Anna P. Kwossek

Postdoctoral researcher in mathematics

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Professional Experience

since May 2025	Postdoctoral university assistant, University of Vienna, Department of Statistics and Operations Research, in the research group QUARIMAFI - Quantitative Risk Management and Mathematical Finance, in the START research project "Universal structures in Mathematical Finance", led by Prof. Christa Cuchiero
February 2024 - April 2024	Research visit at ETH Zürich, Department of Mathematics, invited by Prof. Josef Teichmann, Stochastic Finance Group
September 2021 - April 2025	Scientific assistant, University of Mannheim, Institute of Mathematics

Education

September 2021 - April 2025	Dr. rer. nat., University of Mannheim, *Approximation and stability in rough analysis with applications to mathematical finance*, supervision of Prof. David J. Prömel
October 2018 - August 2021	M. Sc. Mathematics, Heidelberg University, *Multiple comparison adjustments in Bayesian clinical trial design*, supervision of Prof. Enno Mammen, Prof. Annette Kopp-Schneider (German Cancer Research Center)
October 2015 - September 2018	B. Sc. Mathematics, Heidelberg University, supervision of Prof. Enno Mammen
September 2014 - July 2015	Studium Generale, Salem Kolleg, Überlingen
May 2014	Allgemeine Hochschulreife, Gymnasium der St. Raphael-Schulen Heidelberg

Research Publications

Publications in Peer Reviewed Journals

- Allan, A.L., Kwossek, A.P., Liu, C. and Prömel, D.J. (2025), *Pathwise Convergence of the Euler Scheme for Rough and Stochastic Differential Equations*, J. London Math. Soc., 112: e70297. https://doi.org/10.1112/jlms.70297
- Anna P. Kwossek, Andreas Neuenkirch, David J. Prömel, *Functional differential equations driven by càdlàg rough paths*, Electron. J. Probab. 30: 1-32 (2025). https://doi.org/10.1214/25-EJP1381

Preprints

- Andrew L. Allan, Anna P. Kwossek, Chong Liu, and David J. Prömel, *Pathwise analysis of log-optimal portfolios*, 2025, https://arxiv.org/abs/2507.18232
- Purba Das, Anna P. Kwossek, and David J. Prömel, *A rough path approach to pathwise stochastic integration à la Föllmer*, 2025, https://arxiv.org/abs/2507.17363
- Andreas Neuenkirch, Anna P. Kwossek, and David J. Prömel, *Stochastic differential equations driven by fractional Brownian motion: dependence on the Hurst parameter*, 2025, https://arxiv.org/abs/2504.04860

- Anna P. Kwossek, David J. Prömel, and Josef Teichmann, *Universal approximation property of neural stochastic differential equations*, 2025, `https://arxiv.org/abs/2503.16696`

Referee Activity

- Electronic Journal of Probabilit
- Journal of Mathematical Analysis and Applications

Teaching

- Linear Algebra (B.Sc. Statistics and Data Analytics), Exercise Classes, University of Vienna, Fall 2025
- Mathematical Finance (B.Sc. Mathematics in Business and Economics), Teaching Assistant, University of Mannheim, Fall 2024
- Mathematical Finance, Teaching Assistant, University of Mannheim, Fall 2023
- Mathematical Finance, Teaching Assistant, University of Mannheim, Fall 2022
- Stochastic Calculus (M.Sc. Mathematics, M.Sc. Mathematics in Business and Economics), Teaching Assistant, University of Mannheim, Fall 2021

Talks

Upcoming

A rough path approach to pathwise stochastic integration à la Föllmer

- KCL Mathematical Finance Seminar, King's College London, October 2025 (invited talk)
- Stochastic Analysis & Mathematical Finance Seminar, Oxford University, October 2025 (invited talk)

2025

A rough path approach to pathwise stochastic integration à la Föllmer

- Recent Advances in Rough Path and Signature Theory, ShanghaiTech University, September 2025 (invited talk)

Universal approximation with Itô-type signatures

- Quantitative Finance Conference 2025, Singapore, July/August 2025
- SIAM Conference on Financial Mathematics and Engineering, Miami, USA, July 2025

A pathwise stability analysis of optimal portfolios

- Vienna Congress on Mathematical Finance, Vienna, Austria, July 2025
- 12th General AMaMeF Conference, Verona, Italy, June 2025
- Vienna Seminar in Mathematical Finance and Probability, Vienna, Austria, June 2025 (invited talk)

Pathwise convergence of the Euler scheme for rough and stochastic differential equations

- 17th German Probability and Statistics Days, Dresden, Germany, March 2025

2024

Pathwise stability analysis: Euler schemes and log-optimal portfolios

- 12th Bachelier World Congress of the Bachelier Finance Society, Rio de Janeiro, Brasil, July 2024

Pathwise convergence of the Euler scheme for rough and stochastic differential equations

- Oxford ETH Workshop, Zurich, Switzerland, April 2024
- 16th Colloquium Bachelier on Financial Mathematics and Stochastic Calculus, Métabief, France, January 2024

2023

Pathwise convergence of the Euler scheme for rough and stochastic differential equations

- 12th Austrian Stochastics Days, Klagenfurt, Austria, September 2023
- Doktorand:innentreffen der Stochastik, Heidelberg, Germany, August 2023

Co-organization of Conferences

- Minisymposium on "Signature Methods in Finance" at the Quantitative Finance Conference 2025, Singapore, July/August 2025

Fundings

Circle U. 2030 Postdoc Mobility Fellowship:
Funding for a one-month research stay at King's College London to collaborate with Dr. Purba Das