PAUL ZIEGLER   CURRICULUM VITAE

PERSONAL INFORMATION

Universität Regensburg
Fakultät für Mathematik
93040 Regensburg, Germany

e-mail: paul.ziegler@mathematik.uni-regensburg.de
Born February 3, 1987, Citizen of Switzerland

RESEARCH INTERESTS

Arithmetic Geometry, Algebraic Geometry, Number Theory

CAREER

Postdoctoral researcher, University of Regensburg   since Oct. 2024
- Funded by the Heisenberg programme of the DFG from April 2025

Habilitation, Technical University of Darmstadt   Mar. 2024- Jan. 2025

Postdoctoral researcher, Technical University of Darmstadt   Oct. 2023- Sep. 2024

Substitute Professor, University of Heidelberg   Apr. 2023 - Sep. 2023

Postdoctoral Researcher, Technical University of Munich   Oct. 2019 - March 2023

Postdoctoral Researcher, University of Oxford   Apr. 2017 - Sep. 2019
- Oct. 2018 - Sep. 2019: Titchmarsh research fellow at the Mathematical Institute
- Apr. 2017 - Sep. 2018: Funded by an Advanced Postdoc.Mobility fellowship of the Swiss National Science Foundation

Postdoctoral Researcher, Imperial College London   Oct. 2015 - Mar. 2017
- Funded by an Early Postdoc.Mobility fellowship of the Swiss National Science Foundation

Postdoctoral Researcher, Max Planck Institute for Mathematics, Bonn   Oct. 2014 - Sep. 2015

EDUCATION

Ph.D in Mathematics at ETH Zürich   Aug. 2010 - Sep. 2014
- Advisor: Prof. Richard Pink
- Ph.D Thesis: *"Arithmetic of abelian varieties in positive characteristic"*

Bachelor and Master of Science in Mathematics at ETH Zürich   Aug. 2005 - Mar. 2010
- Exchange year at the University of California, Berkeley (Aug. 2008 - Jun. 2009)

PUBLICATIONS AND PREPRINTS

- *Twisted Higgs bundles and coendoscopy* (with Michael Groechenig, Xuanyou Li and Dimitri Wyss), arXiv:2602.09706, 2026.
- *Twisted points of quotient stacks, integration and BPS-invariants* (with Michael Groechenig and Dimitri Wyss), arXiv:2409.17358, 2024.
- *Filtered fiber functors over a general base*, arXiv:2401.02279, to appear in *Transformation Groups*, 2024.
- *Normed Fiber Functors*, arXiv:2203.17073, 2022.
- *Tautological rings of Shimura varieties and cycle classes of Ekedahl-Oort strata* (with Torsten Wedhorn), *Algebra & Number Theory*, 17(4):923–980, 2023.
- *Geometric stabilisation via p-adic integration* (with Michael Groechenig and Dimitri Wyss), *J. Amer. Math. Soc.* 33 (2020), no. 3, 807-873.
- *Mirror symmetry for moduli spaces of Higgs bundles via p-adic integration* (with Michael Groechenig and Dimitri Wyss), *Invent. Math.* 221 (2020), no. 2, 505-596.
- *p-kernels occurring in isogeny classes of p-divisible groups*, *Bulletin of the London Mathematical Society*, Volume 49, 2017, Issue 2, pp. 261-273.
- *Mordell-Lang in positive characteristic*, *Rendiconti del Seminario Matematico della Università di Padova*, Volume 134, 2015, pp. 93-131.

- *F-Zips with additional structure* (with Richard Pink and Torsten Wedhorn),
  Pacific Journal of Mathematics, Vol. 274 (2015), No. 1, 183-236.
- *Graded and Filtered Fiber Functors on Tannakian Categories*,
  Journal of the Institute of Mathematics of Jussieu, volume 14 (2015), issue 01, pp. 87-130.
- *Presentations for quaternionic S-unit groups*, (with Ted Chinburg, Holley Friedlander, Sean Howe, Michiel Kosters, Bhairav Singh, Matthew Stover and Ying Zhang),
  Experimental Mathematics (2015), 24:2, 175-182.
- *Algebraic Zip Data* (with Richard Pink and Torsten Wedhorn),
  Documenta Math. 16 (2011) 253-300.
- *Arithmetic of Abelian Varieties in Positive Characteristic*, 2014, PhD Thesis, ETH Zurich

