

# ALEXANDER GIESSING

giessing@uw.edu

<https://agiessing.github.io>

## EDUCATION

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**University of Michigan, Ann Arbor**

2012 – 2018

*Ph.D. in Statistics*

*Ann Arbor, Michigan, US*

- Advisor: Professor Xuming He
- Thesis: “On High-Dimensional Misspecified Quantile Regression”

**London School of Economics and Political Science**

2011 – 2012

*M.Sc. in Econometrics and Mathematical Economics (Distinction)*

*London, GB*

- Full tuition fee scholarship for academic excellence awarded by the German National Academic Foundation

**University of Bonn**

2007 – 2011

*B.Sc. in Economics (Distinction)*

*Bonn, DE*

- Exchange student at the University of British Columbia during the academic year 2009/10

## EMPLOYMENT

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**Department of Statistics, University of Washington**

2021 – Present

*Acting Assistant Professor*

*Seattle, Washington, US*

**Department of ORFE, Princeton University**

2018 – 2021

*Postdoctoral Research Associate*

*Princeton, New Jersey, US*

- Advisor: Professor Jianqing Fan

## GRANTS

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**NSF DMS-2310578 “Semiparametric Efficient & Robust Inference on High-Dim. Data”**

2023 – 2026

*Principal Investigator*

*\$175,000*

## RESEARCH PAPERS

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### Preprints

- [1] Alexander Giessing. *Anti-concentration of suprema of Gaussian processes and Gaussian order statistics*. Submitted. 2023. arXiv: 2310.12119.
- [2] Alexander Giessing. *Gaussian and bootstrap approximations for suprema of empirical processes*. Submitted. 2023. arXiv: 2309.01307.
- [3] Alexander Giessing. *Upper bounds on suprema of empirical processes via generic chaining*. Working Paper. 2023.
- [4] Alexander Giessing and Jianqing Fan. *A bootstrap hypothesis test for high-dimensional mean vectors*. Submitted. 2023. arXiv: 2309.01254.

- [5] Yikun Zhang, Alexander Giessing, and Yen-Chi Chen. *Efficient Inference on High-Dimensional Linear Models with Missing Outcomes*. Submitted. 2023. arXiv: 2309.06429.
- [6] Alexander Giessing and Jianqing Fan. *Bootstrapping  $\ell_p$ -Statistics in High Dimensions*. Submitted. 2020. arXiv: 2006.13099.

### Journal Publications and Conference Proceedings

- [1] Alexander Giessing and Jingshen Wang. “Debiased inference on heterogeneous quantile treatment effects with regression rank-scores”. In: *Journal of the Royal Statistical Society, Series B (Statistical Methodology)* (2023).
- [2] Alexander Giessing and Xuming He. “On the predictive risk in misspecified quantile regression”. In: *Journal of Econometrics* 213.1 (2019), pp. 235–260.
- [3] Bara Alsalaheen, Kayla Stockdale, Dana Pechumer, Alexander Giessing, Xuming He, and Steven P. Broglio. “Cumulative Effects of Concussion History on Baseline Computerized Neurocognitive Test Scores: Systematic Review and Meta-analysis”. In: *Sports Health* 9.4 (2017), pp. 324–332.
- [4] Kristjan Greenewald, Seyoung Park, Shuheng Zhou, and Alexander Giessing. “Time-dependent spatially varying graphical models, with application to brain fMRI data analysis”. In: *Advances in Neural Information Processing Systems*. Ed. by I. Guyon, U. Von Luxburg, S. Bengio, H. Wallach, R. Fergus, S. Vishwanathan, and R. Garnett. Vol. 30. Curran Associates, Inc., 2017.
- [5] Edward L. Ionides, Alexander Giessing, Ya’acov Ritov, and Scott E. Page. “Response to the ASA’s Statement on p-Values: Context, Process, and Purpose”. In: *The American Statistician* 71.1 (2017), pp. 88–89.

### TALKS & PRESENTATIONS

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| <b>EcoSta 2024</b><br><i>Beijing, CN</i>   | July 2024<br><i>Session speaker (invited)</i>       |
| <b>2023 Joint Statistical Meetings</b><br><i>Toronto, CA</i>   | August 2023<br><i>Session speaker (invited)</i>     |
| <b>2023 ICSA Applied Statistics Symposium</b><br><i>Ann Arbor, Michigan, US</i>                      | June 2023<br><i>Session speaker (invited)</i>       |
| <b>University College London</b><br><i>Department of Statistics</i>                                  | November 2022<br><i>Seminar speaker (invited)</i>   |
| <b>COMPSTAT 2022</b><br><i>Bologna, IT</i>   | August 2022<br><i>Session speaker (contributed)</i> |
| <b>2022 Joint Statistical Meetings</b><br><i>Washington, D.C., US</i>                                | August 2022<br><i>Session speaker (invited)</i>     |
| <b>22nd Meeting of New Researchers in Statistics and Probability</b><br><i>Fairfax, Virginia, US</i> | August 2022<br><i>Session speaker (contributed)</i> |
| <b>2022 ICSA Applied Statistics Symposium</b><br><i>Gainesville, Florida, US</i>                     | June 2022<br><i>Session speaker (invited)</i>       |
| <b>University of Washington</b><br><i>Department of Biostatistics</i>                                | January 2022<br><i>Seminar speaker (invited)</i>    |
| <b>CMStatistics 2019</b><br><i>London, GB</i>  | December 2019<br><i>Session speaker (invited)</i>   |

