

Academic Experience

- **University of Regensburg** Regensburg, Germany
Assistant (Non-tenure-track 6 year position) *November 2013-November 2019*
 - (PI) SPP grant 1786: ‘Homotopy theory and algebraic geometry: Beyond Spin bordism (NO 1175/1-1)’.
 - (Board Member; non-PI) SFB grant 1085: ‘Higher Invariants: Interactions between arithmetic geometry and global analysis’.
 - PhD student: Koen van Woerden.
 - Teaching experience:
 - * Linear algebra I and II (large course), lead course assistant, winter and summer semester 2015/2016.
 - * ∞ -categories, winter semester 2015/2016.
 - * Lie algebras, winter semester 2014/2015.
 - * Lie groups, summer semester 2014.
 - * Equivariant homotopy theory, winter semester 2013/2014.
- **Mathematisches Institut der Universität Bonn / Max Planck Intitut für Mathematik** Bonn, Germany
Postdoctoral Researcher *October 2010-September 2013*
- **Institut de Recherche Mathématique Avancée** Strasbourg, France
Postdoctoral Researcher *September 2009-August 2010*
- **University of Chicago** Chicago, IL
College Lecturer *September 2005-June 2009 (8 quarters)*
- **Massachusetts Institute of Technology** Cambridge, MA
Research Affiliate *March 2007-June 2007*

Education

- **University of Chicago** Chicago, IL
Ph.D. in Mathematics *August 2009*
 - Advisor: Peter May
 - Thesis: Some Applications of the Theory of Formal Groups to Algebraic Topology
- **University of California, Santa Cruz** Santa Cruz, CA
M.S. in Mathematics *June 2005*
 - Advisors: Chongying Dong and Richard Montgomery
- **University of California, Santa Cruz** Santa Cruz, CA
B.A. in Mathematics with Highest Honors *June 2003*
 - Thesis: The Endomorphism Algebra of a Vertex Operator Algebra.
- **University of California, Santa Cruz** Santa Cruz, CA
B.S. in Computer Science with Highest Honors *June 2003*

Papers

1. Descent in algebraic K -theory and a conjecture of Ausoni-Rognes.
 - Joint with Dustin Clausen, Akhil Mathew, and Niko Naumann.
 - Preprint (submitted to Acta Mathematica): <https://arxiv.org/abs/1606.03328>
2. Derived induction and restriction theory
 - Joint with Akhil Mathew and Niko Naumann.
 - Preprint (submitted to Geometry and Topology): <http://arxiv.org/pdf/1507.06869>
3. Nilpotence and descent in equivariant stable homotopy theory

- Joint with Akhil Mathew and Niko Naumann.
 - To appear in *Advances in Mathematics*.
 - Preprint: <http://arxiv.org/pdf/1507.06867>
4. On a nilpotence conjecture of J.P. May
 - Joint with Akhil Mathew and Niko Naumann.
 - *Journal of Topology*, 2015, 8 (4): pp. 917-932.
 - doi:10.1112/jtopol/jtv021
 - Preprint: <http://arxiv.org/pdf/1403.2023>
 5. Nilpotence in the symplectic bordism ring
 - To appear in *Contemporary Mathematics*, Proceedings of the Conference on Manifolds, *K*-Theory, and Related Topics, Amer. Math. Soc., 2015.
 - Preprint: <http://arxiv.org/pdf/1410.3847>
 6. Lifting homotopy T -algebra maps to strict maps
 - Joint with Niles Johnson.
 - *Advances in Mathematics*, vol. 264(20), pp. 593–645, October 2014.
 - doi:10.1016/j.aim.2014.07.002
 - Preprint: <http://arxiv.org/pdf/1301.1511>
 7. The T -algebra spectral sequence: Comparisons and applications
 - *Algebraic and Geometric Topology*, 14-6 (2014), 3395–3417.
 - doi:10.2140/agt.2014.14.3395
 - Preprint: <http://arxiv.org/pdf/1308.5977>
 8. $H_\infty \neq E_\infty$
 - *Contemporary Mathematics*, vol. 617, Amer. Math. Soc., 2014.
 - doi:10.1090/conm/617
 - Preprint: <http://arxiv.org/pdf/0910.3566>
 9. For Complex Orientations Preserving Power Operations, p -typicality is Atypical
 - Joint with Niles Johnson.
 - *Topology and its applications*, October 2010
 - doi:10.1016/j.topol.2010.06.007
 - Preprint: <http://arxiv.org/pdf/0910.3187>

