

DANIEL TUBBENHAUER

PERSONAL DATA

Contact Institut für Mathematik, Universität Zürich, Winterthurerstrasse 190, Campus Irchel, Office Y27J32, CH-8057 Zürich, Switzerland

Position Lecturer

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Website <http://dtubbenhauer.com/>

RESEARCH INTERESTS

My research interests are higher representation theory, n -categories and categorification and applications in representation theory of Lie algebras, modular representation theory, knot theory and quantum groups.

EMPLOYMENT

*Jan.2018–
Dez.2020* Lecturer, UNIVERSITÄT ZÜRICH

*Sep.2015–
Dec.2017* PostDoc, HAUSDORFF CENTER FOR MATHEMATICS

*Feb.2015–
Aug.2015* PostDoc, UNIVERSITÉ CATHOLIQUE DE LOUVAIN
Researcher financed by a DFG research funding

Jan.2015 PostDoc, QGM AARHUS UNIVERSITY

*Nov.2014–
Dec.2014* Invited Researcher, TIFR MUMBAI

*Nov.2013–
Oct.2014* PostDoc, QGM AARHUS UNIVERSITY

*Aug.2013–
Oct.2013* PostDoc, GEORG–AUGUST–UNIVERSITÄT GÖTTINGEN

EDUCATION

*Nov.2010–
Jul.2013* Georg–August–Universiät Göttingen

Graduiertenkolleg GRK 1493
Thesis: *Categorification and applications in topology and representation theory*
Advisors: Prof.Dr. Thomas SCHICK & Prof.Dr. Marco A. MACKAAY

*May.2006–
Oct.2010* Georg–August–Universiät Göttingen

Graduiertenkolleg GRK 1493
Advisors: Prof.Dr. Thomas SCHICK & Prof.Dr. Andreas THOM

*Ph.D. in
mathematics*

*Diplom (univ.) in
mathematics*

PUBLICATIONS

- Preprint* **Oct.2017** Relative cellular algebras
<https://arxiv.org/abs/1710.02851>
 Authors: Michael EHRIG, Daniel TUBBENHAUER
- Preprint* **Mar.2017** Functoriality of colored link homologies
<https://arxiv.org/abs/1703.06691>
 Authors: Michael EHRIG, Daniel TUBBENHAUER, PAUL WEDRICH
- Accepted* **Jan.2017** Webs and q -Howe dualities in types **BCD**
 To appear in Trans. Amer. Math. Soc. <http://arxiv.org/abs/1701.02932>
 Authors: Antonio SARTORI, Daniel TUBBENHAUER
- Accepted* **Dec.2016** Simple transitive 2-representations via (co)algebra 1-morphisms
 To appear in Indiana Univ. Math. J. <http://arxiv.org/abs/1612.06325>
 Authors: Marco MACKAAY, Volodymyr MAZORCHUK, Vanessa MIEMIETZ, Daniel TUBBENHAUER
- Preprint* **Nov.2016** Singular TQFTs, foams and type D arc algebras
<http://arxiv.org/abs/1611.07444>
 Authors: Michael EHRIG, Daniel TUBBENHAUER, Arik WILBERT
- Accepted* **Sep.2016** Two-color Soergel calculus and simple transitive 2-representations
 To appear in Canad. J. Math. <http://arxiv.org/abs/1609.00962>
 Authors: Marco MACKAAY, Daniel TUBBENHAUER
- Preprint* **Jan.2016** Generic \mathfrak{gl}_2 -foams, web and arc algebras
<http://arxiv.org/abs/1601.08010>
 Authors: Michael EHRIG, Catharina STROPPEL, Daniel TUBBENHAUER
- Published* **Oct.2015** The Blanchet–Khovanov algebras
 Categorification and Higher Representation Theory, 183–226, Contemp. Math., 683, Amer. Math. Soc., Providence, RI, 2017.
<http://arxiv.org/abs/1510.04884>
 Authors: Michael EHRIG, Catharina STROPPEL, Daniel TUBBENHAUER
- Published* **Jul.2015** Semisimplicity of Hecke and (walled) Brauer algebras
 J. Aust. Math. Soc. 103 (2017), no. 1, 1–44. <http://arxiv.org/abs/1507.07676>
 Authors: Henning H. ANDERSEN, Catharina STROPPEL, Daniel TUBBENHAUER
- Published* **Apr.2015** Super q -Howe duality and web categories
 Algebr. Geom. Topol. 17-6 (2017), 3703–3749.
<http://arxiv.org/abs/1504.05069>
 Authors: Daniel TUBBENHAUER, Pedro VAZ, Paul WEDRICH
- Published* **Mar.2015** Cellular structures using U_q -tilting modules
 Pacific J. Math. 292-1 (2018), 21–59.
<http://arxiv.org/abs/1503.00224>
 Authors: Henning H. ANDERSEN, Catharina STROPPEL, Daniel TUBBENHAUER
- Published* **Jan.2015** Symmetric webs, Jones–Wenzl recursions and q -Howe duality
 Int. Math. Res. Not. (IMRN), 2016–17 (2016), 5249–5290.
<http://arxiv.org/abs/1501.00915>
 Authors: David E.V. ROSE, Daniel TUBBENHAUER
- Published* **Sep.2014** Diagram categories for U_q -tilting modules at roots of unity
 Transform. Groups 22 (2017), no. 1, 29–89. <http://arxiv.org/abs/1409.2799>
 Authors: Henning H. ANDERSEN, Daniel TUBBENHAUER

