

# Johannes Wieditz

## Curriculum Vitae

### Experience

since 2021

#### Biostatistician

University Medical Centre Göttingen

Department of Medical Statistics • Department of Anaesthesiology

- Statistical consulting
- Biometrical study planning (statistical design, sample size calculation, preparation of statistical analysis plans)
- Statistical analysis of studies, programming of statistical models, tests, summary tables and figures, review of these prepared by the clinical data managers
- Presentation and publication of study results
- Writing applications for third-party funds/ fundraising

2017–2022

#### Research Assistant

University of Göttingen

Institute of Mathematical Stochastics

- Modelling of global features of fingerprints and derivation and verification of a model for necessity of minutiae points due to fingerprint geometry
- Investigation and identification of additional minutiae in real fingerprints
- Development of an algorithm for separation of these from the necessary minutiae in a Bayesian sense
- Verification that additional minutiae bear characteristic information for an individual
- Supervision of bachelor and master theses

2016–2017

#### Intern

KPMG AG Wirtschaftsprüfungsgesellschaft, Frankfurt a. M.

Department Risk Banking (Credit Risk)

- Development and implementation of a software tool to compute provisions as per IFRS 9

### Education

#### Doctor rerum naturalium in Mathematical Sciences

University of Göttingen, 2017–2021

- Thesis title: Characteristic and necessary minutiae in fingerprints
- Supervisor: Prof. Dr. Stephan F. Huckemann, Prof. Dr. Dominic Schuhmacher
- Grade: magna cum laude

#### Master of Science in Mathematics and mathematical economics

Technische Universität Ilmenau, 2014–2017

- Thesis title: Berechnung von Fréchet-Mittelwerten auf Sphären
- Supervisor: Prof. Dr. Gabriele Eichfelder, Prof. Dr. Thomas Hotz
- Grade: first honors (1,0)

#### Bachelor of Science in Mathematics

Technische Universität Ilmenau, 2011–2014

- Thesis title: Nicht-asymptotische Konfidenzbereiche für extrinsische Erwartungswerte zirkulärer Daten
- Supervisor: Prof. Dr. Thomas Hotz
- Grade: first honors (1,1)



### CONTACTS

📍 Göttingen, Germany

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🌐 johannes-wieditz.de

💻 github.com/jwieditz

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### FIELDS

📞 Statistical consulting



💻 Software development



▶ Project management



### TECHNOLOGIES

💻 R, Python, Java, C++, SAS

📄 HTML, CSS, Office, LATEX

▶ Git



**SuperMPLE**

- R-package for the computation of maximum pseudo-likelihood estimators for a point pattern being a sample from the superposition of a Strauss-hard core and a Poisson process.  
<https://github.com/jwieditz/SuperMPLE>

**Minutiae Separating Algorithm (MiSeal)**

- R-package for the separation of point pattern samples of a Strauss-hard core and a Poisson process. Contains a Java-based graphical user interface to analyse a selection of geometric features of a fingerprint.  
<https://github.com/jwieditz/MiSeal>

**Spherical Branch and Bound**

- R-package to compute all Fréchet sample means on the 2-sphere with arbitrary precision based on the branch and bound method.  
<https://github.com/jwieditz/SphericalBranchAndBound>

## Teaching

**Teaching assistant**

University Medical Centre Göttingen, 2022–23

Methodological foundations of evidence-based medicine, analysis of longitudinal and time-to-event data

**Lecturer**

University of Göttingen, 2021–22

Foundations of stochastics

**Supervision of master thesis**

University of Göttingen, 2021

*Variational Autoencoder-based generation of global fingerprint features* by Corvin Grigutsch**Lecturer**

IUBH Internationale Hochschule Erfurt, 2016–20

Business mathematics and statistics for the courses economics, health management, marketing management, social work and tourismn economy

**Teaching assistant**

University of Göttingen, 2017–19

Multivariate statistics, Monte Carlo methods

**Teaching assistant**

Technische Universität Ilmenau, 2013–2016

Linear algebra, measure theory, mathematics for applied media and communication sciences

**Teaching assistant**

University of Applied Sciences Erfurt, 2012–13

Mathematics at the Institute of Civil Engineering

## Publications

**Characteristic and Necessary Minutiae in Fingerprints**

2022

Johannes Wieditz, Yvo Pokern, Dominic Schuhmacher, Stephan Huckemann

*Journal of the Royal Statistical Society: Series C (Applied Statistics)*, Volume 71, Issue 1, pp 27–50.<https://rss.onlinelibrary.wiley.com/doi/10.1111/rssc.12520>**An algorithm for computing Fréchet means on the sphere**

2019

Gabriele Eichfelder, Thomas Hotz, **Johannes Wieditz***Optimization Letters*, Volume 13, Issue 7, pp 1523–1533.<https://link.springer.com/article/10.1007/s11590-019-01415-y>**Non-Asymptotic Confidence Sets for Circular Means**

2016

Thomas Hotz, Florian Kelma, **Johannes Wieditz***Entropy* 2016, 18, 375.<https://www.mdpi.com/1099-4300/18/10/375/pdf>**Universal, non-asymptotic confidence sets for circular means**

2015

Thomas Hotz, Florian Kelma, **Johannes Wieditz***Lecture Notes in Computer Science*, Volume 9389.

## LANGUAGES

German (native)



English (fluent)



French (conversational)



Russian (conversational)

