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Curriculum Vitae

Education

2001	Habilitation in Mathematics, Bielefeld University
1996	PhD in Mathematics (Dr. math.), Bielefeld University
1994	Diplom in Mathematics, Bielefeld University

Positions

2003 –	Professor (C4), University of Bonn
2002 – 2003	Head of Junior Research Group, SFB 478, University of Münster
1998 – 2001	Wissenschaftlicher Assistent, Bielefeld University
1997 – 1998	Postdoctoral Fellow, Massachusetts Institute of Technology

Awards and honors

Fellow of the American Mathematical Society, Class of 2019

Editorships

2024 –	Journal of Topology
2016 –	Geometry & Topology
2006 – 2012	Mathematische Zeitschrift
2003 – 2016	Documenta Mathematica

Selected invited presentations

07/2024	9th European Congress of Mathematics, Seville, Invited speaker
09/2022	Summer School 'Spectral methods in algebra, geometry, and topology', Hausdorff Research Institute, Bonn, Germany (lecture series, 3 talks)
02/2020	'Global homotopy theory', IIT Bombay, India (lecture series, 5 talks)
06/2019	IRTATCA Follow-up Conference, Barcelona, Spain
12/2018	Conference 'Floer homology and homotopy theory', UCLA, Los Angeles, USA
11/2018	Conference 'Combinatorial Categories in Algebra and Topology', Osnabrück, Germany
09/2018	33rd British Topology Meeting, Milton Keynes, England
06/2018	Homotopy Theory Summer, Berlin, Germany (lecture series, 3 talks)
04/2018	Masterclass 'Rigidity and algebraic models in stable homotopy theory' Copenhagen, Denmark (lecture series, 5 talks)
05/2017	Conference 'Triangulated categories and geometry', Bielefeld, Germany
03/2016	27th Nordic Congress of Mathematicians, Stockholm, Sweden
12/2015	Scottish Topology Meeting, Glasgow, Scotland
09/2014	Conference 'Stable Homotopy Theory: structured ring spectra and their invariants', Manchester, England
08/2013	Masterclass 'Topics in equivariant stable homotopy theory' Copenhagen, Denmark (lecture series, 5 talks)
06/2011	Summer School 'Algebra, Topology and Fjords', Sophus Lie Conference Center, Nordfjordeid, Norway (lecture series, 3 talks)
10/2010	Summer School 'Equivariant Stable Homotopy Theory' Barcelona, Spain (lecture series, 2 talks)
03/2008	European Mathematical Society – Joint Mathematical Weekend, Copenhagen, Plenary talk
06/2007	Joint International Meeting UMI – DMV, Perugia, Plenary talk

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Collaborative research projects

2006 – 2025	DFG Cluster of Excellence 'Hausdorff Center for Mathematics', Bonn Principal Investigator, Member of Board of Directors, Director of Graduate Studies (2013–17), Vice-Speaker (2017–19), Interim Speaker (2022/23)
2014 – 2022	DFG Priority Program SPP 1786 'Homotopy Theory and Algebraic Geometry' Initiator, Member of the Steering Committee, Principal Investigator
2005 – 2014	DFG Research Training Group GRK 1150 'Homotopy and Cohomology', PI

Organization of scientific events

2018	Semester program 'Homotopy Harnessing Higher Structures' Isaac Newton Institute, Cambridge, England
2015	Trimester program 'Homotopy theory, manifolds, and field theories', Hausdorff Research Institute for Mathematics, Bonn, Germany
2015	'Conference on Topology and Geometry, Bonn', Germany
2015	Conference 'Advances in Homotopy Theory', Strasbourg, France
2007, 11, 15	Workshop 'Homotopy theory', Mathematisches Forschungsinstitut Oberwolfach, Germany
2004, 07, 10, 13	NRW Topology Meetings, Bonn, Germany
2007	Abel Symposion, Oslo, Norway
2007	Summer School 'Stable homotopy theory: classical calculations and modern structures', Strasbourg, France
2005	Workshop 'Stable and algebraic homotopy', Schloß Ringberg, Germany
2004	Workshop 'Structured Ring Spectra', Max Planck Institute for Mathematics, Bonn, Germany
2003	Workshop 'Topological modular forms', Münster, Germany
1999	Workshop 'Stable Homotopy Theory and Algebraic K-theory', Bielefeld, Germany

Publications

[1] **Representation-graded Bredon homology of elementary abelian 2-groups**
with M. Hausmann, to appear in *Algebraic & Geometric Topology*

[2] **Chern classes in equivariant bordism**
Forum of Mathematics, Sigma, 12 (2024), e7, 1–11

[3] **Proper equivariant stable homotopy theory**
with D. Degrijse, M. Hausmann, W. Lück and I. Patchkoria,
Memoirs of the American Mathematical Society 288 (2023), no. 1432, vi+142 pp.

