

# Thomas Tony | Curriculum vitae

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## Positions

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04/2025 – present Doctoral Research Associate, University of Potsdam.

09/2022 – 03/2025 Doctoral Research Associate, University of Münster.

## Education

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2022 – present PhD student in Mathematics (Dr. rer. nat.), University of Münster.

▪ Advisor: [Rudolf Zeidler](#)

2019 – 2022 Master of Science in Mathematics, University of Freiburg.

2013 – 2019 First State Exam in Mathematics and Physics (teaching degree), University of Freiburg.

## Scholarships, grants and awards

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2025 Oberwolfach Leibniz Graduate Students travel grant.

2022 Doctoral position funded by the [Cluster of Excellence Mathematics Münster](#).

2020 Deutschlandstipendium, University of Freiburg.

2013 DMV-Abiturpreis, Deutsche Mathematiker-Vereinigung.

## Research stays

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11/2025 Visiting [Rafe Mazzeo](#) (four weeks), Stanford University.

## Invitations to conferences and workshops

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06/2025 Oberwolfach workshop: Differentialgeometrie im Großen [↗](#), talk given.

02/2024 Oberwolfach workshop: Analysis, Geometry and Topology of Positive Scalar Curvature Metrics [↗](#).

## Invited research seminar talks

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12/2025 Geometry Seminar, Stanford University.

12/2025 Differential Geometry Seminar, UC Santa Barbara.

11/2025 Differential Geometry Seminar, UC Berkeley.

11/2025 Noncommutative Geometry Seminar, Texas A&M University.

11/2025 Geometry Seminar, Texas A&M University.

10/2025 Geometric Analysis Seminar, Columbia University.

07/2025 Oberseminar Topology and Geometry, University of Göttingen.

06/2025 Oberseminar Differentialgeometrie, University of Augsburg.

05/2025 Forschungsseminar Differentialgeometrie, University of Potsdam.

04/2025 Oberseminar Topologie, University of Münster.

04/2024 Arbeitsgruppenseminar Ammann, University of Regensburg.

01/2024 Oberseminar Differentialgeometrie, University of Freiburg.

11/2023 Geometric Analysis Seminar, The City University of New York.

01/2023 Arbeitsgruppenseminar Tuschmann, Karlsruhe Institute of Technology.

## Organized conferences and workshops

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08/2024 Young Topologist Meeting (YTM) [\[2\]](#), Cluster of Excellence Mathematics Münster.

## Selection of conference and workshop participations

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- 10/2025 Geometry: exchanges and perspectives 2025 [\[2\]](#), Institut Henri Poincaré, Paris.
- 05/2025 Geometric Moduli Spaces - Rigidity, Genericity, Stability [\[2\]](#), poster presented, ICMS, Edinburgh.
- 11/2024 Curvature and Geometric Analysis in Rome [\[2\]](#), poster presented, Sapienza Università di Roma.
- 12/2023 Workshop on Operator Algebras and Applications: Non-Commutative Geometry [\[2\]](#), Fields Institute, Toronto.
- 10/2023 Autumn School on Large Scale Geometry [\[2\]](#), Gong Talk given, University of Göttingen.

## Teaching experience

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### University of Münster .....

- Winter 2024/25 *Differential Geometry PhD Seminar*, organizer.
- Summer 2023 *Differential Equations*, Tutor, Lecture given by [Tim de Laat](#).

### University of Freiburg (as a tutor) .....

- 2015 – 2022 *Linear Algebra I and II (2x)*, *Analysis I and II*, *Multiple Integration* (teaching degree), *Complex Analysis*, *Differential Geometry*.

### High School Teaching & Instruction .....

- 2016 – 2022 Learn coaching, [Das Lernteam](#).
- 2016 – 2020 Preparation for the General Certificate of Education in mathematics, [Abiturma](#).

## Scientific memberships

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- 2022 – present Cluster of Excellence "Mathematics Münster: Dynamics – Geometry – Structure".
- 2022 – present CRC 1442 "Geometry: Deformations and Rigidity".
- 2022 – present Mathematics Münster Graduate School.

## Academic services

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Reviewer for Science China Mathematics and zbMATH.

## Language skills

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German (native), English (fluent), French (basic).

## Technical skills

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Latex, Python, HTML, Linux.

## List of publications

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### Peer-reviewed articles .....

- [1] T. Tony. "Ricci-flat manifolds, parallel spinors and the Rosenberg index." In: *SIGMA Symmetry Integrability Geom. Methods Appl.* 21 (2025), Paper No. 072. DOI: [10.3842/SIGMA.2025.072](https://doi.org/10.3842/SIGMA.2025.072).
- [2] T. Tony. "Scalar curvature rigidity and the higher mapping degree." In: *Journal of Functional Analysis* 288.3 (2025). DOI: [10.1016/j.jfa.2024.110744](https://doi.org/10.1016/j.jfa.2024.110744).

### Preprints .....

- [3] O. Riedler and T. Tony. *Scalar-rigid submersions are Riemannian products*. 2026. arXiv: [2601.14117 \[math.DG\]](https://arxiv.org/abs/2601.14117).

**Surveys and Reports.....**

- [4] T. Tony. "Scalar Curvature Rigidity and the Higher Mapping Degree." In: *Oberwolfach Report No. 30/2025*. Ed. by Richard Bamler et al. <https://publications.mfo.de/handle/mfo/4293> (to appear). 2025.

**Theses.....**

- [5] T. Tony. *The End-Periodic Index Theorem for Dirac Operators and its Connection to the Classical Atiyah-Patodi-Singer Index Theorem*. <https://ttony.eu/documents/thesis-master.pdf>. Master's thesis, advisor: Nadine Große, University of Freiburg. 2022.
- [6] T. Tony. *Die Riemannsche Vermutung und die Primzahlverteilung*. <https://ttony.eu/documents/thesis-state-exam.pdf>. State exam's thesis (accepted as Bachelor's thesis as well), advisor: Katrin Wendland, University of Freiburg. 2019.