

Bernhard Böhmler

- Curriculum vitae -

Biographical information

Place and date of birth: 28th July 1988, Leonberg, Germany
Nationality: German

Language skills

Mother tongue: German
Foreign languages: English (level C1), Latin (level B2), Spanish (level A2), French (level A1)

Employment

10/2023 - 09/2026
Postdoc in mathematics at the Leibniz University Hannover
Institute of Algebra, Number Theory and Discrete Mathematics
Mentor: Prof. Dr. Michael Cuntz

Education

08/2018 - 09/2023
Doctoral student in mathematics, TU Kaiserslautern (funded by the DFG)
Topic: Trivial source character tables of small finite groups
Supervisor: Jun.-Prof. Dr. Caroline Lassueur

11/2011 - 09/2016
Master of Science in mathematics, University of Stuttgart
Specialisations:

- Representation theory of finite-dimensional algebras
- Homological algebra
- Master's Thesis (04/2016 - 09/2016)
Title: Contributions to the representation theory of gendo-symmetric algebras
Supervisor: Prof. Dr. Wolfgang Rump

10/2008 - 11/2011
Bachelor of Science in mathematics, University of Stuttgart
Specialisations:

- Representation theory of finite groups
- Algebra
- Bachelor's Thesis (05/2011 - 10/2011)
Title: Influence of character degrees on the group structure
Supervisor: Prof. Dr. Wolfgang Kimmerle

09/1999 - 07/2008
Abitur, Albert-Schweitzer-Gymnasium Leonberg

Publications & preprints

- In preparation
A GAP package on trivial source character tables of finite groups
- Work in progress
Database of trivial source character tables, Preliminary Version (with Niamh Farrell, Caroline Lassueur, and Jaikrishna Patil)
URL: <https://representationtables.github.io/trivialsources/>
- Submitted
Trivial source characters in blocks of domestic representation type
DOI: <https://doi.org/10.48550/arXiv.2503.21703>
- Submitted
Trivial source character tables of Frobenius groups of type $(C_p \times C_p) \rtimes H$ (with Caroline Lassueur)
DOI: <https://doi.org/10.48550/arXiv.2403.14571>
- 11/2025
Frieze patterns over finite commutative local rings
Séminaire Lotharingien de Combinatoire **91** (2025), 18pp (with Michael Cuntz)
- 07/2024
An appendix to the article *Selfextensions of modules over group algebras*
J. Algebra **649** (2024), 319-346 (with René Marczinik)

- 06/2022 *On the Extension-Closed Property for the Subcategory $\text{Tr}(\Omega^2(\text{mod} - A))$*
Algebr. Represent. Theor. **26** (2023), 1433–1440 (with René Marczinik)
- 05/2022 *Trivial source character tables of $\text{SL}_2(q)$*
J. Algebra **598** (2022), 308–350 (with Niamh Farrell and Caroline Lassueur)
- 01/2022 *A cluster tilting module for a representation-infinite block of a group algebra*
J. Algebra **589** (2022), 483–494 (with René Marczinik)
- 01/2018 *On a conjecture about Morita algebras*
J. Algebra **508** (2018), 569–574 (with René Marczinik)

Research interests

- Group theory
- Modular and ordinary representation theory of finite groups
- Representation theory of finite-dimensional algebras and related combinatorial structures
- Auslander-Reiten theory
- Homological algebra
- Frieze patterns

Research stays

- 10/2021 - 01/2022 4 months at the *University of California, Santa Cruz*, scholarship granted by the German Academic Exchange Service (DAAD)
- 03/2021 2 weeks at *Mathematisches Forschungsinstitut Oberwolfach*, Oberwolfach Research Fellowship
- 01/2020 1 week at the *Isaac Newton Institute for Mathematical Sciences*, University of Cambridge

Contributed talks

Invited talks

- 04/2025 **On theoretical and computational aspects of trivial source characters** during the *Algebra Seminar 2025* in Bilkent (online)

