

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

Other positions – funded by grants, see funds raised

- 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
- Feb.2019–Mar.2019 ▶▶ **Invited Researcher** Mathematical Sciences Institute (MSI)
Canberra, Australia
Sponsored by the Australian National University (ANU)

Other positions – funded by grants, see funds raised (continued)

- 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

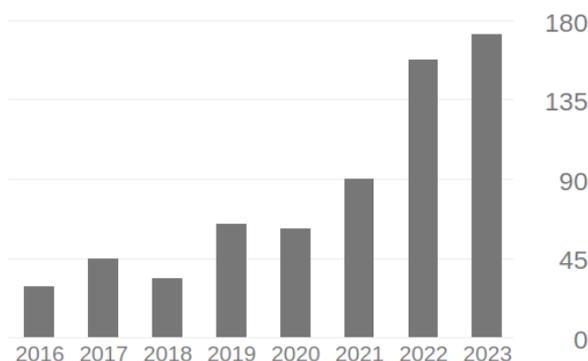
- Apr.2010–Aug.2013 ▶▶ **Ph.D. in mathematics** Georg–August-Universität Göttingen
Graduiertenkolleg GRK 1493
Thesis title: *Categorification and applications in topology and representation theory*
Finished: 28.Aug.2013
- May.2007–Mar.2010 ▶▶ **M.Sc. Mathematics** Georg–August-Universität Göttingen
Graduiertenkolleg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

Publication metrics

Research publications ▶▶ **The full list is a separate file** 40 papers in total, 34 published papers, 6 submitted preprints, 1886 published pages, 16 open access publications

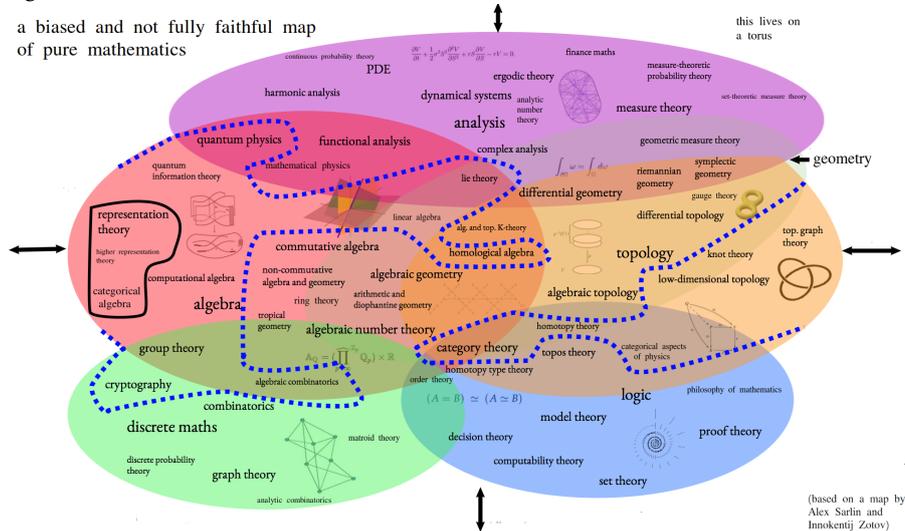
Research reach ▶▶ **Citations** 739 with h-index 18 on Google Scholar, 289 on MathSciNet, 607 on Research Gate; Stats from February 7, 2024

Citations	719	592
h-index	18	16
i10-index	25	23



Publication metrics (continued)

- Research fields ▶▶ **ArXiv identifier** 35 papers listed on arXiv in math.RT, 32 in math.QA, 19 in math.GT, 8 in math.CT, 10 in math.RA, 2 in math.GR, 1 in math.CO, 1 in cs.CR
- Research interest ▶▶ **Main fields** representation theory, higher representation theory, (categorical) algebra



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

- Coauthors ▶▶ **23 coauthors** from Australia, Belgium, China, Denmark, France, Germany, India, Japan, Portugal, Sweden, Switzerland, United Kingdom, United States

Funds raised

- Summary ▶▶ **\$1,646,246** I have raised a total of \$1,646,246, \$1,346,246 as the sole applicant, since 2013
The numbers are approximate values converted to AUD
- 2023 ▶▶ **\$815,890+\$431,856** Future fellowship from the Australian Research Council (ARC)
I was the sole applicant
- 2021 ▶▶ **\$60,000** from the Australian Research Council (ARC)
This was a joint application of 2 people
- 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
- 2021 ▶▶ **\$30,000** from SwissMap
I was the sole applicant

Funds raised (continued)

- 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

- 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

- 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

Organization of events (continued)

