

Karolina Klockmann

curriculum vitae

Research Interests

Nonparametric Bayesian modelling and inference, covariance matrix estimation, time series analysis, data privacy for dependent data

Education and Experience

- 2023-today **Postdoctoral researcher**, *University of Vienna*
- 2019-2023 **Doctor of Philosophy (PhD)**, *University of Vienna* (2020-2023) and *University of Göttingen* (2019-2020)
- 2016-2019 **Master of Science** in Financial Mathematics, *University of Kaiserslautern*
- 2017-2018 Semester abroad, *Sorbonne University, Paris*
- 2013-2016 **Bachelor of Science** in Mathematics, *University of Kaiserslautern*
- 2015-2016 Semester abroad, *Chalmers University of Technology, Gothenburg*

Dissertation

- Title On Periodograms and Efficient Nonparametric Toeplitz Covariance Matrix Estimators
- Supervisor Prof. Dr. Tatyana Krivobokova
- Description Two novel data-driven nonparametric methods for estimating Toeplitz covariance matrices in different scenarios are proposed. Their theoretical properties and practical applications are discussed.

Publications

- Krivobokova, Serra, Rosales and Klockmann (2022): Joint non-parametric estimation of mean and auto-covariances for Gaussian processes, *Computational Statistics & Data Analysis*, DOI: [10.1016/j.csda.2022.107519](https://doi.org/10.1016/j.csda.2022.107519)
- Klockmann and Krivobokova (2023): Efficient nonparametric estimation of Toeplitz covariance matrices, [arXiv:2303.10018](https://arxiv.org/abs/2303.10018), in revision for *Biometrika*.
- Klockmann and Krivobokova (2023): On second-order statistics of the log-average periodogram, [arXiv:2306.10920](https://arxiv.org/abs/2306.10920), submitted to *IEEE Signal Processing Letters*.

Talks

- 7/2023 **Contributed**, *European Meeting of Statisticians, Warsaw*
- 12/2022 **Invited**, *16th International Conference on Computational and Financial Econometrics, London*

- 6/2022 **Contributed**, *International Symposium on Nonparametric Statistics*, Paphos
9/2021 **Contributed**, *German Probability and Statistics Days*, Mannheim
9/2021 **Contributed**, *Royal Statistical Society 2021 International Conference*, Manchester

Teaching

- 2023 **Exercise Class**, *Probability Theory*, undergraduate level, German, University of Vienna
2021-2023 **Exercise Class**, *Statistics 1*, undergraduate level, German, University of Vienna
2017 **Exercise Class**, *Analysis*, undergraduate level, German, University of Kaiserslautern

Scholarships & Awards

- 2023 **Award of Excellence**, *Federal Ministry Republic of Austria for Education, Science and Research*, National Award for the Top 40 dissertations in Austria in 2022/23
2022 **Small Research Grant**, *University of Vienna*, for junior faculty projects
2017-2018 **Erasmus**, *Sorbonne University*, Paris, graduate studies
2018 **DAAD Go East - Participation at the Lviv Data Science Summer School**, *Ukraine*, graduate studies
2015-2016 **Erasmus**, *Chalmers University of Technology*, Gothenburg, undergraduate studies
2014-2016 **Deutschlandstipendium**, *University of Kaiserslautern*, undergraduate studies

Research stays

- 11/2022 **CREST ENSAE**, *Paris*, group of Prof. Cristina Butucea, one month
9/2022 **Summer School**, *Modern Topics in Time Series Analysis*, Klagenfurt

Languages

German (native language), English (fluent), French (fluent)

Programming Languages

R, Python, Latex, Matlab, SAS