

CURRICULUM VITAE

Willem van Zuijlen

August 2023

PERSONAL

Date of birth 2 July 1989
Nationality Dutch
Work address WIAS Berlin
Mohrenstraße 39, 10117 Berlin, Germany
Phone: +49 30 20372478
E-mail vanzuijlen@wias-berlin.de
Homepage www.wias-berlin.de/people/vanzuijlen/

ACADEMIC POSITIONS

01/2021 – Postdoc at WIAS Berlin.
06/2018 – 12-2020 Postdoc within SPP1590 “Probabilistic Structures in Evolution”.
WIAS Berlin.
10/2016 – 05/2019 Postdoc within FOR2402 “Rough paths, stochastic partial differential
equations and related topics”. WIAS Berlin & Humboldt Universität zu
Berlin.

ACADEMIC EDUCATION

2012 – 2016 PhD
Leiden University
Thesis: Gibbs-non-Gibbs Transitions and Vector-Valued Integration
Supervisors: F. den Hollander, F. Redig
2010 – 2012 Master Mathematics (*summa cum laude*)
Radboud University Nijmegen
Thesis: Integration for functions with values in a Riesz space
Advisor: A. van Rooij
2007 – 2010 Bachelor Mathematics (*cum laude*)
Radboud University Nijmegen
Thesis: $C(X)$ determines X
Advisor: A. van Rooij

RESEARCH INTERESTS

Areas: Probability theory, Functional analysis.
Topics: Stochastic partial differential equations, random operators, paracontrolled distributions, random walks, harmonic analysis, large deviations, stochastic processes, Gibbs measures, convex analysis, partially ordered vector spaces and Riesz spaces, measure and integration theory.

ACCEPTED JOURNAL PUBLICATIONS

- (8) Wolfgang König, Nicolas Perkowski, and Willem van Zuijlen. Longtime asymptotics of the two-dimensional parabolic Anderson model with white-noise potential. *Annales de l'Institut Henri Poincaré, Probabilités et Statistiques*, 58(3):1351 – 1384, 2022
- (7) Nicolas Perkowski and Willem van Zuijlen. Quantitative Heat-Kernel Estimates for Diffusions with Distributional Drift. *Potential Analysis*, 2022
- (6) Khalil Chouk and Willem van Zuijlen. Asymptotics of the eigenvalues of the anderson hamiltonian with white noise potential in two dimensions. *Ann. Probab.*, 49(4):1917–1964, 2021

- (5) Richard C. Kraaij, Frank Redig, and Willem B. van Zuijlen. A Hamilton-Jacobi point of view on mean-field Gibbs-non-Gibbs transitions. *Trans. Amer. Math. Soc.*, 374(8):5287–5329, 2021
- (4) W. van Zuijlen. Large deviations of continuous regular conditional probabilities. *J. Theoret. Probab.*, 31(2):1058–1096, 2018
- (3) A. C. M. van Rooij and W. B. van Zuijlen. Bochner integrals in ordered vector spaces. *Positivity*, 21(3):1089–1113, Sep 2017
- (2) A. C. M. van Rooij and W. B. van Zuijlen. Integrals for functions with values in partially ordered vector spaces. *Positivity*, 22(4):877–916, 2016
- (1) F. den Hollander, F. Redig, and W. van Zuijlen. Gibbs-non-Gibbs dynamical transitions for mean-field interacting Brownian motions. *Stochastic Process. Appl.*, 125(1):371–400, 2015

PREPRINTS

- Wolfgang König, Nicolas Pétrélis, Renato Soares dos Santos, and Willem van Zuijlen. Weakly self-avoiding walk in a pareto-distributed random potential. Preprint available at <https://arxiv.org/abs/2306.03788>
- T. Matsuda and W.B. van Zuijlen. Anderson hamiltonians with singular potentials. Preprint available at <http://arxiv.org/abs/2211.01199>

LECTURE NOTES

- *Theory of Function Spaces*, Lecture notes (wias-berlin.de/people/vanzuijlen/teaching)
- *Random Walks*, Lecture notes by L. Avenda, M. Heydenreich, F. den Hollander, E. Verbitskiy, W. van Zuijlen (websites.math.leidenuniv.nl).

