

Daniel Tubbenhauer

Curriculum vitae



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Contact

- Address ▶▶ **The University of Sydney** School of Mathematics and Statistics,
Fo7 - Carlaw Building, Office Carlaw 827, NSW 2006, Australia

- Current position ▶▶ **ARC future fellow** The University of Sydney

Employment History

- Dec.2023–Dec.2027 ▶▶ **ARC future fellow** The University of Sydney and Australian research council (ARC)
Sydney, Australia

- Jul.2021–Dec.2023 ▶▶ **Senior research fellow** The University of Sydney
Sydney, Australia

- Jan.2018–Dec.2020 ▶▶ **Lecturer** Universität Zürich
Zürich. Switzerland

- Sep.2015–Dec.2017 ▶▶ **Postdoctoral researcher** Hausdorff Center for Mathematics (HCM)
Bonn, Germany

- Nov.2013–Jan.2015 ▶▶ **Postdoctoral researcher** Centre for Quantum Geometry of Moduli Spaces (QGM), Aarhus, Denmark

Awards and fellowships

- Jul.2025 ▶▶ **Fellowship** Heilbronn Distinguished Visiting Fellowship
Cambridge, United Kingdom
Sponsored by the Isaac Newton Institute

- Dec.2023–Dec.2027 ▶▶ **ARC future fellowship** See above
Sydney, Australia
Sponsored by the ARC

- Jan.2021–Jun.2021 ▶▶ **Fellowship** Hausdorff Center for Mathematics (HCM)
Bonn, Germany
Sponsored by the HCM

Awards and fellowships (continued)

- Feb.2019–Mar.2019 ▶▶ **Invited Researcher** Mathematical Sciences Institute (MSI)
Canberra, Australia
Sponsored by the Australian National University (ANU)
- Feb.2015–Aug.2015 ▶▶ **Invited Researcher** Université Catholique de Louvain
Louvain-la-Neuve, Belgium
Sponsored by the Deutsche Forschungsgemeinschaft (DFG)
- Nov.2014–Dec.2014 ▶▶ **Invited Researcher** Tata Institute of fundamental research (TIFR)
Mumbai, India
Sponsored by the Danish National Research Foundation (DNRF)
- Aug.2013–Oct.2013 ▶▶ **Junior fellowship** Georg–August–Universität Göttingen
Göttingen, Germany
Sponsored by Graduiertenkolleg GRK 1493

Education

- Apr.2010–Aug.2013 ▶▶ **Ph.D. in mathematics** Georg–August–Universität Göttingen
Graduiertenkolleg GRK 1493
Thesis title: *Categorification and applications in topology and representation theory*
Finished: 28.Aug.2013
- May.2007–Mar.2010 ▶▶ **M.Sc. Mathematics** Georg–August–Universität Göttingen
Graduiertenkolleg GRK 1493
Thesis title: *Virtual Khovanov homology*
Finished: 12.Mar.2010

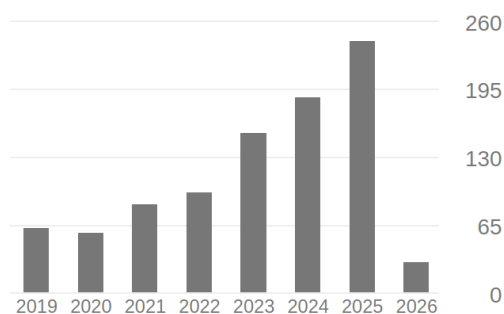
Publication metrics

- Research publications ▶▶ **The full list is a separate file** 59 papers in total, 45 published papers, 13 submitted preprints, 1 eprints, 2662 published pages, 29 open access publications

Publication metrics (continued)

Research reach ▶▶ **Citations** 1085 with h-index 21 on Google Scholar, 451 on MathSciNet, 412 on zbMath, 1098 on Research Gate; Stats from March 2, 2026