Research talks

- 08/2025 **Computing trivial source modules and their character tables using GAP** during the *GAP days summer* in Koper (Slovenia)
- 12/2024 **Trivial source character tables of Frobenius groups of type $(C_p \times C_p) \rtimes H$** during the *Nikolaus Conference 2024* in Aachen
- 12/2023 **Trivial source characters in domestic representation type** during the *Nikolaus Conference 2023* in Aachen
- 09/2022 **On the computation of trivial source character tables using computer algebra** during the conference *Representation Theory at the Villa Denis* in Kaiserslautern
- 08/2022 **On the computation of trivial source character tables using computer algebra** during the conference *Structure of Group Algebras over Local Rings* in Ambleside (England)
- 09/2021 **On the computation of trivial source character tables** during the *Young Algebraists' Conference* at the EPFL (Switzerland)
- 02/2021 **Broué's abelian defect group conjecture via p -permutation equivalences** during the seminar *Promotionen und Postdocs in Darstellungstheorie* (online)
- 02/2020 **Charaktertafeln von Moduln kleiner endlicher Gruppen mit trivialen Quellen** during the *Grüppchen* at the Martin-Luther-University in Halle/Saale
- 01/2020 **Trivial source character tables of small finite groups** during the *IRTG-seminar* at the Saarland University
- 09/2019 **Representation type and combinatorics** at the 83rd *Séminaire Lotharingien de Combinatoire* in Bad Boll

Working group talks

- 12/2023 **On the computation of projective indecomposable modules over group algebras using GAP** during the seminar *Algebra and Combinatorics* at the Leibniz University Hannover
- 06/2021 **The Littlewood-Richardson rule** during the seminar *Representation Theory of the Symmetric Group* at the TU Kaiserslautern

- 01/2021 ***p*-permutation equivalences** during the seminar *Equivalences of block algebras* at the TU Kaiserslautern
- 06/2019 **Blocks with cyclic defect groups I** during the seminar *Block Theory* at the TU Kaiserslautern
- 04/2019 **On a counter-example to a conjecture about Morita algebras** during the seminar *Groups and Representations* at the TU Kaiserslautern
- 10/2018 **Projective and injective modules** during the seminar *Perverse equivalences and applications* at the TU Kaiserslautern

Theses (co-)supervised

- 01/2025 **Anzahl der Friesmuster von Köchertyp** Bachelor thesis (co-supervised with Michael Cuntz) at the Leibniz University Hannover

Selected attended conferences and workshops

- 11/2025 Darstellungstheorietage in Düsseldorf
- 05/2025 Frieze patterns in algebra, combinatorics and geometry in Marseille (France)
- 02/2025 Darstellungstheorietage in Stuttgart
- 12/2024 Nikolaus conference in Aachen
- 12/2023 Nikolaus conference in Aachen
- 10/2022 Darstellungstheorietage in Kaiserslautern
- 09/2022 Representation Theory at the Villa Denis in Kaiserslautern
- 08/2022 Structure of Group Algebras over Local Rings in Ambleside (England)
- 09/2021 Young Algebraists' Conference at the EPFL (Switzerland)
- 02/2021 Promotionen und Postdocs in Darstellungstheorie (online)
- 12/2020 Nikolaus conference (online)
- 09/2020 SFB-TRR 195: Annual conference (online)
- 02/2020 Grüppchen at the Martin-Luther-University in Halle/Saale
- 12/2019 Nikolaus conference in Aachen
- 10/2019 Darstellungstheorietage in Jena
- 06/2019 Norddeutsches Gruppentheorie-Kolloquium in Halle
- 06/2019 Groups, Rings and Associated Structures in Spa (Belgium)
- 12/2018 Nikolaus conference in Aachen
- 09/2018 Darstellungstheorietage in Hannover
- 03/2016 Workshop on Brauer Graph Algebras at the University of Stuttgart (as aide)
- 03/2016 Conference on Triangulated Categories in Algebra, Geometry and Topology University of Stuttgart (as aide)
- 09/2015 Third GAP Days 2015 at the NTNU in Trondheim (Norway)