Awards

(PI) SPP 1786: Homotopy theory and algebraic geometry: Beyond Spin bordism (NO 1175/1-1)	June 2015-June 2018
Academic Research Sabbatical Program	April 2015-July 2015
(Board Member; non-PI) SFB 1085 Higher invariants: Connections between arithmetic geometry and global analysis	April 2014-December 2017
3 Midwest Topology Network NSF Grants	March 2009-June 2009
NSF/VIGRE Grants	Spr. 2006, 2007, Win.-Spr. 2008, Spr. 2009
Summer Research Grants	2004-2008
NSF Graduate Research Fellowship Honorable Mention	2005
Stevenson College Honors	2003
UC Regents Scholar (Full Tuition Scholarship)	1999-2003
Colin C. Belin Fellowship in Computer Science	1999

Service

- Coorganizer for the conference 'Picard groups, Brauer groups, invertible objects, and twistings in derived algebraic geometry' in April 2017.
- Coorganizer for the summer school on algebraic K -theory at the University of Regensburg in August 2015.
- Collaborative Research Center 1085 board member November 2014-January 2017.
- Organizer for the 'Bring-your-own-seminar' in Bonn 2011-2012.
- Coorganizer for the joint topology working seminar between the University of Bonn, University of Bochum, and University of Wuppertal (Fall Semester 2010 and Fall Semester 2011).

Lectures

- **Conference Lectures**

1. July 21st, 2016 - Topology - Oberwolfach, Germany - Galois descent and red shift in algebraic K-theory.
2. May 26th, 2016 - Operations in highly structured homology theories - Banff, Canada - On and around some conjectures of Ausoni and Rognes.
3. February 16th, 2016 - equivariant Derived Algebraic Geometry - Banff, Canada - Derived induction theory.
4. December 17th, 2015 - Geometric and categorical representation theory - Mooloolaba, Queensland, Australia - Derived induction theory.
5. July 21st, 2014 - Mathematical Landings: A Norman conference in geometry and representation theory - St-Michel-de-Montjoie, France - On generalizations of Quillen stratification.
6. July 11th, 2014 - The Language of Symmetries - A viewpoint from representation theory and geometry - Pristina, Kosovo - On generalizations of Quillen stratification.
7. June 23rd, 2014 - Manifolds, K-theory, and related topics - Dubrovnik, Croatia - On a nilpotence conjecture of J.P. May.
8. June 31st, 2013 - Eilenberg Centenary Conference - University of Warsaw, Poland - The T -algebra spectral sequence: Comparisons and Applications.
9. June 12th, 2012 - Virginia Conference on Algebraic Topology - University of Virginia - Rigidifying homotopy T -algebra maps.
10. November 11th, 2011 - NRW Conference: Böchum, Germany - From H_∞ to E_∞ .
11. August 31st, 2011 - GDR Conference: Topologie Algèbrique et Applications, Nantes, France - Rational Homotopy Theory and H_∞ Maps.
12. February 2nd, 2010 - University of Sheffield, Transpennine Topology Circle - For Complex Orientations Preserving Power Operations, p -Typicality is Atypical.
13. Fall 2009 - GDR Conference: Topologie Algèbrique et Applications, Strasbourg, France - For Complex Orientations Preserving Power Operations, p -Typicality is Atypical.
14. Spring 2009 - Conference on Algebraic Topology, Group Theory and Representation Theory, Isle of Skye, Scotland - H_∞ Orientations which are p -Typical are Atypical.
15. Spring 2009 - Graduate Student Topology Conference, Madison, Wisconsin - H_∞ Orientations which are p -Typical are Atypical.
16. Fall 2008 - Algebraic Topology Conference, Buenos Aires, Argentina - A New Perspective on Old Splittings.
17. Fall 2008 - AMS Regional Conference, Kalamazoo, MI - Witt Schemes in Algebraic Topology.
18. Fall 2008 - AMS Regional Conference, Vancouver, BC - Witt Schemes in Algebraic Topology.
19. Winter 2008 - Graduate Student Topology Conference, University of Illinois, Urbana-Champaign - The Yoneda Lemma, Hopf Algebras, and Algebraic Topology.