## TEACHING

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| <b>STAT 591: Gaussian &amp; Empirical Process Theory for High-Dim. Data</b><br><i>Special Topics Graduate Course, Spring 2023</i>                    | University of Washington<br>Department of Statistics       |
| <b>STAT 516: Stochastic Modeling of Scientific Data I</b><br><i>Graduate Course, Fall 2023</i>   | University of Washington<br>Department of Statistics       |
| <b>STAT/ MATH 394: Probability I</b><br><i>Undergraduate Course, Spring 2022</i>   | University of Washington<br>Department of Statistics       |
| <b>STAT 390: Statistical Methods in Engineering and Science</b><br><i>Undergraduate Course, Fall '21, '22, '23; Winter '22, '23; Spring '22, '23</i> | University of Washington<br>Department of Statistics       |
| <b>ORF 245: Fundamentals of Statistics</b><br><i>Undergraduate Course, Spring 2019</i>   | Princeton University<br>Department of ORFE                 |
| <b>Lectures on Empirical Process Theory</b><br><i>Short Course, December 2018</i>  | Nankai University<br>School of Statistics and Data Science |

## MENTORING

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### Doctoral Students

- Yikun Zhang (co-advised with Yen-Chi Chen), Dept. of Statistics, University of Washington, 2022 – Present

### Master Students

- Wenjie Guan, Dept. of Statistics, University of Washington, 2023 – Present

### Undergraduate Students

- Hongyi Jian, Dept. of Mathematics, University of Washington, 2022 – Present
- Juncheng Yi, Dept. of Mathematics, University of Washington, 2022 – Present
- Kaiwen Zhou, Dept. of Mathematics, University of Washington, 2022

## SERVICE

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### Department of Statistics, University of Washington

- Graduate Admissions Committee for Master's Program, 2021/22, 2022/23, 2023/24
- PhD Prelim Exam Mentor, 2021/22, 2022/23, 2023/24
- Diversity, Equity & Inclusion Committee, 2022/23, 2023/24
- Statistics/ Biostatistics Teaching Working Group, 2023/24
- Popular Science Lecture at UW Math Day for High School Students, March 2023

### Department of Statistics, University of Michigan, Ann Arbor

- Mentor for the Undergraduate Research Opportunity Program, Summer 2016
- Organizer of the Graduate Student Seminar Series, 2014/15

## Professional

- Treasurer of the ASA Nonparametric Section, 2022/23
- Secretary-elect of the ASA Nonparametric Section, 2023/24

## Ad-hoc Reviewer

- Annals of Statistics
- Journal of the Royal Statistical Society: Series B (Statistical Methodology)
- Journal of the American Statistical Association
- Journal of Machine Learning Research
- Bernoulli
- Journal of Econometrics
- Statistica Sinica
- Biometrika
- Electronic Journal of Statistics
- Statistics & Probability Letters
- Journal of Nonparametric Statistics
- Journal of Computational and Graphical Statistics
- Computational Statistics and Data Analysis
- Statistical Methods in Medical Research
- Conference on Neural Information Processing Systems (NeurIPS) 2020, 2021, 2023
- International Conference on Learning Representations (ICLR) 2022, 2024
- International Conference on Artificial Intelligence and Statistics (AISTATS) 2024

## PROFESSIONAL MEMBERSHIPS

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American Statistical Association

## ACADEMIC AWARDS & SCHOLARSHIPS

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### Scholar of the German National Academic Foundation

2007 – 2013

*Studienstiftung des deutschen Volkes*

- Statutory Mission: *“To support the university education of young people who, on account of their exceptional academic or artistic talents and their personalities, can be expected to make an outstanding contribution to society as a whole.”*

### Zempelin Scholarship

2012

*Studienstiftung des deutschen Volkes*

€10,000

- Awarded to support post graduate studies in a PhD program in the US

### Graduate Scholarship

2011

*Studienstiftung des deutschen Volkes*

ca. €40,000

- Full tuition fee scholarship and cost of living stipend for pursuing post graduate studies in GB

### Hölderlin Scholarship

2009

*Studienstiftung des deutschen Volkes*

€7,500

- Awarded for the purpose of pursuing undergraduate studies in North America

November 4, 2023