

Quirin Thomas Simon Vogel

CONTACT INFORMATION	Ludwig Maximilian University of Munich Faculty of Mathematics, Computer Science and Statistics Theresienstr. 39 80333 Munich Germany Citizenship: German	Phone: +49 89 2180-4478 E-mail: vogelq@math.lmu.de LMU Webauftritt
ACADEMIC POSITIONS	Ludwig Maximilian University of Munich Interim professor (Vertretungsprofessor)	from April 2024 – now
	Technical University of Munich Postdoc, Mentor: Silke Rolles	September 2022 – March 2024
	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 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	Large deviations for neural Gaussian functions, <i>in preparation.</i>	2024
	ODLRO in a mean-field Bose gas via the Feynman–Kac formula, arxiv:2408.02270 With T. Bai and W. König.	2024
	Large Deviations of Gaussian Neural Networks with ReLU activation arXiv:2405.16958	2024
	Probabilistic proofs for Off-diagonal long-range order for the free Bose gas, arXiv:2312.07481 With W. König and A. Zass. Submitted to <i>Annals of Applied Probability</i>	2023
	Quenched critical percolation on Galton–Watson trees, In <i>Electronic Journal of Probability</i> , 29 , 1–32, With E. Archer. doi.org/10.1214/24-EJP1160	2024
	An Advanced Tree Algorithm with Interference Cancellation in Up- and Downlink, 2023 <i>ASILOMAR Conference proceedings, 72-99, 2023.</i> With Y. Deshpande, C. Stefanović, W. Kellerer. doi.org/10.1109/ieeecnf59524.2023.10477014	

- Gibbs measures for the repulsive Bose gas,** 2022
To appear in *Annales de l'Institut Henri Poincaré (B) Probabilités et Statistiques*. With T. Bai.
IMS.AIHP.59598?
- Formation of infinite loops for an interacting bosonic loop soup,** 2024
In *Electronic Journal of Probability*, **29**, 1-39 With M. Dickson.
doi.org/10.1214/24-EJP1085
- Quantitative bounds for large deviations of heavy tailed random variables,** 2023
In *ALEA Lat. Am. J. Probab. Math. Stat.*, **20**, 1615–1629.
doi.org/10.30757/ALEA.v20-61.
- Analysis of d-ary Tree Algorithms with Successive Interference Cancellation,** 2024
In *Journal of Applied Probability*, 1-31. With Y. Deshpande, C. Stefanović, W. Kellerer.
doi.org/10.1017/jpr.2023.107.
- Emergence of interlacements from the finite volume Bose soup,** 2023
In *Stochastic Processes and their Applications*, **166**, 104227
doi.org/10.1016/j.spa.2023.104227
- A note on the intersections of two random walks in two dimensions,** 2021
In *Statistics and Probability Letters*, **178**, 109195.
doi.org/10.1016/j.spl.2021.109195
- Large Deviations of the Range of the planar Random Walk,** 2021
In *Journal of Theoretical Probability*, **34**, 2315–2345. With J. Liu.
doi.org/10.1007/s10959-020-01039-4
- Space-Time random walk loop measures,** 2020
In *Stochastic Processes and their Applications*, **130**, 2086-2126. With S. Adams.
doi.org/10.1016/j.spa.2019.06.006
- Geometric properties of random walk loop soups,** 2020
PhD Thesis, University of Warwick.
<http://webcat.warwick.ac.uk/record=b3598108>

GRANTS

- Senior Entrepreneurial Awards, TUM 1650 Euro
with *E. Archer* and *C. Boccato*, 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

SCHOLARSHIPS AND OTHER AWARDS	New York University Shanghai , Shanghai, PRC. Nomination for the Teaching Excellence Award ² .	December 2021
	Peking University , Beijing PRC. Boya Fellowship ³	April 2020
	University of Warwick , Coventry, United Kingdom. PhD Scholarship fully covering fees and living expenses.	October 2017 – September 2020
	University of Warwick , Coventry, United Kingdom. MSc Scholarship fully covering fees and living expenses	October 2016 – September 2017
	Max-Weber Programm , Munich, Germany. Scholarship awarded by the Bavarian government for excellent students. Also covers study abroad, tuition fees, travel costs and living expenses	October 2012 – September 2016
	Kaethe-Kollwitz Gymnasium , Munich, Germany. Prize for the best A-level results	June 2012
	German National Mathematics Competition , Munich, Germany. Prizes for solving mathematics problems in the nation-wide competition	2011, 2012
TEACHING	Ludwig Maximilian University of Munich , Munich, Germany. <ul style="list-style-type: none">• <i>Lecturer</i> for probability theory.	April 2024 – now
	Technical University of Munich , Munich, Germany. <ul style="list-style-type: none">• <i>Lecturer</i> for <i>Markov processes</i>, a course for Master students.• <i>Bachelor thesis supervisor</i>: suggesting projects and supervising students for the Bachelor thesis.• <i>Head teaching assistant</i> for <i>Introduction to Probability and Statistics</i> and <i>Probability theory</i>. Organising the tutors, moodle, exams. Over 200 students.	September 2022 – March 2024
	New York University Shanghai , Shanghai, China. <ul style="list-style-type: none">• <i>Lecturer</i> for <i>Honors Analysis II and Linear Algebra</i>. This includes writing syllabus, selecting material, preparing lectures, exams, homework and alike. Graduate and undergraduate students.• <i>Teaching assistant</i> for Calculus.	September 2020 – August 2022
	University of Warwick , Coventry, United Kingdom.	October 2015 – July 2020
	LMU Munich , Munich, Germany <ul style="list-style-type: none">• 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	October 2014 – August 2015
DIVERSITY, EQUITY AND INCLUSION	<ul style="list-style-type: none">• <i>Global Challenges for Women in Math Science</i>. Invited female researchers to TUM, to give talks and highlight the importance of female researchers in probability theory.• <i>Diversity training at TUM</i>. Successfully participated in the diversity training session <i>CP Diversity: How multifaceted Teams best thrive at University</i>.	
INVITED TALKS AT	<ul style="list-style-type: none">• New York University Shanghai	2024

¹Awarded but declined

²Could not be awarded for technical reasons

³Awarded but declined

- Bernoulli-IMS 11th World Congress in Probability and Statistics 2024
- Max Planck Institute for Mathematics in the Sciences 2024
- Asilomar Conference on Signals, Systems, and Computers 2023
- University of Warwick 2023
- Universität Duisburg Essen 2023
- TU Darmstadt 2022
- WIAS Berlin 2022, 2023
- Fudan University 2021
- Peking University 2021
- University of Oxford 2018
- Basque Center for Applied Mathematics 2017

LEADERSHIP
EXPERIENCE

Recent advances in Bose–Einstein condensation August 2023

Independently organising a workshop on the Bose gas

- Secured funding from different grant awarding agencies.
- 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.

PERSONAL
INTERESTS

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