 07/2023** Bachelor’s Thesis in Physics on “*Lee-Yang Theorem à la Lieb-Sokal*”, supervised by Manfred Salmhofer, available [here](#).

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.