- Preprint* **Apr.2014** \mathfrak{sl}_n -webs, categorification and Khovanov–Rozansky homologies
<http://arxiv.org/abs/1404.5752>
 Author: Daniel TUBBENHAUER
- Published* **Oct.2013** \mathfrak{sl}_3 -web bases, intermediate crystal bases and categorification
 J. Algebraic Combin. 40-4 (2014), 1001–1076.
<http://arxiv.org/abs/1310.2779>
 Author: Daniel TUBBENHAUER
- Published* **Jun.2012** The \mathfrak{sl}_3 web algebra
 Math. Z. 277-1-2 (2014), 401–479. <http://arxiv.org/abs/1206.2118>
 Authors: Marco MACKAAY, Weiwei PAN, Daniel TUBBENHAUER
- Published* **Nov.2011** Virtual Khovanov homology using cobordisms
 J. Knot Theory Ramifications 23-9 (2014), 91 pages.
<http://arxiv.org/abs/1111.0609>
 Author: Daniel TUBBENHAUER
- Futher* **2011–xx** Eprints etc.
 See <http://www.dtubbenhauer.com/preprint.html>
 Author: Daniel TUBBENHAUER

REFEREES

- Coauthor & former advisor* Prof.Dr. Marco A. MACKAAY mmackaay@ualg.pt
 Universidade do Algarve, Faro, Portugal
- Colleague* Prof.Dr. Andrew MATHAS andrew.mathas@sydney.edu.au
 University of Sydney, NSW 2006, Australia
- Colleague* Prof.Dr. Mikhail KHOVANOV khovanov@math.columbia.edu
 Columbia University, New York, NY, United states
- Former advisor* Prof.Dr. Thomas SCHICK schick@uni-math.gwdg.de
 Georg–August-Universiät Göttingen, Göttingen, Germany
- Coauthor* Prof.Dr. Catharina STROPPEL stroppel@math.uni-bonn.de
 Universiät Bonn, Bonn, Germany
- Coauthor* Prof.Dr. Pedro VAZ pedro.vaz@uclouvain.be
 Université Catholique de Louvain, Louvain, Belgium

SCIENTIFIC OUTREACH

- Invited speaker* See <http://www.dtubbenhauer.com/talks.html>
- Organizer* See <http://www.dtubbenhauer.com/meet.html>
- Conferences* See <http://www.dtubbenhauer.com/meet.html>
- Research visits* See <http://www.dtubbenhauer.com/meet.html>
- Teaching* See <http://www.dtubbenhauer.com/teaching.html>
- Students* Details on request

SCIENTIFIC INTERESTS

- Main* Categorification
 Higher representation theory
 Higher dimensional category theory
- Second* Applications in representation theory
 Applications in low-dimensional topology

Applications in geometry

FURTHER INFORMATION

Computer skills

SAGE	·	Advanced
MATHEMATICA	·	Advanced
C and C++	·	Advanced
JAVA	·	Basic
Other computer algebra systems	·	Basic

Professional membership

American Mathematical Society	·	Member
European Mathematical Society	·	Member
Deutsche Mathematiker Vereinigung	·	Member

Languages

German	·	Mother-tongue
English	·	Fluent
French	·	Very basic (simple words only)
Latin	·	Very basic (simple words only)
Danish	·	Very basic (simple words only)

April 3, 2018