

## Curriculum vitae



Univ. Prof. Dr. rer. nat. habil. Benedikt Jahnel

Diplom mathematician (D)  
Diplom music-educator (D)  
Master of arts (USA)

Born May 28th 1980 in St. Martin D'Herès (F)

Two sons

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### Research interests

- Probabilistic methods for mobile ad-hoc networks
- Stochastic geometry and interacting particle systems
- Gibbs measures and phase transitions

### University education

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|-------------------|---|
| 06/2021           | Habilitation at Technische Universität Berlin Germany<br><br><i>Stochastic Geometry and Communication Networks &amp; Statistical Mechanics for Point Processes and Stochastic Dynamics</i><br>Promoters: Prof. Dr. Wolfgang König, Prof. Dr. Sabine Jansen,<br>Prof. Dr. Aernout van Enter, and Prof. Dr. François Baccelli   |
| 10/2011 - 05/2014 | PhD student at Ruhr-University Bochum Germany, member of the DFG project SFB/TR 12 'Symmetries and Universality in Mesoscopic Systems'<br><br><i>Gibbs measures under local discretization and rotation dynamics</i><br>Supervisors: Prof. Dr. Christof Külske, Prof. Dr. Aernout van Enter and Prof. Dr. Peter Eichelsbacher,<br>Thesis passed with distinction: Summa cum laude |
| 10/2010 - 10/2011 | PhD student at Bergische University Wuppertal Germany   |
| 10/2003 - 10/2010 | Diploma student in mathematics at Technische Universität Berlin Germany<br><br><i>The central limit theorem for random walks in Markovian environments</i><br>Supervisors: Prof. Dr. Jochen Blath and Prof. Dr. Noemi Kurt<br>Thesis passed with distinction: Final grade 1.1   |
| 09/2005 - 06/2007 | Master student in music at City College New York USA<br>Master of arts: GPA 3.9   |
| 10/2000 - 04/2005 | Diploma student in music education at University of Arts Berlin Germany<br>Diploma in music education: Final grade 1.6  |

**Scientific employments**

04/2022 - present	W2-professorship for Stochastics for Applications at Technische Universität Braunschweig
11/2021	Offer for a W2-professorship for Stochastics at Philipps-Universität Marburg (declined)
05/2021 - present	Elected Ombudsperson at the Weierstrass Institute for Applied Analysis and Stochastics (WIAS)
01/2021 - present	Researcher at WIAS, head of the Leibniz group 'Probabilistic Methods for Dynamic Communication Networks'
04/2019	Offer for a PostDoc with tenure to professorship at Universität Innsbruck (declined)
01/2015 - 12/2020	Researcher at WIAS, member of the research group 'Interacting Random Systems' lead by Prof. Dr. Wolfgang König
06/2014 - 12/2014	PostDoc at Ruhr-University Bochum Germany

**Publications and preprints****Stochastic geometry**

- 1) with C. Hirsch, S. Muirhead: *Sharp phase transition for Cox percolation*, Preprint arXiv:2203.01251 (2022)
- 2) with E. Cali, C. Hirsch: *Connection intervals in multi-scale dynamic networks*, Preprint arXiv:2111.13140 (2021)
- 3) with M. Heida, A.D. Vu: *Stochastic homogenization on irregularly perforated domains*, Preprint arXiv:2110.03256 (2021)
- 4) with C. Coletti, L. de Lima, A. Hinsen, D. Valesin: *Limiting shape for first-passage percolation models on random geometric graphs*, Preprint arXiv:2109.07813 (2021)
- 5) with E. Cali, C. Hirsch: *Percolation and connection times in multi-scale dynamic networks*, Preprint arXiv:2103.03171 (2021)
- 6) with A. Tóbiás: *Absence of percolation in graphs based on stationary point processes with degrees bounded by two*, Random Structures and Algorithms (2022)
- 7) with A. Tóbiás, E. Cali: *Phase transitions for the Boolean model of continuum percolation for Cox point processes*, Brazilian Journal of Probab. and Statistics, Vol. 36, No. 1, 20-44 (2022)
- 8) with A. Hinsen, E. Cali, J.-P. Wary: *Phase transitions for chase-escape models on Gilbert graphs*, Electronic Communications in Probability, Vol. 25, No. 25, 1-14 (2020)
- 9) with A. Tóbiás: *Exponential moments for planar tessellations*, Journal of Statistical Physics, Vol. 179, 90-109 (2020)
- 10) with W. König: *Probabilistic methods for telecommunications*, Compact Textbooks Series in Mathematics at Birkhäuser (2020)
- 11) with A. Tóbiás: *SINR percolation for Cox point processes with random powers*, Advances in Applied Probability, Vol. 54, No. 1, 227-253 (2021)
- 12) with C. Hirsch, A. Tóbiás: *Lower large deviations for geometric functionals*, Electronic Communications in Probability, Vol. 25, No. 41, 1-12 (2020)
- 13) with W. König: *Probabilistic methods for spatial multihop communication systems*, Published in: Topics in Applied Analysis and Optimisation, Springer, Vol. 10, 239-268 (2019)
- 14) with C. Hirsch: *Large deviations for the capacity in dynamic spatial relay networks*, Markov Processes and Related Fields, Vol. 25, 33-73 (2019)
- 15) with E. Cali, C. Hirsch: *Continuum percolation for Cox point processes*, Stochastic Processes and their Applications, Vol. 129, 3941-3966 (2019)
- 16) with C. Hirsch, R. Patterson: *Space-time large deviations in capacity-constrained relay networks*, Latin American Journal of Probability and Mathematical Statistics, Vol. 15, 587-615 (2018)
- 17) with C. Hirsch, P. Keeler, R. Patterson: *Large deviations in relay-augmented wireless networks*, Queueing Systems, Vol. 88, No. 3-4, 349-387 (2018)
- 18) with C. Hirsch, P. Keeler, R. Patterson: *Traffic flow densities in large transport networks*, Advances in Applied Probability, Vol. 49, No. 4, 1091-1115 (2017)