TEACHING

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|-------------|---|
| March 2023 | <i>Lecture Series : Singular stochastic PDEs</i>
Online mini-course, TIFR Centre for Applicable Mathematics in Bangalore, India. |
| Spring 2022 | <i>SPDEs: Classical and new.</i>
Master, FU Berlin. |
| Autumn 2021 | <i>Theory of function spaces and applications.</i>
Master, FU Berlin. |
| Spring 2021 | <i>Integraltransformationen und partielle Differentialgleichungen für Ingenieurwissenschaften. (Transformations of integrals and partial differential equations for engineers.)</i>
Bachelor, TU Berlin. |
| Spring 2020 | <i>Theory of function spaces and applications.</i>
Master, FU Berlin. |
| Autumn 2019 | <i>Mini-course on Besov spaces.</i>
Hausdorff Research Institute for Mathematics, Bonn. |

At the Leiden University, Teaching assistant and occasionally substitute lecturer:

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|-------------|---|
| Autumn 2015 | <i>Random Walks.</i> (Bachelor) |
| Autumn 2014 | <i>Random Walks.</i> (Bachelor) |
| Spring 2014 | <i>Random Walks.</i> (Bachelor) |
| Autumn 2013 | <i>Functional Analysis.</i> (Master, Dutch ‘Mastermath’ programme) |
| Spring 2013 | <i>Statistics</i> (Bachelor, for the studies Life Science and Technology) |
| Autumn 2012 | <i>Calculus</i> (Bachelor, for the studies Biopharmaceutical Science) |

At the Radboud University Nijmegen, Teaching assistant:

- Spring 2012 *Introduction to Partial Differential Equations* (Bachelor)
- Autumn 2011 *Analysis 2* (Bachelor)
- Spring 2011 *Introduction to Partial Differential Equations* (Bachelor)
- Autumn 2010 *Advanced Statistics* (Bachelor)
- Spring 2010 *Analysis 1* (Bachelor)
- Autumn 2009 *Numbers (Introduction to Algebra and Analysis)* (Bachelor)

SUPERVISION OF MASTER'S THESES

- 2022–2023 Leander Schnee: *Various representations of rate functions for selected large-deviations principles.*
- 2022 Franz Haniel: *Eigenvalue asymptotics of the higher-order Anderson Hamiltonian with white noise potential.*
- 2021 Oscar Junge: *A simple approach to Φ_4 -3.*

ORGANIZATIONAL EXPERIENCE

- 09/2022 – 05/2023 Employee Survey Focus Group
- 12/2020 – 05/2021 Website SPP 2265
Member of appointment committee for departmental research fellow position.
- 09/2020 – 09/2021 Co-organiser: Interacting Random Systems seminar, WIAS Berlin.
- 10/2019 Co-organiser: Workshop “Singular SPDEs and Related Topics”, HIM Bonn.
- 2018 – 2019 Board member of study association DESDA Nijmegen.

THIRD-PARTY FUNDING

- 09 – 11/2019 PI of Junior Trimester Program: Randomness, PDEs and Nonlinear Fluctuations
Hausdorff Research Institute for Mathematics, Bonn.

REFEREE SERVICE

Journal of differential equations, Electronic Journal of Probability, Indagationes Mathematicae, Annales de l'Institut Henri Poincaré, Markov Processes and Related Fields, Positivity, Stochastic Processes and their applications, Publ. Math. Debrecen

