

# Claudius Heyer

## Curriculum Vitae

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33098 Paderborn  
✉ heyer@math.uni-paderborn.de

### Education

- July 2024 – **Postdoc**, *Universität Paderborn*.  
Oct. 2019 – **Postdoc**, *Universität Münster*.  
June 2024  
Mar. 2015 – **PhD in Mathematics**, *Humboldt-Universität zu Berlin*, Title: *Applications of parabolic Hecke algebras: parabolic induction and Hecke polynomials*.  
28.06.2019  
Oct. 2012 – **M. Sc. in Mathematics**, *Humboldt-Universität zu Berlin*.  
Jan. 2015  
Oct. 2009 – **B. Sc. in Mathematics**, *Humboldt-Universität zu Berlin*.  
Aug. 2012

### Positions, Fellowships

- July 2024 – **Postdoc**, *Universität Paderborn*.  
Oct. 2022 – **Postdoc**, *Universität Münster*, no teaching load.  
June 2024  
Oct. 2019 – **Research Assistant**, *Universität Münster*.  
Sep. 2022  
Feb. 2018 – **Berlin Mathematical School, Phase II (PhD student)**.  
Sep. 2019  
Apr. 2016 – **Research Assistant**, *Humboldt-Universität zu Berlin*.  
Sep. 2019

### Papers, Preprints

- 2025 **Second Adjointness**, *Preprint*, arXiv:2508.14598v1, joint with Manuel Hoff, Sarah Meier and Michael Spieß.  
Appendix to: M. Hoff, S. D. Meier, M. Spieß, *On the Right Derived Functors of Ordinary Parts*  
2024 **6-Functor Formalisms and Smooth Representations**, *Preprint*, arXiv:2410.13038, joint with Lucas Mann.  
2023 **The Geometrical Lemma for Smooth Representations in Natural Characteristic**, *Preprint, submitted*, arXiv:2303.14721.

- 2022 ***The Left Adjoint of Derived Parabolic Induction***, *Math. Z.* **305** 46(2023), doi:10.1007/s00209-023-03385-5.
- 2021 ***On the Smooth Part Functor***, *Preprint*, arXiv:2108.05262.
- 2021 ***On the Decomposition of Hecke Polynomials over Parabolic Hecke Algebras***, *J. Theor. Nomb. Bordx.* **34** (2022) no. 3, 941–997, doi:10.5802/jtnb.1235.
- 2021 ***Localization of the Parabolic Hecke Algebra at a Strictly Positive Element***, *Preprint*, arXiv:2103.16949.
- 2021 ***Parabolic Induction via the Parabolic pro- $p$  Iwahori–Hecke Algebra***, *Represent. Theory* **25** (2021), 807–843, doi:10.1090/ert/585.
- 2019 ***Applications of parabolic Hecke algebras: parabolic induction and Hecke polynomials***, *Dissertation, Humboldt-Universität zu Berlin, Mathematisch-Naturwissenschaftliche Fakultät*, 2019, doi:10.18452/20137.

## Research Talks

- 18.06.2025 **A 6-Functor Formalism for Smooth Representations**, *Lille, France*, Workshop on Iwasawa Theory and Representations of  $p$ -Adic Groups.
- 16.01.2025 **A 6-Functor Formalism for Smooth mod  $p$  Representations**, *Essen, Germany*, Oberseminar.
- 18.12.2024 **A 6-Functor Formalism for Smooth mod  $p$  Representations**, *Wuppertal, Germany*, Seminar Algebra und Topologie.
- 13.12.2024 **A 6-Functor Formalism for Smooth mod  $p$  Representations**, *Bielefeld, Germany*, BIREP-Seminar.
- 08.10.2024 **A 6-Functor Formalism for Smooth mod  $p$  Representations**, *Tokyo, Japan*, Workshop on Shimura varieties, representation theory and related topics, 2024.
- 29.05.2024 **On Smooth mod  $p$  Representations of  $p$ -adic Reductive Groups**, *Paderborn, Germany*, Research Seminar.
- 22.02.2024 **The Geometrical Lemma in Natural Characteristic**, *Lille, France*, Séminaire “Arithmétique”.
- 24.10.2023 **Six Functors and Smooth mod  $p$  Representations**, *Münster, Germany*, Mittagsseminar.  
(Online via Zoom)
- 06.06.2023 **The Geometrical Lemma in Natural Characteristic**, *Wuppertal, Germany*, Oberseminar.
- 25.05.2023 **The Geometrical Lemma in Natural Characteristic**, *Essen, Germany*, Oberseminar.

