

Quirin Thomas Simon Vogel

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| CONTACT INFORMATION | Büro 03.12.056, Boltzmannstr. 3, 85748 Garching, Germany Citizenship: German | Phone: +49 89 289-17030 E-mail: quirin.vogel@tum.de |
| ACADEMIC POSITIONS | Technical University of Munich Postdoc, Mentor: Silke Rolles | from September 2022 – now |
| | New York University Shanghai Faculty Fellow of Mathematics, Mentor: Yves Le Jan | August 2020 – August 2022 |
| | New York University Shanghai Assistant Professor Faculty Fellow of Mathematics | January 2021 – May 2021 and August 2021 – December 2021 |
| EDUCATION | University of Warwick PhD in Mathematics and Statistics, Supervisors: S. Adams, W. Wu, Thesis: <i>Geometric properties of random walk loop soups</i> | September 2017 – August 2020 |
| | University of Warwick Master Mathematics and Statistics Thesis: <i>Surface Tension of Stochastic Gradient Models</i> | September 2016 – August 2017 (With Distinction (very good)) |
| | University of Warwick Master Mathematics Thesis: <i>Markovian and Bosonic Loops</i> | September 2015 – August 2016 (With Distinction (very good)) |
| | LMU Munich , Undergraduate Bachelor Mathematics with Minor in Computer Science Thesis: <i>The Dirichlet Problem and the Brownian Motion</i> | October 2012 – July 2015 (Grade Average: 1,1 (very good)) |
| PAPERS | Probabilistic proofs for Off-diagonal long-range order for the free Bose gas, <i>in preparation.</i> With W. König and A. Zass. | 2023 |
| | An Advanced Tree Algorithm with Interference Cancellation in Up- and Downlink, <i>arXiv:2308.15158.</i> Under review. With Y. Deshpande, C. Stefanović, W. Kellerer. | 2023 |
| | Analysis of d-ary Tree Algorithms with Successive Interference Cancellation, <i>arXiv:2302.08145.</i> Under review. With Y. Deshpande, C. Stefanović, W. Kellerer. | 2023 |
| | Gibbs measures for the repulsive Bose gas, <i>arXiv:2211.03569.</i> Under review. With Tianyi Bai. | 2022 |
| | Quantitative bounds for large deviations of heavy tailed random variables, <i>arXiv:2202.02935.</i> Under review. | 2022 |
| | Formation of infinite loops for an interacting bosonic loop soup, <i>arXiv:2109.01409.</i> Under review. With M. Dickson. | 2021 |
| | Emergence of interlacements from the finite volume Bose soup, <i>arXiv:2011.02760.</i> Under review. | 2021 |
| | A note on the intersections of two random walks in two dimensions, In <i>Statistics and Probability Letters</i> . | 2021 |
| | Large Deviations of the Range of the planar Random Walk, In <i>Journal of Theoretical Probability</i> . With J. Liu. | 2021 |

- Space-Time random walk loop measures,** 2020
In *Stochastic Processes and their Applications*. With S. Adams.
- Geometric properties of random walk loop soups,** 2020
PhD Thesis, University of Warwick.

GRANTS

- Senior Entrepreneurial Awards 1650 Euro
with *E. Archer* and *C. Boccatto*, from Global Challenges for Women in Math Science
- Nachwuchsförderung (*promotion of young talent*) 2000 Euro
From the Fachgruppe Stochastik (German probability association)
- National Key Research & Development Project; “Young Scientist Fellowship” 3000000 RMB
Title: *critical exponents, scaling limits and universality: challenges from statistical physics*
With Xinyi Li (PI), Wei Wu (PI), Jinjiong Yu and Chenlin Gu Research grant
- Summer School June 2020, Vancouver, Canada, Accommodation grant¹
Funding provided by the University of British Columbia
- Conference July/August 2019, Fukuoka, Japan Travel and Accommodation Grants
Funding provided by the Great Britain Sasakawa Foundation and Kyushu University
- Workshop December 2018, INI, Cambridge, UK Accommodation Grant¹
Funding provided by the Newton Institute
- Workshop September 2018, INI, Cambridge, UK Accommodation Grant
Funding provided by the Newton Institute, Cambridge
- Conference May 2018, University of Lancaster, UK Travel and Accommodation Grant¹
Funding provided by the University of Lancaster
- Conference April 2018, University of Oxford, UK Travel and Accommodation Grant
Funding provided by the University of Warwick
- Summer School July 2017, BCAM, Bilbao, Spain Travel and Accommodation Grant
Funding provided by the BCAM institute
- Conference June 2016, BCAM, Bilbao, Spain Travel and Accommodation Grant
Funding provided by the BCAM institute

TEACHING

Technical University of Munich, Munich, Germany. September 2022 – present

- *Lecturer* for *Markov processes*, a course for Master students.
- *Head teaching assistant* for Introduction to Probability and Statistics. Organising the tutors, moodle, exams. Over 200 students.