TALKS

- 06/2023 Probability Seminar, Warwick University.
- 05/2023 Polymers and self-avoiding walks, Workshop, Nantes.
- 05/2023 IPOD Seminar, Leiden University.
- 05/2023 Beijing Stochastic Webinar (Online).
- 03/2023 GPSD, German Probability and Statistics Days, Essen.
- 02/2023 Research Seminar Stochastics, FU, Berlin.
- 12/2022 Groupe de Travail Modélisation Stochastique, Paris.
- 10/2022 Forschungsseminar Wahrscheinlichkeitstheorie, Potsdam.
- 09/2022 Interacting Random Systems Seminar, WIAS, Berlin.
- 05/2022 Berlin-Oxford Young Young Researchers Meeting on Applied Stochastic Analysis, Berlin.
- 11/2021 Potsdam Probability Colloquium.
- 06/2021 Pisa Online Seminars.
- 02/2020 Probability Seminar University of Chicago (Online).
- 02/2020 Oxford-Berlin Young Researchers Meeting on Applied Stochastic Analysis (Online).
- 02/2020 Alison Etheridge Group Meeting, Oxford (Online).
- 11/2020 Interacting Random Systems Seminar, WIAS, Berlin (Online).
- 11/2020 FOR 2402 Seminar, TU, Berlin (Online).

- 10/2020 Probability seminar, Federal University of Salvador, Bahia, Brazil (Online).
05/2020 Seminar zur stochastischen Analysis, FU, Berlin (Online).
02/2020 Probability seminar, FUMG, Belo Horizonte.
01/2020 Research seminar, workgroup Functional Analysis, KIT, Karlsruhe.
01/2020 Research Seminar Stochastics, FU, Berlin.
12/2019 FOR 2402 Seminar, TU, Berlin.
09/2019 Informal Talk, Hausdorff Research Institute for Mathematics, Bonn.
02/2019 Analysis Seminar, Canterbury.
02/2019 Stochastic Analysis Seminar, London Imperial College.
02/2019 Stochastic Analysis Seminar, Oxford.
01/2019 Berlin-Leipzig meeting, Leipzig.
12/2018 Statistical Mechanics Seminar, Warwick.
11/2018 Oxford-Berlin Young Researchers Meeting on Applied Stochastic Analysis, Oxford.
06/2018 Interacting Random Systems Seminar, WIAS, Berlin.
06/2018 Berlin-Oxford Young Researchers Meeting on Applied Stochastic Analysis, Berlin.
06/2018 FOR 2402 retreat, Templin.
05/2018 Probability Seminar, Leiden.
03/2018 Spring school Discrete and Continuous Spin Systems, Darmstadt.
02/2018 GPSD 2018, Freiburg.
01/2018 Concentration phenomena and phase transitions in statistical physics, RUB, Bochum.
01/2018 FOR 2402 Seminar, TU, Berlin.
12/2017 Berlin-Leipzig meeting, MPI, Leipzig.
05/2017 Berlin Young Probabilist's Seminar, WIAS, Berlin.
12/2016 Oxford-Berlin Young Researchers Meeting on Applied Stochastic Analysis, Oxford.
11/2016 Interacting Random Systems Seminar, WIAS, Berlin.
06/2016 Mark Kac Seminar on Stochastics and Physics, Utrecht.
03/2016 Young European Probabilists (YEP XIII), Eindhoven.
11/2015 Analysis Seminar, Dresden.
10/2015 PhD Colloquim, Leiden.
07/2015 Positivity, Chengdu, China.
08/2015 Summer School of Probability, Mambucaba, Brasil.
07/2015 Conference on Stochastic Processes and their Applications, Buenos Aires, Argentina.
06/2014 Mathematics and ICMS Seminar on particle systems, Eindhoven.
06/2014 Probability Seminar, Leiden.
05/2014 Dutch meeting of PhD students in Stochastics.
05/2014 PhD Seminar, Nijmegen.
11/2013 Stochastics Meeting Lunteren 2013 (Poster).
07/2013 Positivity, Leiden.

LANGUAGES

Dutch	Mother tongue
English	Fluent
German	Fluent
French	Reading

REFERENCES

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|-------------------------|---------------------------------|
| (1) Wolfgang König | koenig@wias-berlin.de |
| (2) Nicolas Perkowski | perkowski@math.fu-berlin.de |
| (3) Nicolas Pétrélis | nicolas.petrelis@univ-nantes.fr |
| (4) Frank den Hollander | denholla@math.leidenuniv.nl |
| (5) Frank Redig | f.h.j.redig@tudelft.nl |