- 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** 93 invited talks
I have received 2-3 invitations each year, to selective conferences as an invited speaker
Below I list only the ones from 2022
- Dec 2022,2 ▶▶ **Conference talk** Representation Theory, Combinatorics and Geometry, Institute for Mathematical Sciences (IMS) in the National University of Singapore (NUS), Singapore
- Dec 2022 ▶▶ **Conference talk** 66th Annual Meeting of the Australian Mathematical Society, University of New South Wales, Australia
- Nov & Dec 2022 ▶▶ **Conference talk** Tensor Categories in Sydney, The University of Sydney, Australia
- October 2022 ▶▶ **Seminar talk** Technische Universität Dresden, Germany
- Aug & Sep 2022 ▶▶ **Conference talk** Character Theory and Categorification, Mathematisches Forschungsinstitut Oberwolfach (MFO), Germany
- Aug 2022 ▶▶ **Lecture series** Quantum groups, Categorification, Knot invariants, and Soergel bimodules (Quacks), Eugene (Oregon), United States
- July 2022 ▶▶ **Seminar talk** Technische Universität München, Germany
- June 2022 ▶▶ **Seminar talk** UNSW Pure Math Seminar, the University of New South Wales, Australia
- Apr 2022 ▶▶ **Seminar talk** Beijing Institute of Technology, China
- Mar & May 2022 ▶▶ **Seminar talk** Informal Friday Seminar, the University of Sydney, Australia
- Mar 2022 ▶▶ **Seminar talk** Algebra Seminar, the University of Sydney, Australia
- Feb 2022 ▶▶ **Seminar talk** Okinawa Institute of Science and Technology (OIST), Japan

Students

- Currently
- ▶▶ **Primary supervisor** 0 PhD students, 4 master students
They will finish 2024 or 2025
 - ▶▶ **Secondary supervisor** 4 PhD student, 0 master students
They will finish 2025 or 2026
- Past
- ▶▶ **Primary supervisor** 1 Ph.D. student, 4 master students
All finished (2021 four times, 2022 once)
 - ▶▶ **Secondary supervisor** 3 Ph.D., 3 master and 2 bachelor students
Finished (2017 (three times), 2018, 2019 (twice), 2022, 2023)

Teaching

- Summary
- ▶▶ **The full list is a separate file** 27 lectures given in total, 10 courses, 10 seminars, 7 other, 2 upcoming
Below I list only the ones from 2022
- Spring.2022
- ▶▶ **Geometry and topology** Course, University of Sydney
aimed at bachelor students
- Fall.2022,2
- ▶▶ **Representation theory** Course, University of Sydney
aimed at bachelor and master students
- Fall.2022,1
- ▶▶ **Category theory** Course, University of Sydney
aimed at bachelor and master students

Miscellaneous

- Pronouns
- ▶▶ They/them
- YouTube
- ▶▶ Mathematical education channel (the link is in the header)
510+ videos, 20600+ subscribers, 617406+ views
- GitHub
- ▶▶ All my TeX files, all code etc. can be found on GitHub (the link is in the header)
- Computer skills
- ▶▶ MATHEMATICA, advanced++
Magma, advanced++
SAGEMath/Python, advanced++
GAP, advanced+
JAVA, advanced+
HTML, advanced
C and C++, intermediate
Other computer algebra systems, basic

Miscellaneous (continued)

- I was referee ▶▶ In total 77 times
Adv. Math. (four times), Algebr. Geom. Topol. (four times), Algebr. Represent. Theory (three times), Ann. Sci. Éc. Norm. Supér. (twice), Ann. of Math., Ann. of Rep. Theory (three times), Ark. Mat., Bull. Malays. Math. Sci. Soc., Canad. J. Math., Compos. Math. (three times), Comm. Algebra, Contemp. Math. (three times), Czechoslovak Math. J., Duke Math. J., Electron. Res. Arch., Geom. Topol., Glasg. Math. J. (twice), Int. Math. Res. Not. IMRN, Invent. Math., J. Algebra (four times), J. Algebraic Combin., J. Aust. Math. Soc., J. Comb. Algebra, J. Eur. Math. Soc. (JEMS), J. Knot Theory Ramifications (twice), J. Korean Math. Soc., J. Pure Appl. Algebra, J. Lond. Math. Soc. (five times), Lett. Math. Phys. (twice), Manuscripta Math., Math. Ann., Math Z. (three times), Mem. Amer. Math. Soc., Pacific J. Math. (twice), Proc. Amer. Math. Soc., Proc. Indian Acad. Sci. Math. Sci., Quantum Topol. (seven times), Rev. Mat. Iberoam, Selecta Math. (N.S.), Springer nature books, Trans. Amer. Math. Soc., Theory Appl. Categ., Transform. Groups
- 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



Daniel Tubbenhauer (digital signature); February 7, 2024