	All	Since 2021
Citations	1085	800
h-index	21	18
i10-index	30	28



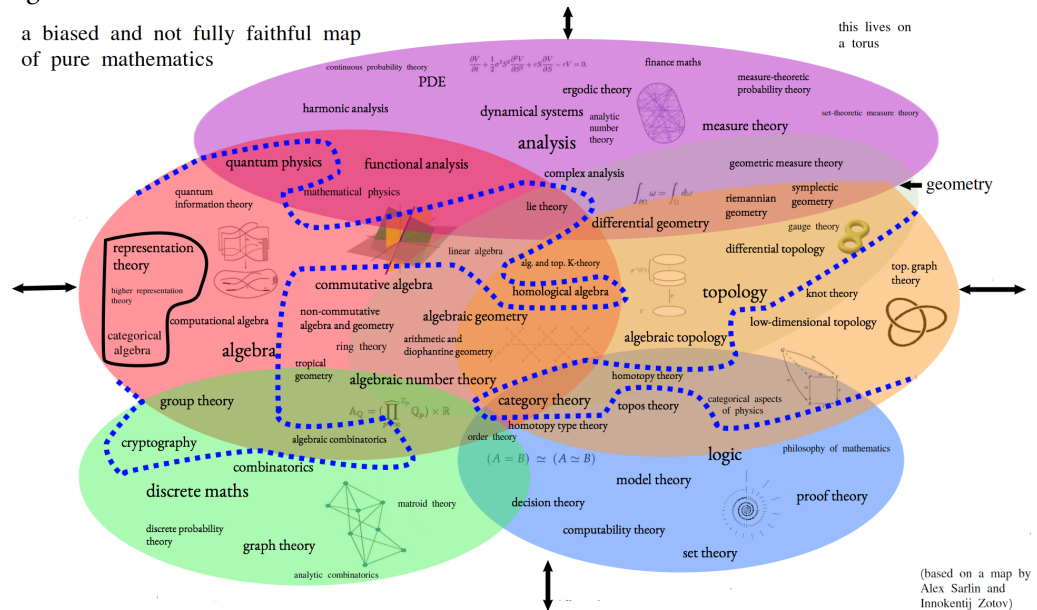
Research fields ▶▶ **ArXiv identifier** 50 papers listed on arXiv in math.RT, 39 in math.QA, 22 in math.GT, 17 in math.CT, 11 in math.RA, 8 in math.GR, 7 in math.CO, 2 in cs.CR, 5 in cs.LG, 1 in cs.CV, 1 in stat.ML

Research range ▶▶ **Mathematics Subject Classification 2020 (MSC2020)** My papers cover the fields 05 (Combinatorics), 11 (Number theory), 14 (Algebraic geometry), 15 (Linear and multilinear algebra; matrix theory), 16 (Associative rings and algebras), 17 (Nonassociative rings and algebras), 18 (Category theory; homological algebra), 20 (Group theory and generalizations), 22 (Topological groups, Lie groups), 26 (Real functions), 57 (Manifolds and cell complexes), 62 (Statistics), 68 (Computer Science), 94 (Information and communication, circuits)

Publication metrics (continued)

Research interest ▶▶ **Main fields** representation theory, higher representation theory, (categorical) algebra

a biased and not fully faithful map
of pure mathematics



Keywords 2-representations, categorical algebra, additive and fusion categories, quantum algebra, low-dimensional topology, link homologies

Coauthors ▶▶ **39 coauthors** from Australia, Belgium, China, Denmark, Finland, France, Germany, India, Japan, Portugal, Sweden, Switzerland, Ukraine, United Kingdom, United States

Funds raised

- Summary ▶▶ **\$2,303,875** I have raised a total of \$2,303,875, \$1,358,746 as the sole applicant, since 2013
The numbers are approximate values converted to AUD
- 2025 ▶▶ **\$6,000** Heilbronn Distinguished Visiting Fellowship
This was awarded
- 2024,2 ▶▶ **\$572,736+\$72,393** Discovery project from the Australian Research Council (ARC)
This was a joint application of 4 people
- 2024,1 ▶▶ **\$6,500** University of Sydney 2024 Strategic Research Fund
This was awarded
- 2023 ▶▶ **\$815,890+\$431,856** Future fellowship from the Australian Research Council (ARC)
I was the sole applicant
- 2022 ▶▶ **\$60,000** from the Australian Mathematical Sciences Institute (AMSI)
This was a joint application of 4 people