INVITED TALKS
- Seminar "Groups, Representations and Geometry", Université Paris Cité, Dezember 2025
- Workshop *Representations, Moduli and Duality*, SwissMAP Research Station, Les Diablerets, August 2025
- SFB Lecture, University of Regensburg, December 2024
- Seminar Talk, Ludwig-Maximilian University Munich, December 2024
- Seminar Talk, University of Regensburg, July 2024.
- Seminar Talk, Humboldt University Berlin, May 2024.
- Workshop *Non-Archimedean methods in arithmetic and geometry*, SwissMAP Research Station, Les Diablerets, February 2023
- Seminar Talk, Universität Frankfurt, January 2023
- *Conference on Arithmetic Algebraic Geometry*, Darmstadt, October 2022
- Workshop *Geometry and arithmetic of moduli spaces*, Pisa, July 2022
- Arithmetic Geometry Seminar, Technische Universität Darmstadt, March 2022
- Conference *Arithmetic of Shimura varieties over global fields*, Cetraro, August 2021
- *N-Cube Days XIV*, Nordic Number Theory Network, May 2021
- Number Theory Seminar, University of Münster, November 2020
- Number Theory Seminar, KTH Stockholm, November 2020
- Algebraic Geometry Zoominar, ETH Zürich, May 2020
- Algebraic Geometry Seminar, University of Duisburg-Essen, July 2019
- London Number Theory Seminar, Kings College London, June 2019
- Algebra Seminar, TU Munich, February 2019
- Algebraic Geometry Seminar, University of Oxford, January 2019
- Arithmetic and Algebraic Geometry Seminar, University of Amsterdam, November 2018
- Algebra Seminar, Norwegian University of Science and Technology, Trondheim, October 2017
- Mathematical Physics Seminar, Perimeter Institute, Waterloo, October 2017
- BIRS Workshop *p-adic Cohomology and Arithmetic Applications*, Banff, October 2017
- Algebra Seminar, Technische Universität Darmstadt, July 2017
- Arithmetic Geometry Seminar, University of Oxford, April 2017
- London Number Theory Seminar, Imperial College London, November 2015
- Number Theory Seminar, University of Paderborn, August 2015
- Workshop *Function fields, zeta functions and Drinfeld modular forms*, London, June 2015
- Number Theory Seminar, Max-Planck Institute for Mathematics, Bonn, January 2015
- Algebraic Geometry Seminar, University of Montpellier 2, June 2014
- Number Theory Seminar, ETH Zürich, December 2012
- London Number Theory Seminar, Imperial College London, November 2012

SUPERVISION
Cosupervision of Eloise Hamilton, a PhD student at the University of Oxford, jointly with Frances Kirwan.

TEACHING EXPERIENCE
Lectures:
- Summer 2023: Lecture on *Complex Analysis* (4 hours / week) at the University of Heidelberg
- Summer 2022: Lecture on *Category Theory* (2 hours / week) at TU Munich.
- Summer 2020: Lecture on *Elliptic Curves* (4 hours / week) at TU Munich.

- Fall 2017: Graduate lecture on the *Weil Conjectures* (2 hours / week) at the University of Oxford. As part of the "Taught Course Centre" scheme, this lecture was virtually transmitted to several other universities in the UK.

Student seminars:
- Winter 2024: *Class Field Theory* at the University of Regensburg
- Summer 2023: *Toric Varieties* at the University of Heidelberg

Exercises, seminars and organization:
- Organization + exercise classes at TU Darmstadt:
  - Fall 2023: *Mathematics III for Civil Engineering*
- Organization + exercise classes at TU Munich:
  - Fall 2022: *Linear Algebra for Physics*
  - Fall 2021: *Linear Algebra for Physics*
  - Summer 2021: *Linear Algebra for Computer Science*
  - Fall 2020: *Higher Mathematics 1* (for Mechanical Engineering)
  - Fall 2019: *Algebraic Number Theory*
- 2018-2019: Tutor at Oxford University for *Geometry of Surfaces*, *Commutative Algebra*, *Galois Theory*, *Algebraic Number Theory*
- 2006 - 2014: Teaching and organization at ETH Zurich:
  - Seminars coorganized: *Representation Theory of Finite Groups*, *Categories and Derived Functors*
  - Exercise classes: *Commutative Algebra*, *Algebraic Geometry*, *Algebra I + II*, *Linear Algebra*, *Analysis for Mechanical Engineers*

FELLOWSHIPS
- Heisenberg fellowship (2024, 3+2 years, EUR 683'000 total) by the Deutsche Forschungsgemeinschaft,
- Advanced Postdoc.Mobility fellowship (2016, CHF 78'750) by the Swiss National Science Foundation
- Early Postdoc.Mobility fellowship (2014, CHF 72'000) by the Swiss National Science Foundation

PROFESSIONAL ACTIVITIES
Reviewing for various international journals, e.g. Duke Mathematical Journal, Advances in Mathematics and Compositio. External examiner for master's defense at EPF Lausanne.