- 20.01.2022 **The Left Adjoint of Derived Parabolic Induction**, *San Diego, California, USA*, UCSD Number Theory Seminar.  
(Online via Zoom)
- 24.03.2021 **Derived Products and the Left Adjoint of Derived Parabolic Induction**, *Rennes, France*, Colloque Tournant 2021 du GDR Théorie de Lie Algébrique et Géométrie.  
(Online via Zoom)
- 12.01.2021 **Derived Products and the Left Adjoint of Derived Parabolic Induction**, *Münster, Germany*, Mittagssseminar.
- 26.08.2019 **Parabolic Induction for pro- $p$  Iwahori–Hecke Modules**, *Marseille, France*, Conference: Buildings and Affine Grassmannians.
- 28.05.2019 **Decomposition of Hecke Polynomials**, *Münster, Germany*, Mittagssseminar.

## Conferences, Summer Schools, Workshops

- Aug. 27–29 2025 **Early Number Theory Researchers (ENTR) Workshop 2025**, *University of Paderborn, Paderborn, Germany*.
- Aug. 4–8 2025 **BIREP Summer School on Finite Tensor Categories 2025**, *Hotel im Schlosspark, Willebadessen, Germany*.
- June 18–20 2025 **Workshop: Iwasawa Theory and Representations of  $p$ -Adic Groups**, *University of Lille, Lille, France*.
- Oct. 7–11 2024 **Workshop on Shimura varieties, representation theory and related topics 2024**, *University of Tokyo, Tokyo, Japan*.
- Sep. 9–13 2024 **Conference: Integral Structures in Geometry and Representation Theory**, *University of Paderborn, Paderborn, Germany*.
- June 24–28 2024 **Workshop: Geometrization of the Archimedean Local Langlands Correspondence**, *Maison du Kleebach, Munster, France*.
- June 10–14 2024 **Masterclass: Continuous K-theory, dualizable and rigid categories**, *University of Copenhagen, Copenhagen, Denmark*.
- Mar. 25–27 2024 **Mathematics Münster Midterm Conference**, *University of Münster, Münster, Germany*.
- Jul. 31 – Aug. 4 2023 **Summer School: The Automorphic Side of the  $p$ -adic Langlands Program**, *University of Wuppertal, Wuppertal, Germany*.
- Feb. 13–17 2023 **Conference: Number Theory Meets  $p$ -Adic Representations**, *University of Münster, Münster, Germany*.
- July 18–22 2022 **Focused Research Event: Smooth representations of  $GL(n, \mathbb{Q}_p)$  in natural characteristic**, *University of Oxford, Oxford, United Kingdom*.
- Mar. 16–18 2022 **Workshop: Higher Algebra**, *TU Darmstadt, Darmstadt, Germany*.

- Sep. 27 – **Conference: Representation Theory's Hidden Motives**, *University of Münster*, Münster, Germany.
- Oct. 1 2021
- Apr. 26–30 **Spring School towards a mod  $p$  Langlands correspondence**, *Essen*, 2021 (Online via Zoom).
- Mar. 24–26 **Colloque Tournant 2021 du GDR Théorie de Lie Algébrique et Géométrie**, *University of Rennes 1*, (Online via Zoom).
- 2021
- Aug. 26 – **Conference: Buildings and Affine Grassmannians**, *CIRM, Marseille*, Sep. 6 2019 *France*.
- June 3–7 2019 **Conference: Representation Theory and D-Modules**, *University of Rennes 1*, *Rennes, France*.
- Oct. 8–11 2018 **CENTRAL Workshop: Automorphic Techniques in Arithmetic Geometry**, *Humboldt-Universität zu Berlin*, *Berlin, Germany*.
- Sep. 2–8 2018 **Autumn School: Arithmetic of Differential Equations**, *Łukęcin*, *Poland*.