University teaching

- 10/2025 - 03/2026 B.Sc. lecture: Linear Algebra I for computer scientists, assistant & tutor
- 04/2025 - 09/2025 B.Sc. lecture: Discrete Structures for computer scientists, tutor
- 10/2024 - 03/2025 B.Sc. lecture: Linear Algebra I for computer scientists, assistant & tutor
- 04/2024 - 09/2024 B.Sc. lecture: Discrete Mathematics, assistant
- 10/2023 - 03/2024 B.Sc. lecture: Higher Mathematics 1 for Engineers, tutor
- 04/2022 - 09/2022 B.Sc. lecture: Character Theory of Finite Groups, tutor
- 04/2022 - 09/2022 B.Sc. lecture: Complex Analysis for Engineers, assistant & tutor
- 04/2021 - 09/2021 M.Sc. lecture: Cohomology of Groups, assistant & tutor
- 04/2021 - 09/2021 B.Sc. lecture: Complex Analysis for Engineers, assistant & tutor
- 10/2020 - 03/2021 M.Sc. lecture: Representation Theory of Finite Groups, assistant & tutor
- 04/2019 - 09/2019 B.Sc. lecture: Character Theory of Finite Groups, assistant & tutor
- 10/2016 - 03/2017 B.Sc. lecture: Higher Mathematics 3 for Engineers, tutor
- 10/2015 - 12/2015 B.Sc. lecture: Higher Mathematics 3 for Electrical Engineering Technicians, tutor
- 10/2014 - 03/2015 B.Sc. lecture: Higher Mathematics 3 for Engineers, tutor

04/2014 - 09/2014	B.Sc. lecture: Higher Mathematics 2 for Engineers, tutor
10/2013 - 03/2014	B.Sc. lecture: Higher Mathematics 3 for Engineers, tutor
04/2013 - 09/2013	B.Sc. lecture: Algebra for Mathematicians, tutor
10/2012 - 03/2013	B.Sc. lecture: Higher Mathematics 1 for Engineers, tutor
04/2012 - 09/2012	B.Sc. lecture: Geometry for Mathematicians, tutor

Work experience

09/2017 - 07/2018	High school teacher for mathematics and physics at the Stetten-Institute in Augsburg
05/2017 - 08/2017	Freelance collaborator at Schülerhilfe Leonberg (tutor for mathematics)
10/2016 - 03/2017	Tutor for the B.Sc. lecture Higher Mathematics 3 for Engineers

Computer skills

Typesetting	L <small>A</small> T <small>E</small> X (very good)
Computer languages	GAP (very good), MAGMA (good), SAGE (intermediate)

Extracurricular activities

Further training

04/2018	DeltaPlus-course <i>Mathematik sprachsensibel unterrichten</i> in Augsburg
01/2018	Course <i>Die Kunst des guten Unterrichtens</i> with Dr. Siegfried Rodehau in Nürnberg
11/2017	Colloquium <i>Warum Geraden nicht Gerade sein müssen</i> about synthetic geometry with Prof. Wolfgang Schneider in Augsburg
11/2017	Courses " <i>Sprachsensibler Unterricht</i> ", " <i>Umgang mit Notfallsituationen</i> ", " <i>Gesprächsführung</i> " in the retreat house of St. Paulus in Leitershofen

Special qualifications

10/2011 - 03/2012	Key qualification course for tutors of Higher Mathematics at the University of Stuttgart
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Voluntary services

04/2019 - 09/2023	Clarinet player at the <i>university orchestra</i> of the TU Kaiserslautern
09/2019 - 03/2020	Tutor for mathematics at the <i>learning centre</i> of the TU Kaiserslautern
1999 - today	Member of (the executive board of) several <i>chess clubs</i>
1996 - 2016	Member of the wind band <i>Musikverein Stadtkapelle Leonberg</i> and leader of the clarinets

Awards

03/2008	1 st price at the federal state music competition <i>Jugend musiziert</i> (solo piano)
03/2007	1 st price at the federal state music competition <i>Jugend musiziert</i> (Duo: clarinet & piano)
05/2006	3 rd price at the national music competition <i>Jugend musiziert</i> (solo clarinet)
03/2006	1 st price at the federal state music competition <i>Jugend musiziert</i> (solo clarinet)
10/2005	2 nd price at the <i>Matthaes</i> piano competition in Stuttgart (solo piano)

Referees

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Robert Boltje, boltje@ucsc.edu, +1 (0)831 459 5001

Caroline Lassueur, lassueur@mathematik.uni-kl.de, +49 (0)631 205 2515