Academic Curriculum Vitae

Personal Details

Name	Benjamin Sambale
Address	Institut für Algebra, Zahlentheorie und Diskrete Mathematik, Fakultät für Mathematik und Physik Leibniz Universität Hannover Welfengarten 1 30167 Hannover, Germany
Birthday	April 10, 1985
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Education

Jun 23, 2004	General qualification for university entrance ("Abitur") at the Marie-Curie-Gymnasium Blankenhain
Nov 19, 2008	**Diploma** with distinction in Mathematics at the Friedrich-Schiller-Universität Jena Thesis: *Konjugationsklassen und Charaktere in endlichen p-Gruppen*
Nov 26, 2010	**Ph.D.** with "summa cum laude" Dissertation: 2-*Blöcke mit metazyklischen und minimal nichtabelschen Defektgruppen* Advisor: Prof. Dr. Burkhard Külshammer
Nov 27, 2013	**Habilitation** Thesis: *Blocks of finite groups and their invariants*
Jul 26, 2023	**Adjunct professor**, Leibniz Universität Hannover

Employment

Dec '08 – Dec '11	**Assistant** at the University of Jena, partly supported by the DFG (German Research Foundation)
Jan – Jun '12	**Postdoc** at the University of California, Santa Cruz, supported by the DAAD (German Academic Exchange Service)

Jul '12 – Jun '15	**Postdoc** at the University of Jena, supported by the DFG and the Carl Zeiss Foundation, since Dec 2013: **Privatdozent**
Jul – Sep '15	**Heisenberg scholar** at the University of Jena, supported by the DFG
Oct '15 – Sep '18	**Heisenberg scholar** at the University of Kaiserslautern (now RPTU)
Apr '18 – Jul '19	**Temporary associate professor** at the University of Jena
Oct '19 – Sep '21	**Temporary associate professor** at the Leibniz University of Hannover
Oct '21 – Aug '23	**Heisenberg scholar and lecturer** at the University of Hannover
Sep '23 – now	**Data scientist** at Data assessment solutions, Hannover

Research stays

Mar – Apr '14	University of California, Santa Cruz, USA supported by the Daimler and Benz Foundation
Sep '15	University of Valencia, Spain supported by the Daimler and Benz Foundation
Jan '16	University of Auckland, New Zealand supported by the Daimler and Benz Foundation
Jul '16	Academic Guest at Bernoulli Center (CIB), EPFL Lausanne, Switzerland (invited)
Jan – Mar '18	Research member at the MSRI Berkley, USA (invited)
Feb '22	University of Valencia, Spain supported by the German Research Foundation
May '22	Research member at the INI Cambridge, UK (invited)
Feb '23	University of Valencia, Spain supported by the German Research Foundation

Teaching Experience

Apr – Jul '06	Corrector of homework in Linear Algebra
Oct '07 – Oct '08	Tutor of preparatory courses in mathematics
Oct '08 – Dec '11	Example classes in Linear Algebra, Group Theory, Algebra 1 & 2, Ring Theory and Representation Theory
Oct '13 – Mar '14	Lectures on **Character Theory**
Apr – Sep '15	Lectures on **Permutation Groups**
Sep '16	Lectures "Determination of block invariants", CIB Lausanne
Oct '16 – Mar '17	Lectures on **Group Theory** (held in English)
Apr – Sep '17	Organizer of the Oberseminar
Oct '17 – Mar '18	Lectures on **Introduction to Algebra**

Apr – Sep '18	Lectures on **Algebra and Number Theory for Teachers**, **Character Theory** and Seminar on Permutation Groups
Oct '18 – Mar '19	Lectures on **Algebra 1** and **Combinatorics**, Proseminar on Geometric Group Theory
Apr – Sep '19	Lectures on **Algebra 2** and **Algebra and Number Theory for Teachers**, Seminar on Set Theory
Oct '19 – Mar '20	Lectures on **Linear Algebra 1 for Computer Scientists** and **Algebraic Combinatorics**, Seminar on Permutation Groups
Apr – Sep '20	Lectures on **Linear Algebra 2 for Computer Scientists** and **Discrete Mathematics**, Seminar on Lie Algebras
Oct '20 – Mar '21	Lectures on **Linear Algebra 1 for Computer Scientists** and **Group Theory**, Seminar on Fusion systems
Apr – Sep '21	Lectures on **Linear Algebra 2 for Computer Scientists** and **Discrete Mathematics**, Seminar on Coding theory
Oct '21 – Mar '22	Seminar on The symmetries of things
Apr '22 – Sep '22	Lectures on **Combinatorial Group Theory**
Oct '22 – Apr '23	Seminar on Formal Power Series
Apr '23 – Jul '23	Lectures on **Representation Theory**
Apr '24 – Jul '24	Lectures on **Group Theory**

