Fabrice Wunderlich

Relevant Curriculum Vitae

Education

2020 – **PhD Mathematics**, *University of Oxford*
EPSRC Centre for Doctoral Training: *Mathematics of Random Systems*
- Research Focus: Weak Functional Convergence of Stochastic Integrals with respect to càdlàg Semimartingale Integrators
- Advisors: Ben Hambly and Andreas Søjmark

2017 – 2019 **MSc Mathematics**, *Technische Universität Berlin*
Final Grade: 1.0 (GPA: 4.0/4.0)
- Best Master's degree of the year
- Specialization: Probability Theory and Functional Analysis
- Thesis: "The Asymptotic Strong Feller Property. Enhancing Conditions." In this thesis I have developed new sufficient conditions for the uniqueness of invariant probability measures for general Markov processes.
- Advisors: Oleg Butkovsky and Michael Scheutzow

2016 – 2019 **MSc Statistics**, *Humboldt-Universität zu Berlin*
- Joint Master's programme between the three main universities of Berlin and ENSAE ParisTech
- Specialization: Mathematical Statistics

2014 – 2018 **Diplôme d'Ingénieur (Dipl. Ing.) Applied Mathematics**, *ENSAE ParisTech*
Institut Polytechnique de Paris – Branch school of Ecole Polytechnique de Paris

Experience

Teaching

2022 – 2023 **Stipendiary Lecturer**, *Lady Margaret Hall, University of Oxford*
'Analysis I'
'Statistics'

2022 **Tutor**, *Various Colleges, University of Oxford*
'Analysis I' at Magdalen College
'Analysis II' at Regent's Park College

2021 – **Tutor and Teaching Assistant**, *Mathematical Institute, University of Oxford*
'Continuous Martingales and Stochastic Calculus' (Tutor)
'Functional Analysis I' (TA)

2020 – 2021 **University Lecturer**, *BSP Business School Berlin*
'Coding with Python'

2017 – 2019 **Tutor and Teaching Assistant**, *Institute of Mathematics, TU Berlin*
'Analysis I & II for Mathematicians' (Tutor & TA)
'Probability Theory I' (Tutor & TA)
'Analysis I & Linear Algebra I for Engineers' (Tutor & TA)

Others

2023 – **Research Collaborator**, *Department of Statistics, University of Oxford*
Various projects on Denoising Diffusion Probabilistic Models for de novo design of protein structure

2021 **Member of a Project Group**, *BBC News Lab, London*
Using optimal transportation to generate representative images for news articles

2020 **Actuarial Consultant**, *Ergo Group AG, Berlin*
Life insurance mathematics

2015 – 2016 **Member of a Project Group**, *RTE Electricité de France S.A., Paris*
Modeling of the stability of the French electricity network

2015 **Intern**, *Institute for Epidemiology, Berlin*
Modeling of the spreading of faunal epidemics

Publications and Preprints

A. Søjmark, F. Wunderlich. *Functional weak convergence of stochastic integrals for moving averages and continuous-time random walks.* 2023. In Preparation.

A. Søjmark, F. Wunderlich. *Functional CLTs for subordinated stable Lévy models in physics, finance, and econometrics.* 2023. arXiv preprint:2312.15119

A. Søjmark, F. Wunderlich. *Weak Convergence of Stochastic Integrals on Skorokhod Space in Skorokhod's J1 and M1 Topologies.* 2023. arXiv preprint:2309.12197

O. Butkovsky, F. Wunderlich. *Asymptotic strong Feller property and local weak irreducibility via generalized couplings.* arXiv preprint:1912.06121.

Languages

German	●●●●●
English	●●●●○
French	●●●●○
Spanish	●●○○○
Russian	●●○○○

Programming Skills

Python, R, Matlab, LaTeX

Honors and Awards

2020 – 2024 **Full Doctoral Scholarship**, EPSRC CDT in Mathematics of Random Systems Award, University of Oxford

2018 – 2019 **Grant for Academic Excellence: Deutschlandstipendium**, German Federal Ministry of Education and TU Berlin

2016 – 2018 **Grant for Academic Excellence: Deutschlandstipendium**, German Federal Ministry of Education and HU Berlin

2015 – 2016 **Full Graduate Scholarship**, German Academic Exchange Service (DAAD)

2014 – 2015 **Full Undergraduate Scholarship**, German Academic Exchange Service (DAAD)

2014 **Mobility Award**, WWG and International Chamber of Commerce Berlin