Bernhard Böhmler

Biographical information

- Curriculum vitae -

Place and date of birth

28th July 1988, Leonberg, Germany

Nationality

German

Language skills

Mother tongue

German

Foreign languages

English (level B2), Latin (high school level), Spanish (level A2), French (level A1)

Employment

10/2023 - 09/2025

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:

o 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

o 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://agag-lassueur.math.rptu.de/~lassueur/en/TrivSourceDatabase/

Preprint

Trivial source characters in blocks of domestic representation type

DOI: https://doi.org/10.48550/arXiv.2503.21703

Submitted

Frieze patterns over finite commutative local rings (with Michael Cuntz)

DOI: https://doi.org/10.48550/arXiv.2407.12596

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

07/2024

An appendix to the article Selfextensions of modules over group algebras

J. Algebra **649** (2024), 319-346 (with René Marczinzik)

Curriculum vitae Bernhard Böhmler

 $\begin{array}{lll} 06/2022 & \textit{On the extension-closed property for the subcategory} \ \text{Tr}(\Omega^2(\text{mod}-A)) \\ & \text{DOI: https://doi.org/10.1007/s10468-022-10140-7} \\ & \text{Algebr. Represent. Theory (2022) (with René Marczinzik)} \\ 05/2022 & \textit{Trivial source character tables of $SL_2(q)$} \\ & \text{J. Algebra 598 (2022), 308-350 (with Niamh Farrell and Caroline Lassueur)} \\ 01/2022 & \textit{A cluster tilting module for a representation-infinite block of a group algebra} \\ & \text{J. Algebra 589 (2022), 483-494 (with René Marczinzik)} \\ 01/2018 & \textit{On a conjecture about Morita algebras} \\ & \text{J. Algebra 508 (2018), 569-574 (with René Marczinzik)} \\ \end{array}$

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 <i>University of California, Santa Cruz</i> , 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

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

Research talks

- 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
- 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

Curriculum vitae Bernhard Böhmler

- 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 Kaiserlslautern
- 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

- 05/2025 Frieze patterns in algebra, combinatorics and geometry
- 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

- 04/2025 09/2025 B.Sc. lecture: Discrete Structures for computer scientists, assistant & 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 & tutor
- 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, assistant & 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

Curriculum vitae Bernhard Böhmler

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)

Computer skills

Typesetting LAT

LATEX (very good)

Computer languages

GAP (very good), MAGMA (good), SAGE (intermediate)

Extracurricular activities

Further training

04/2018 DeltaPlus-course Mathematik sprachsensibel unterrichten in Augsburg

01/2018 Course Die Kunst des guten Unterrichtens with Dr. Siegfried Rodehau in Nürnberg

11/2017 Colloquium Warum Geraden nicht Gerade sein müssen about synthetic geometry with Prof.

Wolfgang Schneider in Augsburg

11/2017 Courses "Sprachsensibler Unterricht", "Umgang mit Notfallsituationen", "Gesprächsführung" 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

Voluntary services

04/2019 - 09/2023 Clarinet player at the university orchestra of the TU Kaiserslautern

09/2019 - 03/2020 Tutor for mathematics at the *learning centre* of the TU Kaiserslautern

1999 - today Member of (the executive board of) several chess clubs

1996 - 2016 Member of the wind band Musikverein Stadtkapelle Leonberg and leader of the clarinets

Awards

03/2008 1st price at the federal state music competition Jugend musiziert (solo piano)

03/2007 1st price at the federal state music competition Jugend musiziert (Duo: clarinet & piano)

05/2006 3rd price at the national music competition *Jugend musiziert* (solo clarinet)

03/2006 1st price at the federal state music competition Jugend musiziert (solo clarinet)

10/2005 2nd price at the *Matthaes* piano competition in Stuttgart (solo piano)

Referees

Michael Cuntz, cuntz@math.uni-hannover.de, +49 (0)511 762 4252

Thorsten Holm, holm@math.uni-hannover.de, +49 (0)511 762 4484

Caroline Lassueur, lassueur@math.uni-hannover.de, +49 (0)511 762 3294

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

Wolfgang Kimmerle, wolfgang.kimmerle@mathematik.uni-stuttgart.de, +49 (0)711 685 65323

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