Supervision

Sep 2012	(jointly with Külshammer) Diploma thesis *Blöcke mit der 2-Sylowgruppe von* PSU$(3, 4)$ *als Defektgruppe* by Julian Bertels, Jena
May 2016	(jointly with Külshammer) Dissertation *2-Blöcke mit Defektgruppen mit genau drei Involutionen* by René Reichenbach, Jena
Apr 2017	Bachelor's thesis *Invariants of character tables of finite groups* by Jonathan Gruber, Kaiserslautern
Sep 2017	Master's thesis *On the classification of p-blocks of finite groups* by Christoph Lampe, Kaiserslautern
Oct '17 – Jul '18	Ph.D. studies of Melvin Dauter (discontinued), Kaiserslautern
Jan 2018	(jointly with Külshammer) Dissertation *Eine Klasse von Blöcken mit einer elementarabelschen Defektgruppe der Ordnung 16* by Pierre Landrock, Jena
Apr 2019	(jointly with Külshammer) Bachelor's thesis *Reed-Muller-Codes und Verallgemeinerungen* by Karl Konstantin Westphal, Jena
Sep 2019	Bachelor's thesis *Gruppentheoretische Beweise von Menons Identität*, by Robin Gießler, Jena
Sep 2019	Bachelor's thesis *Das Theorem von Kulakoff-Hall*, by Lucas Büchner Mayench, Jena
Sep 2020	Bachelor's thesis *Der Satz von Poincaré-Birkhoff-Witt*, by Sophie Friesen, Hannover

Mar 2021	Bachelor's thesis *Gruppenelemente maximaler Ordnung*, by Philipp Wellmann, Hannover
Mar 2021	Master's thesis for teachers *Mathieu-Puzzle und Verallgemeinerungen*, by Nadja van Kempen, Hannover
Jun 2021	Bachelor's thesis *Permutationsgruppen mit regulären Bahnen*, by Julia Krivorutski, Hannover
Nov 2021	Bachelor's thesis *Algorithmen zur Planarität von Graphen*, by Karl Böhlke, Hannover
Apr 2022	Bachelor's thesis *MacMahons Mastertheorem und Anwendungen*, by Tessa Rollauer, Hannover
Oct 2022	Master's thesis *Umkehrungen von Gaschütz' Satz*, by Scheima Sara Obeidi
Oct 2022	Master's thesis *Strong Pseudo Frobenius Numbers*, by Luca Benedikt Blaas
Dec 2022	Bachelor's thesis *Faktorielle Ringe von Potenzreihen*, by Till Müller
Jan 2023	Master's thesis (Physics) *A Quantum Algorithm for Job Shop Problems with Group Theory*, by Gereon Koßmann
Oct '19 – Sep '21	Mentor of Postdoc Ruwen Hollenbach, Hannover
Mar '22 – May '22	Mentor of Doctoral student Diego García Lucas, Hannover

Selected Talks

Oct 01, 2009	*Konjugationsklassen und Charaktere in endlichen p-Gruppen*, Students' Conference of the DMV, Bochum, Germany
Nov 06, 2009	*Offene Probleme der Gruppentheorie*, Day of the faculty 2009, Jena, Germany
Nov 14, 2009	*Blocks with metacyclic defect groups*, Representation Theory Days, Jena, Germany
Dec 11, 2010	*Cartan matrices and Brauer's $k(B)$-Conjecture*, Nikolaus Conference, Aachen, Germany
May 02, 2011	*Block theory and fusion systems*, Algebra Seminar, Copenhagen, Denmark
Nov 11, 2011	*New inequalities concerning Olsson's Conjecture*, Representation Theory Days, Hannover, Germany
Dec 09, 2011	*Donovan's Conjecture for certain defect groups*, Nikolaus Conference, Aachen, Germany
Mar 29, 2012	*Survey on invariants of blocks of finite groups*, Representations of Finite Groups, MFO Oberwolfach, Germany
Apr 24, 2012	*Calculating invariants of blocks of finite groups*, Algebra and Number Theory Seminar, Santa Cruz, USA

