Thomas Tony │ Curriculum vitae

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Positions

04/2025 – present	Doctoral Research Associate, University of Potsdam.
09/2022 – 03/2025	Doctoral Research Associate, University of Münster.

Education

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

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

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

Invitations to conferences and workshops

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

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

08/2024	Young Topologist Meeting (YTM) ↗, Cluster of Excellence Mathematics Münster.

Selection of conference and workshop participation

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

Teaching experience

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

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

Reviewer for Science China Mathematics and zbMATH.

Language skills

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

Technical skills

Latex, Python, HTML, Linux.

List of publications

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.

[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.

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.