

# CURRICULUM VITAE

Willem van Zuijlen

## PERSONAL

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Date of birth 2 July 1989  
Nationality Dutch  
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## ACADEMIC EDUCATION

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2012 – 2016 PhD-student  
*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

## ACADEMIC POSITIONS

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01/2021 – Household position at WIAS Berlin.  
10/2018 – 12/2020 Postdoc at WIAS Berlin.  
10/2016 – 09/2018 Postdoc at WIAS & Humboldt Universität Berlin.

## THIRD-PARTY FUNDING

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

## PROLONGED RESEARCH STAYS

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02/2020 Federal University of Minas Gerais, 2 weeks, visiting Renato dos Santos.  
01/2020 Dauphine University Paris, 1 week, visiting Cyril Labbé.  
01/2020 Karlsruhe Institute of Technology, 1 week, visiting Dorothee Frey.  
09 – 11/2019 Hausdorff Research Institute for Mathematics, Bonn, 3 months.  
05/2019 University of Nantes, 1 week, visiting Nicolas Pétrélis.  
11/2018 University of Warwick, 1 week, visiting Giuseppe Cannizzaro.  
03/2015 Ruhr University Bochum, 1 week, visiting Christof Külkse.  
07/2014 Radboud University Nijmegen, 2 weeks, visiting Arnoud van Rooij.  
12/2013 University of Groningen, 1 week, visiting Aernout van Enter.

## ORGANIZATION OF SCIENTIFIC MEETINGS

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Co-organiser: Interacting Random Systems seminar, WIAS Berlin, 2020.

Co-organiser: Workshop “Singular SPDEs and Related Topics”, HIM Bonn, 2019.

## TEACHING

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- Spring 2021 *Integraltransformationen und partielle Differentialgleichungen für Ingenieurwissenschaften.*  
Bachelor, TU Berlin.
- Spring 2020 *Theory of function spaces and applications.*  
Master, FU Berlin.
- Autumn 2019 *Mini-course on Besov spaces.*  
Hausdorff Research Institute for Mathematics, Bonn.
- Autumn 2015 *Random Walks.*  
Bachelor, Leiden University. Teaching assistant & Substitute lecturer.
- Autumn 2014 *Random Walks.*  
Bachelor, Leiden University. Teaching assistant.
- Spring 2014 *Random Walks.*  
Bachelor, Leiden University. Teaching assistant.
- Autumn 2013 *Functional Analysis.*  
Master, Dutch ‘Mastermath’ programme. Teaching assistant.
- Spring 2013 *Statistics* (for the studies Life Science and Technology).  
Bachelor, Leiden University. Teaching assistant.
- Autumn 2012 *Calculus* (for the studies Biopharmaceutical Science).  
Bachelor, Leiden University. Teaching assistant & Substitute lecturer.
- Spring 2012 *Introduction to Partial Differential Equations*  
Bachelor, Radboud University Nijmegen. Teaching assistant.
- Autumn 2011 *Analysis 2*  
Bachelor, Radboud University Nijmegen. Teaching assistant.
- Spring 2011 *Introduction to Partial Differential Equations*  
Bachelor, Radboud University Nijmegen. Teaching assistant.
- Autumn 2010 *Advanced Statistics*  
Bachelor, Radboud University Nijmegen. Teaching assistant.
- Spring 2010 *Analysis 1*  
Bachelor, Radboud University Nijmegen. Teaching assistant.
- Autumn 2009 *Numbers (Introduction to Algebra and Analysis)*  
Bachelor, Radboud University Nijmegen. Teaching assistant.

## RESEARCH INTERESTS

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Areas: Probability theory, Functional analysis.

Topics: Stochastic partial differential equations, paracontrolled calculus, harmonic analysis, large deviations, stochastic processes, Gibbs measures, convex analysis, partially ordered vector spaces and Riesz spaces, measure and integration theory.

## RESEARCH

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*Quantitative heat kernel estimates for diffusions with distributional drift.*

Preprint. arxiv:2009.10786

(With N. Perkowski)

*Long-time asymptotics of the two-dimensional parabolic Anderson model with white-noise potential.*

Preprint. arxiv:2009.11611  
(With W. König and N. Perkowski)

*Asymptotics of the eigenvalues of the Anderson Hamiltonian with white noise potential in two dimensions.*

To appear in Annals of Probability. Preprint: arxiv:1907.01352  
(With K. Chouk)

*A Hamilton-Jacobi point of view on mean-field gibbs-non-gibbs transitions.*

To appear in Transactions of the Mathematical American Society. Preprint. arxiv:1711.03489  
(With R. Kraaij and F. Redig)

*Bochner integrals in ordered vector spaces.*

Positivity, 2017, DOI 10.1007/s11117-016-0454-9, link.springer.com.  
(With A. van Rooij)

*Large deviations of continuous regular conditional probabilities.*

Journal of Theoretical Probability, 2016, DOI 10.1007/s10959-016-0733-1,  
link.springer.com.

*Integrals for functions with values in a partially ordered vector space.*

Positivity, 2015, DOI 10.1007/s11117-015-0392-y, link.springer.com.  
(With A. van Rooij)

*Gibbs-non-Gibbs dynamical transitions for mean-field interacting Brownian motions.*

Stochastic Processes and their Applications, Volume 125, Issue 1, January 2015, Pages 371-400, www.sciencedirect.com.

(With F. den Hollander and F. Redig)

## CONTRIBUTIONS TO REPORTS & LECTURE NOTES

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*Theory of Function Spaces*, Lecture notes. See [www.wias-berlin.de/people/vanzuijlen/](http://www.wias-berlin.de/people/vanzuijlen/)

*Random Walks*, Lecture notes by L. Avena, M. Heydenreich, F. den Hollander, E. Verbitskiy, W. van Zuijlen ([websites.math.leidenuniv.nl](http://websites.math.leidenuniv.nl)).

*Monitoring the Sewer System*, Proceedings of the Study Group Mathematics With Industry, TU Delft, January 27th - January 31st, 2014.

## OTHER EXPERIENCES

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Refereeing for journals:

Indagationes Mathematicae, Annales de l'Institut Henri Poincaré,  
Markov Processes and Related Fields, Positivity, Stochastic Processes  
and their applications, Publ. Math. Debrecen

Organisational experience:

2018 – 2019 Board member of study association DESDA Nijmegen.

## TALKS

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- 11-2020 Interacting Random Systems Seminar, WIAS, Berlin.
- 11-2020 FOR 2402 Seminar, TU, Berlin.
- 10-2020 Probability seminar, Federal University of Salvador, Bahia, Brazil.

05-2020 Seminar zur stochastischen Analysis, FU, Berlin.  
 02-2020 Probability seminar, FUMG, Belo Horizonte.  
 01-2020 Research seminar, workgroup Functional Analysis, KIT, Karlsruhe.  
 01-2020 Seminar zur stochastischen Analysis, 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 Berlin-Oxford 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

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Dutch	Mother tongue
English	Fluent
German	Fluent
French	Reading

## REFERENCES

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|----------------------|------------------------------|
| (1) W. König         | koenig@wias-berlin.de        |
| (2) N. Perkowski     | perkowski@math.fu-berlin.de  |
| (3) F. den Hollander | denholla@math.leidenuniv.nl  |
| (4) F. Redig         | f.h.j.redig@tudelft.nl       |
| (5) A. van Rooij     | contact via maths@math.ru.nl |