Sep 18, 2012	*Further evidence for conjectures in block theory,* DMV annual meeting, Saarbrücken, Germany
Nov 15, 2012	*Around Brauer's k(B)-Conjecture,* Chevalley Seminar, Paris, France
Jan 15, 2013	*Fusionssysteme in Gruppen- und Darstellungstheorie,* Algebra Seminar, Halle, Germany
Mar 26, 2013	*On Loewy lengths of blocks,* Annual conference of the DFG priority program in representation theory 2013, Bad Boll, Germany
Jul 16, 2013	*Finite groups with two conjugacy classes of p-elements,* Algebra Seminar, Kaiserslautern, Germany
Sep 05, 2013	*On the Brauer-Feit bound for abelian defect groups,* Brauer's problems - 50 years on, Manchester, UK
Mar 18, 2014	*The Alperin-McKay Conjecture for a special class of defect groups,* Global/Local Conjectures in Representation Theory of Finite Groups, BIRS Banff, Canada
Apr 09, 2014	*Rank and Exponent of finite p-groups and applications,* Algebra and Number Theory Seminar, Santa Cruz, USA
Jun 10, 2014	*Loewy lengths of blocks revisited,* Young Algebraists' Conference, Lausanne, Switzerland
Feb 12, 2015	*Blocks with transitive fusion systems,* Representations of Finite and Algebraic Groups, Les Houches, France
Jul 23, 2015	*Cartan matrices and Brauer's k(B)-Conjecture,* Blocks of Finite Groups and Beyond, Jena, Germany
Sep 17, 2015	*Broué's Conjecture for the sporadic groups,* Algebra Seminar, Valencia, Spain
Oct 29, 2015	*Blocktheorie endlicher Gruppen,* HHU Düsseldorf, Germany
Jan 22, 2016	*Computation of isotypies in finite simple groups,* Mathematics Seminar, Auckland, New Zealand
Feb 03, 2016	*Orthogonality relations for character and blocks,* Mathematics & Statistics Colloquium, Maynooth, Ireland
Feb 24, 2016	*Broué's Conjecture for some finite simple groups,* Algebra and Geometry Seminar, Bristol, UK
Dec 15, 2016	*On defects of characters and decomposition numbers,* Finite Simple Groups, their Fusion Systems and Representations, CIB Lausanne, Switzerland
Feb 09, 2017	*The number of characters in a block of a finite group,* Mathematics Colloquium, Santa Cruz, USA
Oct 04, 2017	*On the blockwise modular isomorphism problem,* Algebra Seminar, Brussels, Belgium
Oct 19, 2017	*On the blockwise modular isomorphism problem,* Perspectives in Representation Theory of Finite Groups, BIRS Banff, Canada

Nov 10, 2017	*Brauer's Conjecture for π-blocks of π-separable groups,* Representation Theory Days, Eichstätt, Germany
Feb 16, 2018	*On the projective height zero conjecture,* Algebra and Number Theory Seminar, Santa Cruz, USA
Feb 21, 2018	*Fusion systems of groups and blocks,* Young Researchers Seminar, MSRI Berkeley, USA
Mar 29, 2018	*Lokal-global-Sätze in der Darstellungstheorie endlicher Gruppen,* TU Braunschweig, Germany
Apr 09, 2018	*Characters and Sylow 2-subgroups of maximal class,* Representations of Finite and Algebraic Groups, MSRI Berkeley, USA
Sep 05, 2018	*Regular orbits of coprime linear groups in large characteristic,* Group Theory in Florence II, Florence, Italy
Sep 13, 2018	*Bounding the number of characters in a block,* Representation Theory Days, Hannover, Germany
Mar 28, 2019	*Character counting conjectures for π-separable groups,* Representations of Finite Groups, MFO Oberwolfach, Germany
Aug 22, 2019	*Representations of finite groups,* TU Bergakademie Freiberg, Germany
Jun 25, 2020	*Lokal-global-Sätze in der Darstellungstheorie endlicher Gruppen,* RWTH Aachen, Germany
Jan 20, 2021	*Representations of group algebras and blocks,* CAU Kiel, Germany
May 20, 2021	*Generalized bases of finite groups,* Algebra Seminar, Amiens, France
Jul 19, 2021	*Representations of groups and blocks,* BU Wuppertal, Germany
Dec 09, 2021	*Lower bounds on the number of Brauer characters,* Representation Theory Days, Aachen, Germany
Feb 04, 2022	*Character counting conjectures for π-separable groups,* 14th Iranian Group Theory Conference, Tehran, Iran
Feb 10, 2022	*Detecting blocks from the character table,* Group Theory Seminar, ICMAT Madrid, Spain
Feb 15, 2022	*On the size of coset unions,* Algebra Seminar, Valencia, Spain
Feb 21, 2022	*Detecting blocks from the character table,* Seminar on Representations of Groups, Murcia, Spain
Mar 31, 2022	*Counting characters by local Cartan invariants,* Algebra Colloquium, London, UK
May 12, 2022	*Another conjectural characterization of nilpotent blocks,* Counting conjectures and beyond, Isaac Newton Institute, Cambridge, UK
Jul 21, 2022	*Representations of groups and blocks,* TU Munich, Germany
Oct 29, 2022	*Sylow structure from the character table,* Representation Theory Days, Kaiserslautern, Germany

