

Marie-Christine Düker

Cornell University
Department of Statistics and Data Science
Ithaca, NY 14850

duker@cornell.edu ✉
(607) 262-5440 ☎
<https://mariedueker.github.io> 🔗

AFFILIATION

Postdoctoral Associate, *Cornell University* 2020–present
Advisors: Dr. David Matteson, Dr. Gennady Samorodnitsky

EDUCATION

Ruhr-University Bochum, Faculty of Mathematics 2016–2020
Ph.D. Mathematics
Summa Cum Laude
Thesis: *High-dimensional time series under long-range dependence and nonstationarity*
Advisor: Dr. Herold Dehling

The University of North Carolina at Chapel Hill, 2018–2019
Department of Statistics and Operations Research
Visiting Scholar
Advisor: Dr. Vlaslas Pipiras

Ruhr-University Bochum, Faculty of Mathematics 2014–2016
MS Mathematics with Minor Economics
Summa Cum Laude

Ruhr-University Bochum, Faculty of Mathematics 2011–2014
BS Mathematics with Minor Economics

PUBLICATIONS

PUBLISHED PAPERS

- [1] M.-C. Düker, V. Pipiras, and R. R. Sundararajan. Cotrending: testing for common deterministic trends in varying means model. *Journal of Multivariate Analysis*, page 104825, 2021.
- [2] M.-C. Düker. Limit theorems in the context of multivariate long-range dependence. *Stochastic Processes and their Applications*, 130(9):5394–5425, 2020.
- [3] M.-C. Düker and V. Pipiras. Asymptotic results for multivariate local Whittle estimation with applications. *8th IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, pages 1–5, 2019.
- [4] M.-C. Düker. Limit theorems for Hilbert space-valued linear processes under long-range dependence. *Stochastic Processes and their Applications*, 128(5):1439–1465, 2018.

PREPRINTS

- [5] C. Baek, M.-C. Düker, and V. Pipiras. Graphical and thresholding local Whittle estimation. *Preprint, Under review at The Annals of Statistics*, 2021.
- [6] Y. Xu, M.-C. Düker, D. S. Matteson. Testing Simultaneous Diagonalizability. *Preprint, Under review at The Annals of Statistics*, 2021.
- [7] M.-C. Düker. Sample autocovariance operators of long-range dependent Hilbert space-valued linear processes. *Preprint, Major revision requested at Statistical Inference for Stochastic Processes*, 2020.

INTERDISCIPLINARY PAPERS

- [8] C. Goolsby, J. Losey, Y. Xu, M.-C. Düker, M. Sherman Getmansky, D. S. Matteson, M. Moradi. Clustering Future Scenarios Based on Predicted Range Maps. *Preprint*, 2021.
- [9] M. Davidow, M. Cory, J. Che-Castaldo, T. Schafer, M.-C. Düker, D. Corcoran, D. S. Matteson. Addressing the embeddability problem in transition rate estimation. *Preprint*, 2021.

AWARDS AND FELLOWSHIPS

Outstanding thesis award in STEM, Dr. Heinrich-Kost-Preis Gesellschaft der Freunde der RUB

Ph.D. Fellowship, DFG (German Research Foundation) funded, Research Training Group 2131 <i>High-dimensional Phenomena in Probability</i>	2016–2019
---	-----------

EMPLOYMENT

Postdoctoral Associate, Cornell University, Department of Statistics and Data Science	2020–present
Research Assistant, Ruhr-University Bochum, Faculty of Mathematics	
Research Training Group 2131 <i>High-dimensional Phenomena in Probability</i>	2016–2020
Student Research Assistant, Ruhr-University Bochum, Faculty of Mathematics	
Collaborative Research Center 823 <i>Statistical modeling of nonlinear dynamic processes</i>	2015–2016
Student Teaching Assistant, Ruhr-University Bochum, Faculty of Mathematics	2015–2016
Student Research Assistant, Ruhr-University Bochum, Institute of Hydrology, Water Resources Management and Environmental Engineering	
	2014–2015

TEACHING

Teaching Assistant Financial Mathematics (Summer term 2020)

Teaching Assistant Analysis III (Winter term 2017)

Teaching Assistant Analysis I (Winter term 2016)

Co-advisor for the seminar "Statistics in everyday life" (Winter term 2015)

PRESENTATIONS

Stochastic Seminar, Department of Mathematics, University of Utah, October 2021 (invited).

Joint Statistical Meeting 2021, virtual, 7–12th August 2021.

10th World Congress, virtual, July 19th–23rd.

Graduate Seminar, Department of Statistics and Operations Research, UNC Chapel Hill, September 2019.

40th Conference on Stochastic Processes and their Applications, Gothenburg, 11–15th of June 2018.

13th German Probability and Statistics Days, Freiburg, 27th February–02nd March 2018.

10th International Conference of the ERCIM WG on Computational and Methodological Statistics, London, 16–18th December 2017.

Graduate Seminar, Department of Statistics and Operations Research, TU Dortmund, November 2017.

31st European Meeting of Statisticians, Helsinki, 24–28th July 2017.

PROFESSIONAL SERVICE

Referee for the following journals:

Stochastic Processes and their Applications
Journal of Econometrics
Journal of Statistical Planning and Inference
Econometrics and Statistics

The American Statistician
Journal of the Korean Statistical Society
Applications of Mathematics
ASA Student paper award 2021

Assistant Editor for the journal Data Science in Science.

Co-organizer KDD 2021 Workshop *Risk identification and quantification in complex human-natural systems via convergent data intensive research*.

LANGUAGES AND COMPUTER SKILLS

German, English

R, MATLAB, Python, C, VBA

Last updated: October 13, 2021