- 19) with C. Hirsch, P. Keeler, R. Patterson: *Large-deviation principles for connectable receivers in wireless networks*, Advances in Applied Probability, Vol. 48, 1061-1094 (2016)

### Statistical mechanics

- 20) with J. Köppl: *Dynamical Gibbs Variational Principles for Irreversible Interacting Particle Systems with Applications to Attractor Properties*, Preprint arXiv:2205.02738 (2022)
- 21) with O. Collin, W. König: *The free energy of a box-version of the interacting Bose gas*, Preprint arXiv:2201.05085 (2022)
- 22) with N. Engler, C. Külske: *Gibbsianness of locally thinned random fields*, To appear at Markov Processes and Related Fields (2022)
- 23) with C. Külske: *Gibbsianness and non-Gibbsianness for Bernoulli lattice fields under removal of isolated sites*, Preprint arXiv:2109.13997 (2021)
- 24) with C. Külske: *Gibbsian representation for point processes via hyperedge potentials*, Journal of Theoretical Probability, <https://doi.org/10.1007/s10959-019-00960-7> (2019)
- 25) with C. Cotar, C. Külske: *Extremal decomposition for random Gibbs measures*, Electronic Communications in Probability, Vol. 23, No. 95 (2018)
- 26) with C. Külske: *Attractor properties for irreversible and reversible interacting particle systems*, Communications in Mathematical Physics, Vol. 366, No. 1, 139-172 (2018)
- 27) with G. Botirov: *Phase transitions for a model with uncountable spin space on the Cayley tree: The general case*, Positivity, Vol. 23, 291–301 (2019)
- 28) with C. Külske: *The Widom-Rowlinson model under spin flip: Immediate loss and sharp recovery of quasilocality*, Annals of Applied Probability, Vol. 27, No. 6, 3845-3892 (2017)
- 29) with C. Külske: *Sharp thresholds for Gibbs-non-Gibbs transition in the fuzzy Potts models with a Kac-type interaction*, Bernoulli Journal, Vol. 23, No. 4A, 2808-2827 (2017)
- 30) with C. Külske: *Attractor properties of non-reversible dynamics w.r.t. invariant Gibbs measures on the lattice*, Markov Processes and Related Fields, Vol. 22, 507-535 (2016)
- 31) with C. Külske: *A class of non-ergodic weak PCAs with unique invariant measure and quasi-periodic orbit*, Stochastic Processes and their Applications, Vol. 125, 2427-2450 (2015)\*
- 32) with G. Botirov, C. Külske: *Phase transition and critical values of a  $n$ - $n$  system with uncountable local state space on Cayley trees*, Math. Phys., Ana. & Geom., Vol. 17, 1385-0172 (2014)
- 33) with C. Külske, E. Rudelli, J. Wegener: *Gibbsian and non-Gibbsian properties of the generalized mean-field fuzzy Potts-model*, Markov Processes and Related Fields, Vol. 20, 601-632 (2014)\*
- 34) with C. Külske: *Synchronization for discrete mean-field rotators*, Electronic Journal of Probability, Vol. 19, No. 14 (2014)\*
- 35) with C. Külske: *A class of nonergodic interacting particle systems with unique invariant measure*, Annals of Applied Probability, Vol. 24, 2595-2643 (2014)\*