Funds raised (continued)

- 2020 ▶▶ **\$120,000** from the Junior Hausdorff Trimester Program of the Hausdorff Institute for Mathematics (HIM)
This was a joint application of 10 people
- 2019 ▶▶ **\$12,000** from the ANU
This was a joint application of 2 people
- 2018 ▶▶ **\$30,000** from SwissMap
I was the sole applicant
- 2017 ▶▶ **\$120,000** from the Junior Hausdorff Trimester Program of the HIM
This was a joint application of 6 people
- 2016 ▶▶ **\$25,000** from the HCM
I was the sole applicant
- 2015 ▶▶ **\$22,500** from the DFG
I was the sole applicant
- 2014 ▶▶ **\$5,000** from the DNRF
I was the sole applicant
- 2013 ▶▶ **\$4,000** from the Universität Göttingen
I was the sole applicant

Organization of events

- Jun 2025 ▶▶ **Representation theory down under** two week conference held at the University of Sydney
Role: a main organizer
- Feb 2023 ▶▶ **Categorification in representation theory** two week conference to be held at the University of Sydney
Role: a main organizer
- Nov & Dec 2020 ▶▶ **Monoidal and 2-categories in representation theory and categorification** one week conference held at the Universität Bonn
Role: a main organizer
- Oct 2020 ▶▶ **Lecture series on modified traces in algebra and topology** one week conference held at the Universität Bonn
Role: a main organizer
- Sep to Dec 2020 ▶▶ **New Trends in Representation Theory** Junior Hausdorff Trimester Program HIM in Bonn
Role: a main organizer

Organization of events (continued)

- Sep 2018 ▶▶ **Interactions of low-dimensional topology and (higher) representation theory**
one week conference held at the Universität Zürich
Role: sole organizer
- Nov & Dec 2017 ▶▶ **Workshop: Categorification, representation theory and symplectic geometry**
one week conference held at the Universität Bonn
Role: a main organizer
- Nov 2017 ▶▶ **Winter school: Categorification, representation theory and symplectic geometry**
one week winter school held at the Universität Bonn
Role: a main organizer
- Sep to Dec 2017 ▶▶ **Symplectic Geometry and Representation Theory** Junior Hausdorff Trimester
Program HIM in Bonn
Role: a main organizer
- May 2016 ▶▶ **Workshop: Categorification** one week conference held at the Universität Bonn
Role: sole organizer

Invited keynote and speaker addresses

- Summary ▶▶ **The full list is a separate file** 106 invited talks
I have received 3+ invitations each year, to selective conferences as an invited speaker
Below I list only the ones from 2025
- Dec.2025 ▶▶ **Conference talk** *Kioloa meeting*
Australian National University (ANU), Australia
- Jul.2025, 3 ▶▶ **Public lecture** Title: *Mathematics and AI*
Universität Bonn, Germany
- Jul.2025, 2 ▶▶ **Conference talk** *Queer and Trans Mathematicians in algebra and representation theory (QT-MART)*
Universität Bonn, Germany
- Jul.2025 ▶▶ **Conference talk** *Modular Lie theory*
University of York, United Kingdom
- May.2025 ▶▶ **Seminar talk** The University of Sydney, Australia

Students

- Current ▶▶ **Primary supervisor** 3 PhD students, 2 master students
They will finish in 2026 or later
- ▶▶ **Secondary supervisor** 3 PhD students
They will finish in 2026 or later

Students (continued)

