

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)

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:

- 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://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)

- 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 Marczinzik)
- 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 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

- 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

- 05/2025 Frieze patterns in algebra, combinatorics and geometry
- 02/2025 Darstellungstheoretage in Stuttgart
- 12/2024 Nikolaus conference in Aachen
- 12/2023 Nikolaus conference in Aachen
- 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
- 10/2019 Darstellungstheoretage 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 Darstellungstheoretage 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
- 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 \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 Unterrichts* 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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