

# Dr. Dennis Ulbrich

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## EDUCATION

### (1) Dr. rer. nat. in Mathematics

University of Bremen, Department of Mathematics

4.2017 – 9.2021

- PhD thesis: Ergodic theory of nonlinear waves in discrete and continuous excitable media
  - Advisors: [Prof. J. Rademacher](#), [Prof. M. Keßeböhmer](#)
  - Referees: Prof. J. Rademacher (University of Bremen), [Prof. I. Melbourne](#) (Warwick University)
- cf. [MGP](#)

### Brückensтипендиум of the University of Bremen

University of Bremen, Department of Mathematics

4.2016 – 4.2017

- Further studies
- Extensions of the results of my Master's thesis
- Successful acquisition of third-party funding (DFG) for my PhD project

### M.Sc. and B.Sc. in Mathematics

University of Bremen

until 4.2016

- M.Sc. thesis: Dynamics of the three-state 1D Greenberg-Hastings cellular automaton
  - Referees: Prof. J. Rademacher, [Dr. T. Samuel](#) (University of Exeter)
- B.Sc. thesis: Unerwartete Fehler bei bedingten Erwartungswerten und Wahrscheinlichkeiten
  - Referees: [Prof. W. Brannath](#) (University of Bremen), [Dr. K. Falk](#) (University of Kiel)

## EMPLOYMENT

### Postdoctoral researcher

Hochschule Bremen, School of Electrical Engineering and Computer Science 2.2025 – 5.2025

- Project work: AI-based transmission, analysis and verification of handwritten documents

### Lecturer in Mathematics

Hochschule Bremen, School of Nature and Engineering

10.2024 – 3.2025

- Mathematik 1

### Postdoctoral Researcher

University of Münster, Department of Mathematics, Institute for Analysis and Numerics

6.2023 – 6.2024

- Research on discrete hypocoercivity within [DFG project 456849348](#)
- Keywords:
  - Hypocoercivity
  - Kinetic equations
  - BGK-type approximations
  - Chemical reactions
  - Entropy methods
- Supervision: [Prof. M. Pirner](#)

<b>Non-academic professional activities</b>	9.2022 – 2.2023
<b>Lecturer in Mathematics</b> Jacobs University Bremen, Mathematical Sciences	1.2022 – 6.2022
• Finite Mathematics • Introduction to Dynamical Systems	
<b>Research assistant (PhD student)</b> University of Bremen, Department of Mathematics	4.2017 – 9.2021
Research groups: Nonlinear Analysis and Applied Analysis, Stochastics and Dynamical Systems	
• Research within <a href="#">DFG project number 384027439</a> • PhD thesis: Ergodic theory of nonlinear waves in discrete and continuous excitable media: ◦ Advisors: <a href="#">Prof. J. Rademacher</a> , <a href="#">Prof. M. Keßeböhmer</a> ◦ Referees: Prof. J. Rademacher (University of Bremen), <a href="#">Prof. I. Melbourne</a> (Warwick University) • Keywords: ◦ Nonlinear analysis ◦ Ergodic Theory ◦ PDE ◦ Excitable media ◦ Cellular automata ◦ Dynamical Systems	

## OTHER

### GRANTS

<b>Brückenstipendium</b> University of Bremen, Department of Mathematics	4.2016 – 4.2017
• For more details, see <a href="#">here</a>	

### SUPERVISION

<b>Student Research Project</b> University of Bremen, Department of Mathematics*	2021 – 2022
• Wave patterns in cellular automata for excitable media, see <a href="#">here</a>	

### ORGANISATION

<b>Administrational tasks</b> University of Bremen, Department of Mathematics*	2016 – 2021
• Supporting several <a href="#">summer and winter schools</a> • Maintaining the Mathematical Collection of the University of Bremen and creating its website	