

# Paul Wedrich — Curriculum Vitae

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## Current Position

PhD student of Dr. Jacob Rasmussen, Department of Pure Mathematics and Mathematical Statistics, University of Cambridge. Expected graduation in mid-2015.

## Areas of Interest

Low-dimensional topology, representation theory, categorification.

## Education

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|-----------|--|
| 2011-2012 | MASt in Mathematics (Part III) with high distinction, University of Cambridge. |
| 2008-2011 | BSc in Mathematics with distinction, University of Vienna.                     |
| 2007      | Austrian Matura, Erich-Fried-Realgymnasium, Vienna.                            |
| 2004-2007 | Extraordinary student of Physics and Philosophy, University of Vienna.         |

## Scholarships & Awards

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|-----------|--|
| 2014      | Smith-Knight & Rayleigh-Knight Prize.  |
| 2013      | Elected Fellow of the Cambridge Philosophical Society.   |
| 2012-2013 | Scholarship at Churchill College, Cambridge.   |
| 2011      | Excellence Award (EUR 10.000) from the Carinthian branch of the Federation of Austrian Industry. |
| 2010-2012 | Scholarships (University of Vienna), ranked 1st in Mathematics twice.                            |

## Publications

### Research Papers

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|------|---|
| 2015 | Deformations of colored $sl(N)$ link homologies via foams.<br><a href="https://arxiv.org/abs/1501.02567">arXiv:1501.02567</a> [math.GT] <i>Joint with David Rose.</i> |
| 2014 | q-holonomic formulas for colored HOMFLY polynomials of 2-bridge links.<br><a href="https://arxiv.org/abs/1410.3769v1">arXiv:1410.3769v1</a> [math.GT]                 |
| 2014 | Categorified $sl(N)$ invariants of colored rational tangles.<br><a href="https://arxiv.org/abs/1404.2736v1">arXiv:1404.2736v1</a> [math.GT] Submitted.                |

## Theses

- 2012 | Khovanov homology for tangles, Part III Essay, University of Cambridge.
- 2011 | Cobordisms and some applications to mass partition problems, 2<sup>nd</sup> Bachelor's thesis, University of Vienna.
- 2010 | Measures on locally compact spaces and the Riesz representation theorem, 1<sup>st</sup> Bachelor's thesis, University of Vienna.

## Teaching

- 2012-2015 | Supervisor for Part IB geometry and Part II algebraic topology, University of Cambridge.
- 2010-2011 | First year analysis, revision class and marking, University of Vienna.
- 2009-2011 | Organizer of graduate-level seminars on complex analysis and measure theory, University of Vienna.
- 2009-2011 | Mathematics outreach workshop leader, University of Vienna.

## Talks and Conferences

### Talks

- 2014 | Categorified colored HOMFLY invariants of rational tangles, Institut de Mathématiques de Jussieu - Paris Rive Gauche.
- 2014 | — , Université de Genève.
- 2014 | — , Centre for Quantum Geometry of Moduli Spaces, Aarhus University.
- 2014 | — , Erwin Schrödinger Institut, Vienna.
- 2014 | Categorified  $sl(N)$  invariants of colored rational tangles, Geometry Tea, University of Cambridge.
- 2013 | Foams and deformations of link homologies, Junior Differential Geometry Seminar, University of Cambridge.
- 2013 | Crash course in link homology, Dissertantenkolloquium, University of Vienna.
- 2012 | Introduction to Khovanov homology, IST Austria.

### Conferences

- 2014 | Algebraic Lie theory and representation theory, LMS and Clay institute research school, University of Glasgow.
- 2014 | Quantum Curves and Quantum Knot Invariants, Banff International Research Station.
- 2014 | Categorification and geometric representation theory , Centre de recherches mathématiques, Université de Montréal.
- 2014 | Young Topology Meeting, Imperial College London.
- 2013 | Topology in Low Dimensions, LMS Short Course, Durham University.
- 2013 | Physics and Mathematics of Link Homology, Séminaire de Mathématiques Supérieures, Centre de recherches mathématiques, Université de Montréal.

Last updated: January 13, 2015