## Teaching experience

- SS 2025 **Organizer**, *University of Paderborn*, Seminar: Einführung in die Theorie der Köcherdarstellungen.
- WS 2024/25 **Lecturer**, *University of Paderborn*, Triangulated and Derived Categories.
- WS 2023/24 **Organizer**, *University of Münster*, informal Reading Seminar: cuspidal representations of  $GL_2(F)$  for  $F/\mathbb{Q}_p$  finite, Co-Organizer: Prof. Dr. Eugen Hellmann.
- SS 2023 **Lecturer**, *University of Münster*, Smooth Representations of  $p$ -Adic Groups.
- WS 2022/23 **Organizer**, *University of Münster*, Mittagsseminar.
- SS 2022 **Teaching Assistant**, *University of Münster*, Introduction to Algebra, Lecturer: Prof. Dr. Eva Viehmann.
- WS 2021/22 **Teaching Assistant**, *University of Münster*, Reflection Groups and Platonic Solids, Lecturer: apl. Prof. Dr. Lutz Hille.
- SS 2021 **Organizer**, *University of Münster*, Oberseminar: Classification of Smooth mod  $p$  Representations.
- SS 2021 **Teaching Assistant**, *University of Münster*, Galois Representations and  $(\varphi, \Gamma)$ -Modules, Lecturer: Prof. Dr. Peter Schneider.
- WS 2020/21 **Teaching Assistant**, *University of Münster*, Local Galois Representations, Lecturer: Prof. Dr. Peter Schneider.
- SS 2020 **Organizer**, *University of Münster*, Seminar: Finite Hecke Algebras, Co-Organizer: Prof. Dr. Peter Schneider.
- SS 2020 **Organizer**, *University of Münster*, Oberseminar: Towards Eigenvarieties.

- WS 2019/20 **Assistant**, *University of Münster*, Seminar: Mathematical Learning and Reflection, Main Instructor: PD Dr. Christian Serpé.
- SS 2019 **Teaching Assistant**, *Humboldt-Universität zu Berlin*, Algebra/Number Theory and its Didactics, Lecturer: Prof. Dr. Elmar Große-Klönne.
- WS 2018/19 **Teaching Assistant**, *Humboldt-Universität zu Berlin*, Algebra and Complex Analysis, Lecturer: Prof. Dr. Elmar Große-Klönne.
- SS 2018 **Teaching Assistant**, *Humboldt-Universität zu Berlin*, Linear Algebra and Analytic Geometry II\*, Lecturer: Prof. Dr. Elmar Große-Klönne.
- WS 2017/18 **Teaching Assistant**, *Humboldt-Universität zu Berlin*, Linear Algebra and Analytic Geometry I\*, Lecturer: Prof. Dr. Elmar Große-Klönne.
- SS 2017 **Teaching Assistant**, *Humboldt-Universität zu Berlin*, Algebra and Number Theory, Lecturer: Dr. Daniel Skodlerack.
- WS 2016/17 **Teaching Assistant**, *Humboldt-Universität zu Berlin*, Linear Algebra and Analytic Geometry I, Lecturer: Dr. Claudia Schillings.
- SS 2016 **Teaching Assistant**, *Humboldt-Universität zu Berlin*, Algebra and Number Theory, Lecturers: Dr. Werner Kleinert and Dr. Frank Gounelas.
- WS 2015/16 **Teaching Assistant**, *Humboldt-Universität zu Berlin*, Linear Algebra I (for Computer Scientists), Lecturer: Dr. Bernhard Gerlach.

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## Organization

- Aug. 27–29 **ENTR Workshop 2025**, Co-organizers: Abhijit A. J., Lucas Mann, Ingmar  
2025 Metzler, Tomáš Perutka, Luca Speciale.

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## Languages

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| German  | native |
| English | fluent |
| French  | basic  |

Claudius Heyer  
Paderborn, August 21, 2025