Feb 06, 2023	*Fusion systems in representation theory*, Algebra Seminar, Valencia, Spain
Apr 10, 2023	*Frobenius–Schur indicators of characters in real 2-blocks*, Algebra Seminar Bilkent University, Ankara, Turkey
Apr 18, 2023	*Local determination of Frobenius–Schur indicators*, Representations of Finite Groups, MFO Oberwolfach, Germany
Jul 19, 2023	*Converses of Gaschütz' complement theorem*, Algebra seminar, University of Crete, Heraklion, Greece
Oct 10, 2023	*Groups of p-central type*, Representation Theory Seminar, Okinawa Institute of Science and Technology, Japan

Coauthors

S. Aivazidis, C. G. Ardito, A. Bächle, D. Benson, P. Bhowal, P. J. Cameron, D. Craven, H. R. Dorbidi, C. W. Eaton, E. Giannelli, S. Harper, L. Héthelyi, N. N. Hung, I. M. Isaacs, R. Kessar, S. Koshitani, B. Külshammer, P. Landrock, C. Lassueur, M. Loukaki, G. Malle, A. Moretó, J. Murray, R. K. Nath, G. Navarro, Y. Otokita, N. Rizo, D. Rossi, A. A. Schaeffer Fry, M. Tărnăuceanu, P. H. Tiep, P. Wellmann

Books

- *2-Blöcke mit metazyklischen und minimal nichtabelschen Defektgruppen*, Südwestdeutscher Verlag für Hochschulschriften, Saarbrücken, 2011 (PhD thesis)

- *Blocks of finite groups and their invariants*, Springer Lecture Notes in Math. Vol. 2127, Springer-Verlag, Cham, 2014 (Habilitation thesis)

- *Endliche Permutationsgruppen*, Springer Spektrum, Wiesbaden, 2017 (textbook)

Peer reviewed articles

1. (with L. Héthelyi and B. Külshammer), *Conjugacy classes and characters of finite p-groups*, Comm. Algebra **39** (2011), 657–685

2. *Cartan matrices and Brauer's $k(B)$-conjecture*, J. Algebra **331** (2011), 416–427

3. *Cartan matrices and Brauer's $k(B)$-conjecture II*, J. Algebra **337** (2011), 345–362

4. *2-Blocks with minimal nonabelian defect groups*, J. Algebra **337** (2011), 261–284

5. *Fusion systems on metacyclic 2-groups*, Osaka J. Math. **49** (2012), 325–329

6. *Blocks with defect group $D_{2^n} \times C_{2^m}$*, J. Pure Appl. Algebra **216** (2012), 119–125

7. (with C. W. Eaton and B. Külshammer), *2-Blocks with minimal nonabelian defect groups II*, J. Group Theory **15** (2012), 311–321

8. (with B. Külshammer), *The 2-blocks of defect 4*, Represent. Theory **17** (2013), 226–236

9. *Brauer's Height Zero Conjecture for metacyclic defect groups*, Pacific J. Math. **262** (2013), 481–507

10. *Blocks with central product defect group $D_{2^n} * C_{2^m}$*, Proc. Amer. Math. Soc. **141** (2013), 4057–4069