### Wireless network architecture

- 36) with C. Ghribi, E. Cali, C. Hirsch: *Agent-based simulations for coverage extensions in 5G networks and beyond*, accepted for publication at ICIN (2022)
- 37) with Z. Benomar, C. Ghribi, E. Cali, A. Hinsén: *Agent-based modeling and simulation for malware spreading in D2D networks*, accepted for publication at AAMAS (2022)
- 38) with A. Hinsén, E. Cali, J.-P. Wary: *Malware propagation in urban D2D networks*, Proceedings of WiOpt/SpaSWiN (2020)
- 39) with C. Hirsch, A. Hinsén, E. Cali: *The typical cell in anisotropic tessellations*, Proceedings of WiOpt/SpaSWiN (2019)
- 40) with E. Cali, N. Gafur, C. Hirsch, T. En-Najjary, R. Patterson: *Percolation for D2D networks on street systems*, Proceedings of WiOpt/SpaSWiN (2018)
- 41) with P. Keeler, O. Maye, D. Aschenbach, M. Brzozowski: *Disruptive events in high-density cellular networks*, Proceedings of WiOpt/SpaSWiN (2018)

### Conference, seminar and other talks

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|----|---------|--|
| 1) | 08/2022 | Random Geometries and Stochastic Interacting Processes, Bonn Germany |
| 2) | 04/2022 | MMS Days, PIC Potsdam Germany  |
| 3) | 03/2022 | Spring School, Darmstadt Germany                                     |
| 4) | 03/2022 | University of Padova, Padova Italy                                   |
| 5) | 11/2021 | Stochastic Geometry Days, Dunkerque France                           |
| 6) | 10/2021 | University of Bath, Bath UK  |
| 7) | 09/2021 | Randomness unleashed, Groningen The Netherlands                      |

\*part of dissertation

- 8) 07/2021 *Orange Seminar*, Paris France
- 9) 06/2021 *Charité at the Humboldt University*, Berlin Germany
- 10) 05/2021 *Technische Universität*, Berlin Germany
- 11) 01/2021 *Dyogene Seminar INRIA*, Paris France
- 12) 10/2020 *Universität Augsburg*, Augsburg Germany
- 13) 08/2020 *Bernoulli-IMS One World Symposium 2020*, Online
- 14) 11/2019 *Technische Universität*, Hamburg Germany
- 15) 11/2019 *Quaid-i-Azam University Seminar*, Islamabad Pakistan
- 16) 10/2019 *Probability, Analysis and Applications Workshop*, AIMS Ghana
- 17) 07/2019 *SPA Conference*, Evanston USA
- 18) 06/2019 *Phase Transitions and Particle Systems*, Berlin Germany
- 19) 05/2019 *Universität Hildesheim*, Hildesheim Germany
- 20) 04/2019 *Stochastic Modeling of Complex Systems*, Mannheim Germany
- 21) 03/2019 *Universität Innsbruck*, Innsbruck Austria
- 22) 10/2018 *Martin-Luther-Universität*, Halle-Wittenberg Germany
- 23) 10/2018 *University Potsdam Seminar*, Potsdam Germany
- 24) 09/2018 *Ibn Zohr University Seminar*, Agadir Morocco
- 25) 09/2018 *TU Darmstadt Seminar*, Darmstadt Germany
- 26) 07/2018 *Topics in Mathematical Physics*, Sao Paulo Brazil
- 27) 07/2018 *Geometry and Scaling of Random Structures*, Buenos Aires Argentina
- 28) 06/2018 *Universität Mannheim*, Mannheim Germany
- 29) 05/2018 *International School in Model & Simulation Based Research*, Berlin Germany
- 30) 05/2018 *Universität Leipzig*, Leipzig Germany
- 31) 04/2018 *Universidad Carlos III de Madrid Seminar*, Madrid Spain
- 32) 03/2018 *Random Structures in Neuroscience and Biology*, Herrsching Germany
- 33) 03/2018 *Evolutionary Processes on Networks*, Kigali Ruanda
- 34) 02/2018 *German Stochastic Days*, Freiburg Germany
- 35) 02/2018 *University Osnabrück Seminar*, Osnabrück Germany
- 36) 01/2018 *Transformations and Phase Transitions*, Bochum Germany
- 37) 11/2017 *Ruhr Universität Bochum*, Bochum Germany
- 38) 04/2017 *Technion Workshop on Stochastic Analysis and Random Fields*, Haifa Israel
- 39) 09/2017 *Sharif University Seminar*, Tehran Iran
- 40) 04/2017 *University Mainz Seminar*, Mainz Germany
- 41) 03/2017 *University Luxembourg Seminar*, Luxembourg
- 42) 02/2017 *LMU München Seminar*, München Germany
- 43) 01/2017 *WWU Münster Seminar*, Münster Germany
- 44) 10/2016 *Transformations in Statistical Mechanics*, Leiden Netherlands
- 45) 07/2016 *Regensburg University Seminar*, Regensburg Germany
- 46) 03/2016 *German Stochastic Days*, Bochum Germany
- 47) 03/2016 *Universität Mannheim*, Mannheim Germany
- 48) 02/2016 *Bucharest University Seminar*, Bucharest Romania
- 49) 11/2015 *Research Institute for Mathematical Sciences Seminar*, Kyoto Japan
- 50) 09/2015 *Recent Trends in Stochastic Analysis*, Hamburg Germany
- 51) 05/2015 *Marc Kac Seminar*, Utrecht Netherlands
- 52) 09/2014 *Applied and Geometrical Analysis*, Samarkand Uzbekistan
- 53) 03/2014 *German Stochastic Days*, Ulm Germany
- 54) 02/2014 *Symmetries & Universality in Mesoscopic Systems*, Langeoog Germany
- 55) 02/2014 *Spatial Models in Statistical Mechanics*, Darmstadt Germany
- 56) 01/2014 - present 8 talks on popular science

