

Helena Katharina Kremp

Curriculum Vitae



date of birth **May 24, 1996**
place of birth **Nuremberg, Germany**
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website **<https://homepagehkrep.owlstown.net/>**
languages **German (native), English (fluent), French (basic)**

Education

- July 2014 **Abitur**, *Lise-Meitner-Gymnasium Falkensee*, bilingual class (English), final grade: 1,3
- Oct. 2014 **Bachelor studies**, *Humboldt-Universität zu Berlin*, Mathematics,
– Oct. 2017 final grade: 1,9
Bachelor thesis, *On a singular stochastic control problem with feedback effects and transaction cost*
- Oct. 2017 **Master studies**, *Humboldt-Universität zu Berlin*, Mathematics,
– July 2019 final grade: 1,0
Master thesis, *Multidimensional SDE with distributional drift and Lévy noise*
- Aug. 2019 **PhD studies**, *Freie Universität Berlin*, supervised by Prof. Dr. Nicolas Perkowski,
– April 2023 final grade: Summa cum laude
PhD thesis, *Topics in particle systems and singular SDEs*
- Funding and affiliations**, *DFG funded by MATH+ project AA1-3 "Stochastic Analysis of Particle Systems: Langevin Dynamics and the Dean-Kawasaki Model"; affiliated member of IRTG 2544 (Dec. 2021 – April 2023) and CRC 1114 (since March 2023)*
- Research stay**, *University of Oxford*, supervised by Prof. Benjamin Fehrman, PhD, June – July 2022
- April 2023 **PostDoc**, *FWF project "Regularisation by noise in discrete and continuous systems"*, PI Prof. Máté Gerencsér, PhD, TU Wien
– Dec. 2024
since **PostDoc**, *DFG CRC/TRR 388 project "Optimal transport meets rough analysis"*,
Jan. 2025 PIs Prof. Dr. Peter Friz and Dr. Matthias Liero, TU and WIAS Berlin

Professional career

- May 2011 **internship**, *2 week internship at the Deutsche Kreditbank AG in Adlershof, Berlin*
- April 2017 **Student teaching assistant**, *"Studentische Hilfskraft"*, Humboldt-Universität
– March 2019 zu Berlin, Institut für Mathematik, Prof. Dr. Dirk Becherer

- April 2018 **Student teaching assistant**, "*Studentische Hilfskraft*", Humboldt-Universität zu Berlin, Institut für Mathematik, Prof. Dr. Nicolas Perkowski
- July 2019
- Aug. 2019 **Research assistant**, "*Wissenschaftlicher Mitarbeiter*", Humboldt-Universität zu Berlin, Institut für Mathematik, Prof. Dr. Nicolas Perkowski
- Oct. 2019
- Nov. 2019 **Research assistant**, "*Wissenschaftlicher Mitarbeiter*", Freie Universität Berlin, Institut für Mathematik und Informatik, Prof. Dr. Nicolas Perkowski
- March 2023
- April 2023 **Research assistant**, *PostDoc in FWF project*, Technische Universität Wien, Institut für Analysis und Scientific Computations, Prof. Máté Gerencsér, PhD
- Dec. 2024
- since **Research assistant**, *PostDoc in DFG CRC/TRR 388 project*, Technische Universität Berlin und Weierstraß Institut Berlin, Prof. Dr. Peter Friz, Dr. Matthias Liero
- Jan. 2025

Selected talks at conferences/seminars

- Feb. 2020 **Contributed talk at "3rd Haifa probability school"**, *Technion Haifa Israel*
- July 2021 **Contributed prerecorded video at "Bernoulli-IMS 10th World Congress in probability and statistics 2021"**, *Seoul University Korea*, online
- Feb. 2022 **Invitation for Oberwolfach Miniworkshop on "Regularization by noise: Theoretical Foundations, Numerical Methods and Applications"**, *Mathematisches Forschungsinstitut Oberwolfach*
- June '22 **Invited talk in "Junior Analysis Seminar"**, *Imperial College London*
- Aug. '22 **Invited talk at "Stochastic and Rough Analysis" workshop**, *Berlin, Harnack-Haus*
- Sep. '22 **Invited talk at "One World Webinar - Regularization by noise for Stochastic Differential and Stochastic Partial Differential Equations"**, *organized by YoungStatS*, online
- Dec. '22 **Invited talk in Block Course on "Multiscale Problems and Homogenization" by Prof. Le Bris**, *FU Berlin*
- June 2023 **Invited talk at "Northeast and Midlands Stochastic Analysis Seminar"**, *University of Warwick*
- July '23 **Contributed talk at "SPDEvent 2023"**, *Bielefeld University*
- Sep. '23 **Invited talk at "Second Berlin-Leipzig Workshop on Fluctuating Hydrodynamics"**, *FU Berlin*
- Sep. '23 **Contributed talk at "SDEs with low-regularity coefficients: theory and numerics" workshop**, *University of Torino*
- April 2024 **Invited lecture at "GEN-Y research workshop"**, *Universität Münster*
- April '24 **Invited talk at "Oberseminar Augsburg"**, *Universität Augsburg*
- July '24 **Contributed talk at "SPDEs below sea level" workshop**, *TU Delft*
- July '24 **Invited talk at "SciCADE 2024"**, *University of Singapore*
- Aug. '24 **Contributed talk at the Brin summer school "PDEs and randomness"**, *University of Maryland, USA*
- Sep. '24 **Invited talk at the "Open German-Japanese conference on Stochastic Analysis and Applications 2024"**, *University of Hokkaido, Sapporo, Japan*