- **Senior Colloquia**

1. September 26th, 2016 - Stockholm University, Reconstructing K-theory
2. January 29th, 2015 - University of Colorado, Boulder, Colloquium - Deriving Induction and Restriction Theory.
3. March 14th, 2013 - Max Planck Institute for Mathematics, Oberseminar - Some Computations indexed over Picard groupoids.
4. April 17th, 2012 - University of Hamburg - Goodwillie Calculus.

- **Junior Colloquia**

1. December 6th, 2012 - University of Regensburg, Graduate Student Seminar - Equivariant cohomology of representation spheres and Picard group gradings.
2. October 26th, 2011 - University of Texas, Austin, Graduate Student Seminar - Some elementary computations in Bredon cohomology.
3. October 18th, 2011 - University of Georgia, Athens, Graduate Student Seminar - Equivariant cohomology.
4. February 10th, 2010 - University of Georgia, Athens Graduate Student Seminar - On the Hopf invariant one problem.
5. Fall 2008 - University of Chicago, Graduate Student Seminar - What Is K-theory?
6. Fall 2007 - University of Chicago, Graduate Student Seminar - Computing homotopy groups of spheres.

7. Winter 2007 - University of Chicago, Graduate Student Seminar - Beating Deep Blue: How machines play games.

- **Seminar Lectures**

1. September 21st, 2016 - Hausdorff Institute for Mathematics, Algebraic K-theory seminar - Galois descent and red-shift in algebraic K-theory
2. December 10th, 2015 - University of Melbourne - Algebraic Topology seminar - Equivariant algebraic K-theory, finite Galois descent, and bounding chromatic complexity.
3. July 16th, 2015 - University of Regensburg - Arbeitsgemeinschaft - Bounding chromatic complexity.
4. March 3rd, 2015 - Wayne State - Topology seminar - On derived induction and restriction theory.
5. February 25th, 2015 - Purdue University - Topology seminar - On derived induction and restriction theory.
6. February 19th, 2015 - University of Chicago - Topology seminar - On derived induction and restriction theory.
7. February 9th, 2015 - University of Texas, Austin - Topology seminar - On derived induction and restriction theory.
8. December 15th, 2014 - Max Planck Institute - Topology Oberseminar - On derived induction and restriction theory.
9. November 20th, 2014 - University of Regensburg - Arbeitsgemeinschaft - On derived induction and restriction theory.
10. September 19th, 2014 - École polytechnique fédérale de Lausanne - Topology seminar - On generalizations of Quillen's \mathcal{F} -isomorphism theorem.
11. June 2nd, 2014 - University of Copenhagen - Topology seminar - On a nilpotence conjecture of J.P. May.
12. April 2nd, 2014 - UC Berkeley - Topology seminar - On a nilpotence conjecture of J.P. May.
13. March 11th, 2014 - Stanford University - Progress in topology seminar - On a nilpotence conjecture of J.P. May.
14. March 4th, 2014 - Wayne State - Topology seminar - On a nilpotence conjecture of J.P. May.
15. December 11th, 2013 - KTH (Stockholm) - Algebra and Geometry seminar - Equivariant homology of representation spheres and computations indexed by Picard groups.
16. April 30th, 2013 - University of Nijmegen, Algebraic Topology seminar - The T -algebra spectral sequence: Comparisons and applications.
17. February 4th, 2013 - Johns Hopkins University, Geometry and Topology seminar - Rigidifying maps of homotopy algebras.
18. January 29th, 2013 - University of Illinois, Algebraic Topology seminar - Rigidifying maps of homotopy algebras.
19. January 24th, 2013 - Northwestern University, Algebraic Topology seminar - Some computations indexed over Picard groupoids.
20. January 22nd, 2013 - University of Chicago, Algebraic Topology seminar - Some computations indexed over Picard groupoids.
21. January 18th, 2013 - University of Kentucky, Geometry and Topology seminar - Some computations indexed over Picard groupoids.
22. November 20th, 2012 - University of Strasbourg, Algebraic Topology seminar - Some computations indexed over Picard groupoids.
23. November 12th, 2012 - University of Münster, Geometry and Topology seminar - Some computations indexed over Picard groupoids.
24. February 20th, 2012 - University of Copenhagen, Geometry seminar - Maps of Homotopy T -algebras.
25. January 9th, 2012 - University of Osnabrück, Seminar on combinatorial structures in algebra and topology - Maps of Homotopy T -algebras.
26. October 27th, 2011 - University of Texas, Austin, Geometry Seminar - An Alternative Model for Derived Manifolds.
27. October 24th, 2011 - University of Georgia, Athens, Algebra/Topology Seminar - Equivariant cohomology of representation spheres.