11. *Blocks with defect group $Q_{2^n} \times C_{2^m}$ and $SD_{2^n} \times C_{2^m}$*, Algebr. Represent. Theory **16** (2013), 1717–1732

12. *Further evidence for conjectures in block theory*, Algebra Number Theory **7** (2013), 2241–2273

13. (with L. Héthelyi and B. Külshammer), *A note on Olsson's Conjecture*, J. Algebra **398** (2014), 364–385

14. (with C. W. Eaton, R. Kessar and B. Külshammer), *2-blocks with abelian defect groups*, Adv. Math. **254** (2014), 706–735

15. *On the Brauer-Feit bound for abelian defect groups*, Math. Z. **276** (2014), 785–797

16. (with B. Külshammer, G. Navarro and P. H. Tiep), *Finite groups with two conjugacy classes of p-elements and related questions for p-blocks*, Bull. London Math. Soc. **46** (2014), 305–314

17. (with S. Koshitani and B. Külshammer), *On Loewy lengths of blocks*, Math. Proc. Cambridge Philos. Soc. **156** (2014), 555–570

18. *Exponent and p-rank of finite p-groups and applications*, Arch. Math. (Basel) **103** (2014), 11–20

19. (with L. Héthelyi, R. Kessar and B. Külshammer), *Blocks with transitive fusion systems*, J. Algebra **424** (2015), 190–207

20. *Cartan matrices and Brauer's $k(B)$-Conjecture III*, Manuscripta Math. **146** (2015), 505–518

21. *The Alperin-McKay Conjecture for metacyclic, minimal non-abelian defect groups*, Proc. Amer. Math. Soc. **143** (2015), 4291–4304

22. *Broué's isotypy conjecture for the sporadic groups and their covers and automorphism groups*, Internat. J. Algebra Comput. **25** (2015), 951–976

23. *2-Blocks with minimal nonabelian defect groups III*, Pacific J. Math. **280** (2016), 475–487

24. *Fusion systems on bicyclic 2-groups*, Proc. Edinb. Math. Soc. **59** (2016), 989–1018

25. (with P. Landrock), *On centers of blocks with one simple module*, J. Algebra **472** (2017), 339–368

26. *On blocks with abelian defect groups of small rank*, Results Math. **71** (2017), 411–422

27. (with G. Navarro), *A counterexample to Feit's Problem VIII on decomposition numbers*, J. Algebra **477** (2017), 494–495

28. *Cartan matrices and Brauer's $k(B)$-Conjecture IV*, J. Math. Soc. Japan **69** (2017), 735–754

29. *Isotypies for the quasisimple groups with exceptional Schur multiplier*, J. Algebra Appl. **16** (2017), 1750078

30. *On a theorem of Blichfeldt*, Expo. Math. **35** (2017), 221–225

31. (with G. Malle and G. Navarro), *On defects of characters and decomposition numbers*, Algebra Number Theory **11** (2017), 1357–1384

32. *A counterexample to a conjecture of Wada*, J. Algebra **489** (2017), 582–585

33. *Refinements of the orthogonality relations for blocks*, Algebr. Represent. Theory **20** (2017), 1109–1131

34. *Regular orbits of coprime linear groups in large characteristic*, Bull. Aust. Math. Soc. **96** (2017), 438–444

35. (with A. Bächle), *Groups whose elements are not conjugate to their powers*, Arch. Math. **110** (2018), 447–454

36. (with G. Navarro and P. H. Tiep), *Characters and Sylow 2-subgroups of maximal class revisited*, J. Pure Appl. Algebra **222** (2018), 3721–3732

37. *Solution of Brauer's k(B)-Conjecture for π-blocks of π-separable groups*, Forum Math. **30** (2018), 1061–1064

38. (with G. Navarro), *On the blockwise modular isomorphism problem*, Manuscripta Math. **157** (2018), 263–278

39. (with B. Külshammer), *Loewy lengths of centers of blocks*, Q. J. Math. **69** (2018), 855–870

40. *Remarks on Harada's Conjecture*, Israel J. Math. **228** (2018), 513–526

41. *Morita equivalent blocks of symmetric groups*, SIGMA **14** (2018), 100, 8 pages

42. *On the projective height zero conjecture*, Proc. Amer. Math. Soc. **147** (2019), 487–488

43. *Pseudo Sylow numbers*, Amer. Math. Monthly **126** (2019), 60–65

44. (with B. Külshammer and Y. Otokita), *Loewy lengths of centers of blocks II*, Nagoya Math. J. **234** (2019), 127–138

45. *Pseudo Frobenius numbers*, Expo. Math. **37** (2019), 200–206

46. *Bounding the number of characters in a block of a finite group*, Adv. Math. **358** (2019), 106861, 20 pp.