- Nov. '24 **Invitation for Oberwolfach Workshop on "Directions in Rough Analysis"**, *Mathematisches Forschungsinstitut Oberwolfach*
- Feb. 2025 **Invitation for "Stochastic Equations and Stochastic Dynamics" SwissMap Workshop**, *Les Diablerets, Switzerland*
- March '25 **Invited talk at "YMCN Spring School: Recent Advances in SPDEs"**, *Universität Münster*
- July '25 **Invited talk at "44th Conference on Stochastic Processes and their Applications" (SPA 2025)**, *Wroclaw, Poland*
- Aug. '25 **Invited talk at "Stochastic Numerics and Inverse Problems" Conference (SNIPS 2025)**, *Växjö, Sweden*
- Future:
- Nov. '25 **Invitation for Oberwolfach Workshop "Recent Developments in SPDEs and BSDEs meet Harmonic and Functional Analysis"**, *Mathematisches Forschungsinstitut Oberwolfach*
- Dec. '25 **Invited talk at "New horizons in well-posedness of stochastic differential equations" Workshop**, *Lorentz Center, Leiden, Netherlands*
- March '26 **Invited talk at "From discrete systems to SPDEs" Workshop**, *TU Wien*

Co-organized conferences

- Oct. 2022 **"Junior Female Researchers in Probability 2022"**, *HU/TU Berlin*
- April 2025 **"Workshop on Regularisation by noise"**, *TU Wien*, funded by ERC Starting Grant Projekt "Stochastic PDEs and Renormalisation" with PI Prof. Máté Gerencsér, PhD
- June 2025 **"21st Annual Berlin Oxford Young Researchers Meeting on Applied Stochastic Analysis"**, *WIAS Berlin*
- Future:
- March 2026 **"Transport and noise: OT meets S(P)DEs" Workshop**, *WIAS Berlin*, funded by the CRC/TRR 388
- June 2026 **"Junior Female Researchers in Probability 2026"**, *TU Berlin*, leading the organisation (timeline planning, invitation of speakers, scheduling of organisational meetings)

Prizes

- Awarded **best talk in PhD session** of "Young researchers between geometry and stochastic analysis 2021" workshop, June 2021, <https://sites.google.com/view/yrbgsa2021/yrbgsa2021>
- **Ernst-Reuter-Preis 2024** for my PhD thesis, awarded by FU Berlin and Ernst-Reuter-Gesellschaft (<https://www.fu-berlin.de/sites/drs/funding/awards/erp.html>), MATH+ article: <https://mathplus.de/news/bms-alumna-helena-kremp-honored-with-ernst-reuter-prize-for-outstanding-dissertation/>, interview video: <https://www.youtube.com/watch?v=9ySJ2ES00As>

Teaching and institutional work

- Teaching assistant from April 2017 until July 2019 for Bachelor and Master courses: "Analysis III", "Stochastik I", "Stochastik II", "Stochastik III" at HU Berlin (correction of exercise sheets, held exam preparation classes, weekly office hours for student consultations)
- Tutor of exercise course for lecture "Stochastics II" by Prof. Dr. Nicolas Perkowski at FU Berlin, summer term 2020
- Tutor of exercise course for lecture "Analysis III" by Prof. Dr. Dirk Werner at FU Berlin, winter term 2022/23
- Representational member of the "Prüfungsausschuss Mathematik" for Bachelor and Master studies in mathematics at FU Berlin from 2021-2023
- Tutor of exercise course for lecture "Applied Mathematics Foundations" by Prof. Máté Gerencsér, PhD, for Master engineering students at TU Wien, winter term 2023/24
- Invited lecture series (three 2h lectures) about "Stochastic homogenization" at Tohoku University, Sendai, Japan, invitation by Prof. Jun Masamune, PhD, Sep. 2024, lecture notes: <https://homepagehkrep.owlstown.net/courses/3169-lecture-on-stochastic-homogenization>

Referee activities

- Referee for journals: Electronic Journal of Probability, Annales de l'Institut Henri Poincaré, Stochastics and Partial Differential Equations: Analysis and Computations, Electronic Communications in Probability, Journal of Theoretical Probability

Berlin, September 2025