### Referee work

Electronic Journal of Probability; Electronic Communications in Probability; Applied Probability Journals; Annals of Applied Probability; Reports on Mathematical Physics; European Journal of Pure and Applied Mathematics; Journal of Statistical Physics; Phase Transitions; National Research, Development and Innovation Office of Hungary; Markov Processes and Related Fields

**Organized workshops, conferences and sessions**

10/2021	4-year <i>EURANDOM Ambassadorship</i> , University Eindhoven, The Netherlands
11/2020	<i>Stochastic Geometry and Communications</i> , Weierstrass Institute Berlin
10/2019	<i>Probability, Analysis and Applications Workshop</i> , AIMS Accra, Ghana
07/2019	<i>SPA Contributed Session</i> , Northwestern University Evanston, USA
11/2018	<i>WIAS - PDI Open Access Day</i> , Weierstrass Institute Berlin
02/2017	<i>WIAS Days</i> , Weierstrass Institute Berlin
11/2016	<i>Probabilistic Methods in Telecommunication</i> , Weierstrass Institute Berlin

**Funding****Research grants**

01/2021 - 12/2026	Leibniz Junior Research Group: <i>Probabilistic Methods for Dynamic Communication Networks</i> (budget 1,000,000 €, PI)
01/2021 - 12/2023	DFG research grant: <i>Statistical Mechanics of Interlacement Processes</i> (budget 350,000 €, PI together with Prof. König and Prof. Drewitz)
01/2019 - 12/2021	Math+ research grant: <i>Influence of Mobility on Connectivity</i> (budget 172,000 €, PI together with Prof. König)
09/2018 - 08/2022	DAAD research grant: <i>Gibbs Measures on Random Processes</i> (budget 200,000 €, PI together with Prof. König and Prof. Becherer)
06/2017 - 12/2018	ECMath research grant: <i>Data Mobility in Ad-hoc Networks: Vulnerability &amp; Security</i> , (budget 86,000 € together with Prof. König)
10/2010 - 10/2011	DFG research grant proposal: <i>SDEs Describing Critical Fluctuations in a Van der Waals – Maxwell gas</i> (granted after leave)

**Industry collaborations**

04/2022 - 02/2023	Cooperation with major French telecommunication company: <i>Security in space-time M2M and D2D networks</i> (budget 29,000 €)
09/2020 - 08/2021	Cooperation with major French telecommunication company: <i>Malware Propagation in Mobile Device-to-Device Networks</i> (budget 35,000 €)
12/2019 - 11/2020	Cooperation with major French telecommunication company: <i>Connectivity Improvements in Mobile D2D Networks</i> (budget 35,000 €)
12/2018 - 11/2019	Cooperation with major French telecommunication company: <i>Coverage and Mobility in D2D Networks</i> (budget 35,000 €)
07/2018 - 06/2019	Cooperation with major French telecommunication company: <i>Data Mobility in Networks: Vulnerability &amp; Security</i> (budget 35,000 €)
11/2017 - 09/2018	Cooperation with major French telecommunication company: <i>The Typical Cell in Anisotropic Tessellations</i> (budget 29,000 €)
11/2016 - 10/2017	Cooperation with major French telecommunication company: <i>Continuum Percolation Theory Applied to D2D</i> (budget 35,000 €)