47. *Landau's Theorem for π-blocks of π-separable groups*, Adv. Group Theory Appl. **8** (2019), 103–115

48. (with I. M. Isaacs and G. Navarro), *Irreducible extensions of characters*, Israel J. Math. **234** (2019), 629–644

49. (with A. Bächle), *Orders generated by character values*, Monatsh. Math. **191** (2020), 665–678

50. (with E. Giannelli), *On restriction of characters to defect groups*, J. Algebra **558** (2020), 423–433

51. *Character tables and defect groups*, J. Algebra **562** (2020), 323–340

52. (with E. Giannelli, N. Rizo and A. A. Schaeffer Fry) *Groups with few p′-character degrees in the principal block*, Proc. Amer. Math. Soc. **148** (2020), 4597–4614

53. *On a theorem of Ledermann and Neumann*, Amer. Math. Monthly **127** (2020), 827–834

54. *Survey on perfect isometries*, Rocky Mountain J. Math. **50** (2020), 1517–1539

55. (with G. Navarro), *Weights and nilpotent subgroups*, Int. Math. Res. Not. **2021** (2021), 2526–2538

56. *Blocks with small-dimensional basic algebra*, Bull. Aust. Math. Soc. **103** (2021), 461–474

57. *Generalized bases of finite groups*, Arch. Math. **117** (2021), 9–18

58. *The reciprocal character of the conjugation action*, Publ. Math. Debrecen **99** (2021), 243–260

59. (with D. Rossi) *Restrictions of characters in p-solvable groups*, J. Algebra **587** (2021), 130–141

60. (with S. Koshitani and C. Lassueur) *Splendid Morita equivalences for principal blocks with semidihedral defect groups*, Proc. Amer. Math. Soc. **150** (2022), 41–53

61. (with C. G. Ardito) *Broué's Conjecture for 2-blocks with elementary abelian defect groups of order* 32, Adv. Group Theory Appl. **12** (2021), 71–78

62. (with M. Tărnăuceanu) *On the size of coset unions*, J. Algebraic Combin., **55** (2022), 979–987

63. (with P. Wellmann) *On a bound of Cocke and Venkataraman*, Monatsh. Math. **197** (2022), 505–515

64. (with C. G. Ardito) *Cartan matrices and Brauer's k(B)-Conjecture V*, J. Algebra **606** (2022), 670–699

65. (with G. Navarro) *Alternating sums over π-subgroups*, J. Pure Appl. Algebra **227** (2023), 107227

66. *An invitation to formal power series*, Jahresber. Dtsch. Math.-Ver. **125** (2023), 3–69

67. (with J. Murray) *A solution to Brauer's Problem 14*, J. Algebra **621** (2023), 87–91

68. (with P. Bhowal, P. J. Cameron and R. K. Nath) *Solvable conjugacy class graph of groups*, Discrete Math. **346** (2023), 113467

69. (with G. Navarro) *Characters, Commutators and Centers of Sylow Subgroups*, Represent. Theory **27** (2023), 717–733

70. (with A. Moretó) *Groups with 2-generated Sylow subgroups and their character tables*, Pacific J. Math. **323** (2023), 337–358

71. *Character table sudokus*, Arch. Math. **121** (2023), 23–32

72. *On the converse of Gaschütz' complement theorem*, J. Group Theory **26** (2023), 931–949

73. (with N. N. Hung and P. H. Tiep) *Bounding p-Brauer characters in finite groups with two conjugacy classes of p-elements*, Israel J. Math. **262** (2024), 327–358

74. *Groups of p-central type*, Math. Z. **306** (2024), no. 3

75. *Real blocks with dihedral defect groups revisited*, Bull. Aust. Math. Soc. **109** (2024), 327–341

76. (with D. Benson) *Finite-dimensional algebras not arising as blocks of group algebras*, Forum Math. **36** (2024), 389–402

77. (with S. Aivazidis and M. Loukaki) *Common transversals and complements in abelian groups*, J. Algebraic Combin. **59** (2024), 581–595