New York University Shanghai, Shanghai, China. September 2020 – August 2022

- *Lecturer* for Honors Analysis II and Linear Algebra. This includes writing syllabus, selecting material, preparing lectures, exams, homework and alike. Graduate and undergraduate students.
- *Teaching assistant* for Calculus.

University of Warwick, Coventry, United Kingdom. October 2015 – July 2020

LMU Munich, Munich, Germany October 2014 – August 2015

- Teaching Assistant for 11 different modules: Analysis 1-3, Complex Analysis, Probability Theory, Advanced Probability Theory, Measure Theory, Markov Processes and Percolation, Brownian Motion, Stochastic Analysis, Large Deviation Theory.
- Supervising students taking classes in: Linear Algebra 1, and 2, Algebra 1, Differential Equations.
- Authoring and compiling material for classes, ranging from 1st courses to specialised classes for PhD students.
- Revised a publication for the chair of the mathematical finance group

TALKS AT

- Universität Duisburg Essen 2023

¹Awarded but declined

- TU Munich 2022, 2023
- TU Darmstadt 2022
- WIAS Berlin 2022
- Fudan University 2021
- Peking University 2021
- NYU Shanghai 2021
- University of Warwick 2017, 2018, 2019, 2023
- University of Oxford 2018
- Basque Center for Applied Mathematics 2017
- LMU Munich 2022, 2015

SCHOLARSHIPS AND OTHER AWARDS

New York University Shanghai, Shanghai, PRC. December 2021
Nomination for the Teaching Excellence Award².

University of Warwick, Coventry, United Kingdom. October 2017 – September 2020
PhD Scholarship fully covering fees and living expenses.

University of Warwick, Coventry, United Kingdom. October 2016 – September 2017
MSc Scholarship fully covering fees and living expenses

Max-Weber Programm, Munich, Germany. October 2012 – September 2016
Scholarship awarded by the Bavarian government for excellent students. Also covers study abroad, tuition fees, travel costs and living expenses

Kaethe-Kollwitz Gymnasium, Munich, Germany. June 2012
Prize for the best A-level results

German National Mathematics Competition, Munich, Germany. 2011, 2012
Prizes for solving mathematics problems in the nation-wide competition

LEADERSHIP EXPERIENCE

Recent advances in Bose–Einstein condensation August 2023
Independently organising a workshop on the Bose gas

- Applied for funding from different agencies, securing at least three different grants.
- Inviting the leading researchers in the field to Munich.

Warwick Junior Probability Seminar September 2018 – August 2019
Setting up a new seminar for early career researchers, with speakers from across Europe.

Warwick SIAM Student Chapter, Coventry, United Kingdom. January 2017 – June 2019
President of the Warwick SIAM Student Chapter

- Organising networking events with speakers from industry and academia
- Hosting a one day conference with 30+ participants on a topic from applied computational statistics

Warwick Manufacturing Group, Coventry, United Kingdom. October 2016 – May 2017
joint work with the Warwick Department of Mathematics

- Research project on car batteries
- Constructing models predicting the response of car batteries
Implementation and testing using Matlab

LANGUAGES **German:** Mother tongue. **English:** Near native. **Chinese:** Upper Intermediate (~HSK5).

PROGRAMMING LANGUAGES Python. Worked with C, C++, Java, Haskell, Matlab, SQL, R in the past.

VOLUNTARY WORK Working with the local animal rescue in Shanghai.
Mentoring and Teaching Offering support and guidance to younger students, both during my time in Munich and in Warwick. Teaching piano for free to undergraduate students.

²Could not be awarded for technical reasons

PERSONAL
INTERESTS

Classical music and piano playing (performing as well as teaching), literature, fine teas.