**Scholarships and awards**

09/2005 - 05/2007	DAAD postgraduate scholarship
01/2000 - 08/2011	Several music awards

**Teaching**

Certificate 'Professional Teaching at Universities': Moderation, motivation, time-management, presentation techniques, etc.

**Lectures**

04/2022 - 07/2022	<i>Probability Theory and Discrete Financial Mathematics</i> (4 SWS, TU Braunschweig)
04/2020 - 07/2020	<i>Spin Systems and Phase Transitions</i> , (2 SWS, TU Berlin), with Dr. Taggi
04/2018 - 07/2018	<i>Spatial Stochastic Models for Telecommunications</i> , (2 SWS, TU Berlin), with Prof. König, new lecture notes and book

10/2017 - 02/2018 *Mathematics for Engineers* (4 SWS, TU Berlin), codesign of new combined module for analysis and linear algebra

### Seminars

04/2020 - 07/2020 *Spin Systems and Phase Transitions*,  
(2 SWS, TU Berlin), with Dr. Taggi  
04/2018 - 07/2018 *Spatial Stochastic Models for Telecommunications*  
(2 SWS, TU Berlin), with Prof. König  
04/2011 - 07/2011 *Interacting Particle Systems*  
(2 SWS, Bergische University Wuppertal)

### Minicourses

09/2019 - 10/2019 *Introduction to Probability Theory*  
(10 lectures, AIMS Ghana)  
09/2018 - 09/2018 *Spatial Stochastic Models with Applications in Telecommunications*  
(4 lectures, University Osnabrück summer school)  
08/2017 - 08/2017 *Stochastic Geometry in Telecommunications*,  
(3 lectures, TU Berlin summer school)

### Assistances

10/2014 - 02/2015 *Ordinary Differential Equations* (lecture, Ruhr-University Bochum)  
04/2014 - 07/2014 *Random Walks on Graphs* (seminar, Ruhr-University Bochum)  
10/2012 - 02/2013 *Mathematics for Physicists* (lecture, Ruhr-University Bochum)  
04/2012 - 07/2012 *Statistics I* (lecture, Ruhr-University Bochum)  
10/2011 - 02/2012 *Probability Theory II* (lecture, Ruhr-University Bochum)  
10/2010 - 02/2011 *Probability Theory I* (lecture, Bergische University Wuppertal)

### Additional teaching in music

09/2006 - 05/2007 *Jazz Ensembles* (assistant, City College New York)  
10/2003 - 02/2004 *Eartraining & Music Theory* (assistant, University of Arts Berlin)  
01/2006 - present *Jazz Masterclasses* (internationally)

## Supervision

### PostDoc

ongoing *Large Deviations for the Throughput in Wireless Networks*  
(WIAS, primary supervisor)

### PhD

ongoing *Mobility in Ad-hoc Networks*  
(WIAS, primary supervisor)  
ongoing *Large Deviations for Routings in Wireless Networks*  
(WIAS, primary supervisor)  
01/2022 *The Modification of Boolean Models in Random Network Analysis*  
(University of Osnabrück, external examiner)

### Diplom

10/2021 *Große Abweichungen des Durchsatzes bei zufälligen Mediumzugangsprotokollen* (TU Berlin, secondary supervisor, with Prof. König)

### Master

ongoing *Ein Mean-Field Modell für das interagierende Bosegas*  
(TU Berlin, secondary supervisor, with Prof. König)  
ongoing *Degree distributions in dense communication networks*  
(AIMS Ghana, primary supervisor)  
ongoing *Strategien für Zugänge zu einem Kommunikationsmedium*  
(TU Berlin, secondary supervisor, with Prof. König)  
ongoing *Large deviations for high interferences*  
(TU Berlin, secondary supervisor, with Prof. König)  
ongoing *A random box version of the interacting Bose gas*  
(Uni Potsdam, secondary supervisor, with Prof. König)  
04/2022 *Dynamical Gibbs variational principles for irreversible interacting particle*