78. *On redundant Sylow subgroups*, J. Algebra **650** (2024), 1–9

79. *Real characters in nilpotent blocks*, Vietnam J. Math. (special issue) **52** (2024), 421–433

80. (with P. Bhowal, P. J. Cameron, R. K. Nath) *Genus and crosscap of solvable conjugacy class graphs of finite groups*, Arch. Math. **122** (2024), 475–489

81. (with P. J. Cameron, D. Craven, H. R. Dorbidi and S. Harper) *Minimal cover groups*, J. Algebra **660** (2024), 345–372

82. *On a fixed point formula by Navarro–Rizo*, Proc. Amer. Math. Soc. **152** (2024), 3629–3634

83. (with S. Koshitani and C. Lassueur) *Principal 2-blocks with wreathed defect groups up to Morita and splendid Morita equivalence*, to appear in Ann. Rep. Theory

84. *Characterizing inner automorphisms and realizing outer automorphisms*, to appear in Adv. Group Theory Appl.

85. *Fusion invariant characters of p-groups*, to appear in Comm. Algebra

Contributions to proceedings

- *Survey on invariants of blocks of finite groups*, in: Representations of Finite Groups, Oberwolfach Reports **9** (2012), EMS Publishing House, Zürich, 1003–1006

- *Character counting conjectures for π-separable groups*, in: Representations of Finite Groups, Oberwolfach Reports **16** (2019), EMS Publishing House, Zürich, 873

- *Local determination of Frobenius–Schur indicators*, in: Representations of Finite Groups, Oberwolfach Reports **20** (2023), EMS Publishing House, Zürich (to appear)

Other publications

- *Square-1: Wie man Weihnachten 2020 verbringt*, Computeralgebra-Rundbrief **68** (2021), 12–15

- *An answer to a question of Bonnafé*, arXiv:2108.02620v1

- *Fusion systems in representation theory*, arXiv:2302.09016v1

- *Groups with supersolvable automorphism group*, arXiv:2403.05926v3

Editorship

Jahresbericht der DMV (2020–2023)

Referee/Reviewer service

Represent. Theory, Math. Z., Algebra Number Theory, J. Algebra, J. Group Theory, Proc. Amer. Math. Soc., J. London Math. Soc., Q. J. Math., Amer. Math. Monthly, J. Aust. Math. Soc., J. Algebra Appl., J. Pure Appl. Algebra, Algebr. Represent. Theory, Math. Nach., Beiträge Algebra Geom., C. R. Math. Acad. Sci. Paris, Comm. Algebra, Algebra Colloq., Arch. Math. (Basel), Arch. Math. (Brno), Results Math., Proc. Roy. Soc. Edinburgh, Pure Appl. Funct. Anal., Entropy, Mediterr. J. Math., AIMS Math., Ric. Mat., Acta Math. Sin., Publ. Math. Debrecen, RACSAM, Vietnam J. Math., Afr. Mat., Bull. Malays. Math. Sci. Soc., MathSciNet, DFG, LMS, Friedrich-Naumann-Stiftung

Organized conferences

- (with S. King and J. Müller) *Computations in Groups and Algebras*, February 16–19, 2015, Jena

- (with I. Spilling and S. Danz) *Colloquium on the occasion of B. Külshammer's retirement*, March 24, 2021, Jena (online)

- (with M. Cuntz, T. Holm, and L. Morotti) *Conference in the memory of Christine Bessenrodt*, July 9, 2022, Hannover

Fellowships, Grants and Awards

- 6-months **DAAD** postdoc scholarship (2012, 17.690 EUR)

- (jointly with B. Külshammer) 1-year **DFG** postdoc grant (2012–2015, my part: 64.000 EUR)

- 2-years postdoc grant by the **Carl Zeiss Foundation** (2013–2014, 160.000 EUR)

- 3-years postdoc grant by the **Daimler and Benz Foundation** (2014–2017, 40.000 EUR)

- 5-years **Heisenberg fellowship** SA 2864/3-1 by the DFG (2015–2023, $\approx$ 355.000 EUR)

- 3-years **DFG** grant SA 2864/1-2 for a Ph.D. student (2017–2021, 190.700 EUR)

- **Exam award** of the Faculty for Mathematics and Computer Science (2009)

Hannover, December 1, 2024