28. October 11th, 2011 - University of Chicago, Topology Seminar - Rational Homotopy Theory and H_∞ Maps.
29. October 10th, 2011 - Northwestern University, Topology Seminar - Rational Homotopy Theory and H_∞ Maps.
30. September 29th, 2011 - Max Planck Institute, Topology Oberseminar - Rational Homotopy Theory and H_∞ Maps.
31. April 12th, 2011 - University of Bonn, Topology Seminar - Some Elementary Computations in Bredon Cohomology.
32. March 14th, 2011 - Max Planck Institute for Mathematics, Topology Seminar - Some Elementary Computations in Bredon Cohomology.
33. January 17th, 2011 - University of Münster, Topology Seminar - Some Elementary Computations in Bredon Cohomology.
34. February 18th, 2011 - Northwestern University, Topology Seminar - When $H_\infty = E_\infty$.
35. May 4th, 2010 - Ruhr-University of Bochum, Topology Seminar - For Complex Orientations Preserving Power Operations, p -Typicality is Atypical.
36. February 11th, 2010 - University of Georgia, Topology Seminar - For Complex Orientations Preserving Power Operations, p -Typicality is Atypical.
37. February 6nd, 2010 - University of Glasgow, Algebra Seminar - For Complex Orientations Preserving Power Operations, p -Typicality is Atypical.
38. January 14th, 2010 - University of Paris XIII, Topology Seminar - For Complex Orientations Preserving Power Operations, p -Typicality is Atypical.
39. December 15th, 2009 - University of Bonn, Topology Seminar - When $H_\infty = E_\infty$.
40. December 4th, 2009 - University of Lille, Topology Seminar - When $H_\infty = E_\infty$.
41. Fall 2009 - University of Strasbourg, Topology Seminar - H_∞ Orientations and p -typicality (2 lectures).
42. Summer 2009 - University of Chicago, Topology Seminar - Some Applications of the Theory of Formal Groups to Algebraic Topology.
43. Spring 2009 - Northwestern University, Topology Seminar - H_∞ Orientations on BP .
44. Winter 2009 - University of Chicago, Topology Seminar - The Morava K -theory of Coker J and Higher Chromatic Analogues.

Additional Information

- U.S. citizen.
- Languages: English (native speaker), German (C1, experience teaching in German), French (B1), and Spanish (A1)¹.

¹Language levels are only self-estimates relative to the [CEFR](#) standards.