- Past ▶▶ **Primary supervisor** 1 Ph.D. student, 5 master students, 4 bachelor (honours) students
All finished (2021 (four times), 2022, 2024 (twice), 2025 (three times))
- ▶▶ **Secondary supervisor** 4 Ph.D., 4 master and 2 bachelor (honours) students
All finished (2017 (three times), 2018 (twice), 2019 (twice), 2022, 2023, 2024)
- Outreach ▶▶ **Yulia's dream** Supervisor in 2024/2025, supervising 2 students
Yulia's Dream is part of the MITs Primes program, and a free math enrichment and research program for exceptional high school students (grades 10-11) from Ukraine.
- Other ▶▶ I was on 4 PhD evaluation committees, on 4 as the chair

Teaching & related

- Lecturing ▶▶ **The full list is a separate file** 29 lectures given in total, 10 courses, 10 seminars, 9 other, 0 upcoming
I am on a 4 year teaching break because of my ARC future fellowship
- Hiring ▶▶ I was on 2 hiring committees, on 1 as the chair

Miscellaneous/Outreach

- Pronouns ▶▶ They/them
- LGBT+ outreach ▶▶ Associated with: Spectra, the association for LGBTQ+ mathematicians
- ▶▶ Associated with: Women and Diverse Genders in Maths Society (WAMSOC)
- YouTube outreach ▶▶ Mathematical education channel (the link is in the header)
708+ videos, 32700+ subscribers, 1346342+ views
- Other outreach ▶▶ Helped with a Quanta magazine article on knot invariants
- GitHub ▶▶ All my TeX files, all code etc. can be found on GitHub (the link is in the header)

Miscellaneous/Outreach (continued)

- Computer skills ▶▶ C and C++, advanced
GAP, advanced
HTML, advanced
Java, advanced
Java script, advanced
Magma, expert
Mathematica, expert
Python, expert
PyTorch, advanced
Rust, advanced
SAGEMath, expert
Other programming languages, basic
Other computer algebra systems, basic
- Professional memberships ▶▶ American Mathematical Society
Deutsche Mathematiker Vereinigung
European Mathematical Society
- Languages ▶▶ German, native language
English, fluent, CEFR Level C2 (certified by IELTS)
Danish & Dutch & Latin & Swedish, basic
French, very basic
- I was referee ▶▶ In total 120 times for journals
Adv. Math. (seven times), Algebr. Comb., Algebr. Geom. Topol. (four times), Algebr. Represent. Theory (three times), Am. J. Math., Ann. Sci. Éc. Norm. Supér. (twice), Ann. of Math., Ann. of Rep. Theory (four times), Arab. J. Math., Ark. Mat., Bull. Malays. Math. Sci. Soc., Canad. J. Math. (twice), Compos. Math. (three times), Comm. Algebra (three times), Comm. Math. Phys., Contemp. Math. (three times), Czechoslovak Math. J., Duke Math. J., Electron. Res. Arch. (twice), Geom. Topol., Glasg. Math. J. (twice), Homology Homotopy Appl, Int. Math. Res. Not. IMRN (three times), Invent. Math., J. Algebra (five times), J. Algebraic Combin., J. Aust. Math. Soc., J. Comb. Algebra (twice), J. Eur. Math. Soc. (five times), J. Knot Theory Ramifications (twice), J. Korean Math. Soc., J. Math. Cryptol., J. Pure Appl. Algebra (three times), J. Lond. Math. Soc. (five times), Lett. Math. Phys. (twice), Manuscripta Math., Math. Ann., Math. Res. Lett., Math Z. (four times), Mem. Amer. Math. Soc., Pacific J. Math. (twice), Proc. Amer. Math. Soc. (three times), Proc. Edinb. Math. Soc., Proc. Indian Acad. Sci. Math. Sci., Proc. Lond. Math. Soc. (two times), Quantum Topol. (ten times), Represent. Theory (three times), Rev. Mat. Iberoam, Sci. China Math. (two times), Selecta Math. (N.S.), Springer nature books, Trans. Amer. Math. Soc. (six times), Theory Appl. Categ., Transform. Groups (twice)
- ▶▶ Additionally, 1 book, 1 Future Fellowship, 2 Humboldt Fellowships



Daniel Tubbenhauer (digital signature); March 2, 2026