Weichi Wu

Contact Room 114, Weiqing Building, Tsinghua University, Beijing, China.

Research Interests Non-stationary Time Series, High-dimensional Time Series, Functional Time Series, Multiscale Inference, Change Point Problem, Statistical Network Analysis, Nonparametric Method, Forecasting, M-estimation.

Employment

2020.12-Present **Associate Professor (Tenure Track)**
Department of Industrial Engineering, Center for Statistical Science,
Tsinghua University, China.

2018.12-2020.12 **Assistant Professor (Tenure Track)**
Department of Industrial Engineering, Center for Statistical Science,
Tsinghua University, China.

2017.10-2018.12 **Research Associate**
Institute of Statistics, Department of Mathematics,
Ruhr University Bochum, Germany.
Research Mentor: Prof. Holger Dette

2015.07-2017.07 **Research Associate**
Department of Statistical Science,
Big Data Institute, University College London, UK.
Research Mentor: Prof. Patrick Wolfe & Prof. Sofia Olhede

Education

2010.09-2015.11 **University of Toronto, Canada**
Ph.D. in Statistics

2008.09-2010.02 **Columbia University in the City of New York, USA**
M.A. in Statistics

2004.09-2008.07 **Peking University, China**
B.S. in Physics

Publications

1. Dette, H., & **Wu, W.**, Prediction in locally stationary time series, **accepted by** *Journal of Business & Economic Statistics*

2.Dette, H., Dhar, S.S. & **Wu,W.**, Identifying shifts between two regression curves, **accepted by** *Annals of the Institute of Statistical Mathematics.*

3. Dette, H., & **Wu, W.** (2019). Detecting Relevant Changes in the Mean of a Non-stationary Process. *The Annals of Statistics*, 47(6), 3578–3608.

4. **Wu, W.**, & Zhou, Z. (2018). Gradient-based Structural Change Detection for Nonstationary Time Series M-estimation. *The Annals of Statistics*, 46(3), 1197-1224.

5. **Wu, W.**, & Zhou, Z. (2018). Simultaneous Quantile Inference for Non-stationary Long-memory Time Series. *Bernoulli*, 24(4A), 2991-3012.

6. Dette, H., **Wu, W.**, & Zhou, Z. (2018). Change Point Analysis of Correlation in Non-stationary Time Series. *Statistica Sinica*, 29(2), 611-644.

7. **Wu, W.**, & Zhou, Z. (2017). Nonparametric Inference for Time-varying Coefficient Quantile Regression. *Journal of Business & Economic Statistics*, 35(1), 98-109.

Preprints and Ongoing Papers

1. **Wu,W.** & Zhou, Z., MACE: Multiscale Abrupt Change Estimation Under Complex Temporal Dynamics,**submitted**.

2. **Wu,W.**, Olhede, S. & Wolfe, P. Tractably Modelling Dependence in Networks Beyond Exchangeability, **submitted**.

3. Dhar, S.S. and **Wu,W.**, Shift identification in time varying regression quantiles, **submitted**.

4.**Wu,W.** and Zhou, Z., Adaptive Estimation for Non-stationary Factor Models And A Test for Static Factor Loadings, **submitted**.

Funding and Awards

2020.01 - 2022. 12 **Principal Investigator**, NSFC Young program (No.11901337), 289,000 Chinese Yuan.

"Statistical Inference and Forecasting for Locally Stationary Time Series"

2019.10 – 2023.10 **Participant**, Beijing Natural Science Foundation Key Research Topics Grant (No.Z190001), 2,000,000 Chinese Yuan.

"Statistical Theory and Algorithmic Foundations for Artificial Intelligence"

Conferences and Workshops

2020 **Session chair**, the 14th International Conference on Computational and Financial Econometrics, UK.

2019 The 13th International Conference on Computational and Financial Econometrics, UK.

IMS (Institute of Mathematical Statistics)-China International Conference on Statistics and Probability, China.

2018 The 12th International Conference on Computational and Financial Econometrics, Italy.

Workshop on Matrix Estimation Meets Statistical Network Analysis: Extracting Low-dimensional Structures in High Dimension, Oberwolfach Research Institute for Mathematics, Germany.

2017 Fudan Data Science Conference, Fudan University, Shanghai, China.

IMS (Institute of Mathematical Statistics)-China International Conference on Statistics and Probability, Guang Xi province, China.

1st International Conference on Econometrics and Statistics, Hong Kong University of Science and Technology, HongKong.

2016 10th International Conference on Computational and Financial Econometrics, Spain.

Research Seminar, Department of Mathematics, University of Bristol, UK.

Joint Statistics and Econometrics Seminar, LSE, UK.

Journal Refereeing

Journal of the Royal Statistical Society, Series B

Journal of the American Statistical Association

Biometrika

Bernoulli

Electronic Journal of Statistics

Biometrics

Econometrics and Statistics

Statistics & Probability Letters

Statistica Sinica

Science China Math

JBES

Metrika

Journal of Approximation Theory