Klaus Mattis

Curriculum Vitae

Contact

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Research Interests

Motivic Homotopy Theory

Synthetic Deformations

Positive characteristic algebraic geometry

Education

2023– **PhD in Mathematics**, *JGU Mainz*, Mainz, Germany
Advisor: Tom Bachmann

2022 **MSc in Mathematics**, *LMU Munich*, Thesis: *Isomotives of Dimension at most 1*
Advisor: Fabien Morel

2021 **BSc in Mathematics**, *LMU Munich*, Thesis: *Examples of étale (φ, Γ)-modules*
Advisor: Werner Bley

2017–2022 **Studies in Mathematics**, *LMU Munich*

2017 **Abitur**, *Gymnasium Oberhaching*

Publications

2026 **Unstable arithmetic fracture squares in ∞-topoi**, to appear: Journal of Homotopy and Related Structures, arXiv:2404.18618

2025 **The derived ∞-category of Cartier Modules**, *(with Timo Weiß)*, Journal of Pure and Applied Algebra, arXiv:2410.1710

Preprints

2025 **Nilpotence of η in étale motivic spectra**, *(with Swann Tubach)*, preprint, submitted, arxiv:2511.09476

2025 **Monadic resolutions for generalized spaces**, *(with Tom Bachmann and Anton Engelmann)*, preprint, arxiv:2511.07064

2025 **The derived ∞-category of Frobenius Modules**, *(with Timo Weiß)*, preprint, submitted, arxiv:2410.17102

2025 **Unstable étale motives**, preprint, submitted, arXiv:2507.20320

2024 **The pro-Nisnevich topology**, preprint, submitted, arXiv:2404.17314

| 2024 | **Unstable p-completion in motivic homotopy theory**, preprint, submitted, arXiv:2401.17848 |

Talks

January 2026	*Monadic resolutions for generalized spaces*, University Copenhagen
July 2025	*Étale rigidity for motivic spaces*, Motives and arithmetic geometry, Darmstadt
June 2025	*Canonical resolutions for motivic spaces*, Young topologists meeting, Stockholm
April 2025	*Étale rigidity for motivic spaces*, École normal superieur, Lyon
April 2025	*Étale rigidity for motivic spaces*, University of Toronto
June 2024	*Proof of the Hopkins-Morel-Hoyois theorem*, International Workshop on Algebraic Topology, Shanghai
February 2024	*Unstable p-completion in motivic homotopy theory*, YoungHom Seminar, online

Academic Service

October 2025	Organizer, *GAUS Workshop on "Motives and Higher Categories"*, JGU Mainz
January 2025	Organizer, *GAUS Junior AG on "Maps between spherical group rings"*, JGU Mainz
March 2024	Co-organizer, *Winter school on unstable motivic homotopy theory*, JGU Mainz

Teaching Experience

WT 25/26	**Organizer**, *PhD-Seminar*, JGU Mainz
WT 25/26	**Teaching Assistant**, *Math for Computer Science 1*, JGU Mainz
ST 25	**Organizer**, *PhD-Seminar*, JGU Mainz
ST 25	**Organizer**, *Seminar on motivic spectra*, JGU Mainz
WT 24/25	**Teaching Assistant**, *Math for Computer Science 1*, JGU Mainz
WT 24/25	**Organizer**, *PhD-Seminar*, JGU Mainz
ST 24	**Organizer**, *PhD-Seminar*, JGU Mainz
ST 24	**Lecturer (1/3 of the course)**, *Algebraic Topology I*, JGU Mainz
WT 23/24	**Teaching Assistant**, *Math for Computer Science 2b*, JGU Mainz
WT 23/24	**Organizer**, *PhD-Seminar*, JGU Mainz
ST 23	**Teaching Assistant**, *Differential Geometry*, JGU Mainz
ST 21	**Tutor**, *Commutative Algebra*, LMU Munich
WT 20/21	**Tutor**, *Algebra*, LMU Munich
ST 20	**Organizer**, *Reading Class on Category Theory*, LMU Munich
ST 20	**Tutor**, *Linear Algebra 2*, LMU Munich
WT 19/20	**Tutor**, *Linear Algebra 1*, LMU Munich

Non-academic Service

2016–present	**Volunteer**, *Red Cross, KV München*
2016–2023	**Software Developer**, *Microstep AG*
2019–2020	**Volunteer Author**, *Serlo Hochschulmathematik*, Open-source platform supporting struggling students

Language proficiency

English	**fluent**
German	**native**