[4] **Splittings of global Mackey functors and regularity of equivariant Euler classes**
Proceedings of the London Mathematical Society 125 (2022), 258–276

[5] **Global stable splittings of Stiefel manifolds**
Documenta Mathematica 27 (2022), 789–845

[6] **Global algebraic K-theory**
Journal of Topology 15 (2022), 1325–1454

[7] **Homotopy invariance of convolution products**
with S. Sagave, *International Mathematics Research Notices* (2021), no. 8, 6246–6292

[8] **Categories and orbispaces**
Mathematische Zeitschrift 294 (2020), 71–107

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Publications (continued)

[9] **Orbispaces, orthogonal spaces, and the universal compact Lie group**
Algebraic & Geometric Topology 19 (2019), 3171–3215

[10] **Global homotopy theory**
New Mathematical Monographs 34. Cambridge University Press, 2018. xvi+828 pp.

[11] **Equivariant properties of symmetric products**
Journal of the American Mathematical Society 30 (2017), 673–711

[12] **The n-order of algebraic triangulated categories**
Journal of Topology 6 (2013), 857–867

[13] **The p-order of topological triangulated categories**
Journal of Topology 6 (2013), 868–914

[14] **Algebraic versus topological triangulated categories**
in: Triangulated categories, 389–407, London Mathematical Society Lecture Notes 375 (2010)

[15] **On the homotopy groups of symmetric spectra**
Geometry & Topology 12 (2008), 1313–1344

[16] **The stable homotopy category is rigid**
Annals of Mathematics 166 (2007), 837–863

[17] **Triangulated categories without models**
with F. Muro and N. Strickland, *Inventiones Mathematicae* 170 (2007), 231–241

[18] **Introduction to realizability of modules over Tate cohomology**
with D. Benson and H. Krause
in: Representations of algebras and related topics, Fields Institute Comm. 45 (2005), 81–97

[19] **Morita theory in abelian, derived and stable model categories**
in: Structured Ring Spectra, 33–86, London Mathematical Society Lecture Notes 315 (2004)

[20] **Formal groups and stable homotopy of commutative rings**
Geometry & Topology 8 (2004), 335–412

[21] **Realizability of modules over Tate cohomology**
with D. Benson and H. Krause, *Transactions of the Amer. Math. Soc.* 356 (2004), 3621–3668

[22] **Stable model categories are categories of modules**
with B. Shipley, *Topology* 42 (2003), 103–153

[23] **Equivalences of monoidal model categories**
with B. Shipley, *Algebraic & Geometric Topology* 3 (2003), 287–334

[24] **A uniqueness theorem for stable homotopy theory**
with B. Shipley, *Mathematische Zeitschrift* 239 (2002), 803–828

[25] **The stable homotopy category has a unique model at the prime 2**
Advances in Mathematics 164 (2001), 24–40

[26] **Stable homotopy of algebraic theories**
Topology 40 (2001), 1–41

[27] **S-modules and symmetric spectra**
Mathematische Annalen 319 (2001), 517–532

[28] **Model categories of diagram spectra**
with M. Mandell, J. P. May and B. Shipley, *Proc. of the London Math. Soc.* 82 (2001), 441–512

[29] **Simplicial structures on model categories and functors**
with C. Rezk and B. Shipley, *American Journal of Mathematics* 123 (2001), 551–575

[30] **Algebras and modules in monoidal model categories**
with B. Shipley, *Proceedings of the London Mathematical Society* **80** (2000), 491–511

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Publications (continued)

[31] **Stable homotopical algebra and Γ-spaces**
Mathematical Proceedings of the Cambridge Philosophical Society **126** (1999), 329–356

[32] **An exact sequence interpretation of the Lie bracket in Hochschild cohomology**
Journal für die reine und angewandte Mathematik **498** (1998), 153–172

[33] **Spectra in model categories and applications to the algebraic cotangent complex**
Journal of Pure and Applied Algebra **120** (1997), 77–104

Preprints submitted for publication

[a] **The universal property of bordism of commuting involutions**
with M. Hausmann, 50 pp., `arXiv:2406.00404`