

# Thomas Tony | Curriculum vitae

Institut für Mathematik – Universität Potsdam – Karl-Liebknecht-Str. 24-25 – 14476 Potsdam, Germany

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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

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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)

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

### High School Teaching & Instruction

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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

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- [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).

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

- [3] 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.....**

- [4] 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.
- [5] 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.