

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

Education

08/2018 - 03/2023 **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
◦ Functional analysis
◦ Theoretical physics (minor subject)
◦ 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
◦ Experimental physics (minor subject)
◦ Bachelor's Thesis (05/2011 - 10/2011)
Title: Influence of character degrees on the group structure

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

Research interests

- Group theory
- Modular and ordinary representation theory of finite groups
- Representation theory of finite-dimensional algebras
- Auslander-Reiten theory
- Homological algebra

Publications and preprints

In preparation *An algorithm to compute trivial source character tables of finite groups*
06/2022 *On the extension-closed property for the subcategory $\text{Tr}(\Omega^2(\text{mod } - A))$*
DOI: <https://doi.org/10.1007/s10468-022-10140-7>
Algebr. Represent. Theory (2022) (with René Marcinzik)
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 Marczinzik)
- 01/2018 *On a conjecture about Morita algebras*
J. Algebra **508** (2018), 569-574 (with René Marczinzik)

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

Research talks

- 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

- 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

Contributed posters

- 01/2020 Poster presented during GRAW01 (Groups, Representations and Applications - introductory workshop) at the Isaac Newton Institute of Mathematical Sciences, University of Cambridge
- 09/2019 Poster presented during the annual conference of the SFB-TRR 195 at the Saarland University

Selected attended conferences and workshops

- 10/2022 Darstellungstheoretage 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

04/2022 - 09/2022	B.Sc. lecture: Character Theory of Finite Groups, assistant
04/2022 - 09/2022	B.Sc. lecture: Complex Analysis for Engineers, assistant
04/2021 - 09/2021	M.Sc. lecture: Cohomology of Groups, assistant
04/2021 - 09/2021	B.Sc. lecture: Complex Analysis for Engineers, assistant
10/2020 - 03/2021	M.Sc. lecture: Representation Theory of Finite Groups, assistant
04/2019 - 09/2019	B.Sc. lecture: Character Theory of Finite Groups, assistant
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
10/2011 - 03/2012	B.Sc. lecture: Higher Mathematics 1 for Engineers, 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	L ^A T _E X (very good)
Computer languages	GAP (very good), MAGMA (good), SAGE (basics)

Extracurricular activities

Further training

04/2018	DeltaPlus-course <i>Mathematik sprachsensibel unterrichten</i> in Augsburg
01/2018	Course <i>Die Kunst des guten Unterrichts</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 - today	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 *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

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