- 05/2021 *systems* (TU Berlin, primary supervisor)  
*Gibbsianness of locally-thinned random fields*  
 (TU Berlin, primary supervisor)
- 10/2020 *Charakteristika zufälliger Kachelungen*  
 (TU Berlin, secondary supervisor, with Prof. König)
- 11/2019 *Die Kapazität in einem hochdichten D2D-Netzwerk*  
 (TU Berlin, secondary supervisor, with Prof. König)
- 10/2019 *Ein diskretes Modell für zufällige Nachrichtentrajektorien*  
 (TU Berlin, secondary supervisor, with Prof. König)
- 08/2019 *Zufällige Nachrichtenhopentscheidungen in einem Kommunikationssystem*  
 (TU Berlin, secondary supervisor, with Prof. König)
- 06/2019 *Percolation phase transitions for the SIR model with random powers*  
 (TU Berlin, secondary supervisor, with Prof. König)
- 03/2019 *Die Kapazität in einem hochdichten D2D Netzwerk*  
 (TU Berlin, secondary supervisor, with Prof. König)
- 12/2018 *Ein Gibbs'sches Modell für Verkehrsfluss*  
 (TU Berlin, secondary supervisor, with Prof. König)
- 07/2018 *Markov Chain Monte Carlo for Message Routing*  
 (TU Berlin, secondary supervisor, with Prof. König)
- 12/2017 *Informationskapazität in großen zufälligen Kommunikationsnetzwerken*  
 (TU Berlin, secondary supervisor, with Prof. König)
- 04/2017 *Modellierung und Analyse eines hochdichten zufälligen Telekommunikations-systems* (TU Berlin, secondary supervisor, with Prof. König)
- 09/2013 *Phase Transitions in the Generalized Potts and Fuzzy Potts Models in Mean Field* (Ruhr-University Bochum, informal co-supervision, with Prof. Külske)
- 09/2013 *Gibbs Properties of the Generalized Potts and Fuzzy Potts Model in Mean Field* (Ruhr-University Bochum, informal co-supervision, with Prof. Külske)

#### **Bachelor**

- 05/2022 *Gemischte Perkolation*  
 (TU Berlin, secondary supervisor, with Prof. König)
- 04/2022 *Analyticity of the capacity functional of the Infinite cluster in the Boolean model* (TU Berlin, secondary supervisor, with Prof. König)
- 02/2022 *Fixation on Abelian graphs*  
 (TU Berlin, secondary supervisor, with Prof. König)
- 11/2021 *k-hop Percolation*  
 (TU Berlin, secondary supervisor, with Prof. König)
- 10/2021 *Occurrence of Bose-Einstein condensate*  
 (TU Berlin, secondary supervisor, with Prof. König)
- 10/2021 *Konvergenzgeschwindigkeit des Random-Waypoint-Modells gegen ihre invariante Verteilung* (TU Berlin, secondary supervisor, with Prof. König)
- 08/2021 *Die Konvergenz des Random-Waypoint-Modells in die invariante Verteilung*  
 (TU Berlin, secondary supervisor, with Prof. König)
- 06/2021 *Konnektivität via empirische Maße und deren große Abweichungen*  
 (TU Berlin, secondary supervisor, with Prof. König)
- 01/2021 *Large Deviations for High Interferences*  
 (TU Berlin, secondary supervisor, with Prof. König)
- 10/2019 *Ausdünnung eines Punktprozesses und Sendestrategien*  
 (TU Berlin, secondary supervisor, with Prof. König)
- 12/2018 *Stochastische Entscheidungsprobleme zur Vermeidung von Interferenz*  
 (TU Berlin, secondary supervisor, with Prof. König)
- 11/2018 *Stochastische Entscheidungsprobleme in Multihopsystemen*  
 (TU Berlin, secondary supervisor, with Prof. König)
- 05/2018 *Optimierung des Durchsatzes mit kontinuierlicher Perkolation*  
 (TU Berlin, secondary supervisor, with Prof. König)
- 10/2017 *Ein Gibbs-Ansatz für Nachrichtentrajektorien in einem hochdichten Kommunikationsnetzwerk* (TU Berlin, secondary supervisor, with Prof. König)
- 03/2017 *Perkolation mit Interferenz bei beschränkter Sprungzahl*  
 (TU Berlin, secondary supervisor, with Prof. König)
- 05/2011 *Renewal Theory*  
 (Ruhr-University Bochum, informal co-supervision, with Prof. Külske)