

I am a third-year PhD student at Ulm University. My research concerns the regularity theory of kinetic partial differential equations, including the fractional Kolmogorov equation. I am interested in studying the L^p -regularity theory of solutions and understanding a priori estimates for weak solutions. The goal is to apply these results to quasilinear kinetic partial differential equations. Preprints of all publications are available on [arXiv](#).

EDUCATION

| | |
|--|-------------|
| PhD student <i>Ulm University</i> | 2019 — 2022 |
| <ul style="list-style-type: none">Working title: Analytic aspects of kinetic partial differential equationsAdvisor: Prof. Dr. Rico Zacher | |
| Master of Science in Mathematics <i>Ulm University</i> | 2018 — 2019 |
| <ul style="list-style-type: none">Thesis: Kolmogorov equations - Well-Posedness, regularity, asymptotics and Harnack inequalitiesGrade: 1.0 with distinction, honors for best graduation | |
| Bachelor of Science in Mathematics <i>Ulm University</i> | 2014 — 2018 |
| <ul style="list-style-type: none">Thesis: Long-time behavior of Markov chains by discrete functional inequalities and entropic Ricci curvatureGrade: 1.1 with distinction, honors for best graduation | |
| Abitur , <i>Joachim-Hahn-Gymnasium Blaubeuren</i> | 2014 |
| Junior studies in mathematics , <i>Fernuniversität Hagen and Pfh Göttingen</i> | 2013 — 2014 |

PUBLICATIONS

| | |
|---|------|
| Kinetic maximal L^p-regularity with temporal weights and application to quasilinear kinetic diffusion equations <i>Journal of Differential Equations</i> , link to the article . | 2022 |
| Kinetic maximal $L^p_\mu(L^p)$-regularity for the fractional Kolmogorov equation with variable density <i>Nonlinear Analysis</i> , link to the article . | 2022 |
| Kinetic maximal L^2-regularity for the (fractional) Kolmogorov equation <i>Journal of Evolution Equations</i> , link to the article . | 2021 |

AWARDS AND SCHOLARSHIPS

| | |
|---|-------------|
| Master Graduation Award "Absolventenpreis M.Sc. Mathematik Uni Ulm 2020" | 2022 |
| Graduate scholarship granted by the State of Baden-Wuerttemberg, Germany (Grant Number 1902 LGFG-E) | 2019 — 2022 |
| Bachelor Graduation Award "Absolventenpreis B.Sc. Mathematik Uni Ulm 2018" | 2018 |
| Ferry Porsche Award | 2014 |

WORKING EXPERIENCE

| | |
|--|------------------------------------|
| Working student <i>Daimler AG Research & Development</i> | 2015 — 2019 <i>Ulm, Germany</i> |
| Scientific assistant <i>Ulm University</i> | 2017 — 2019 <i>Ulm, Germany</i> |
| <ul style="list-style-type: none">Teaching (see separate section).Organization of the Trainingscamp. A yearly event for first-year students to refresh their mathematical skills. | |
| Student assistant <i>Ulm University</i> | 2015 — 2017 <i>Ulm, Germany</i> |
| <ul style="list-style-type: none">Teaching (see separate section). | |

VOLUNTEER WORK

| | |
|---|-------------|
| Elected member in the council of PhD students at Ulm University | 2020 — 2022 |
| Elected member of the faculty council for Mathematics and Economic Sciences of Ulm University | 2020 — 2022 |
| Academic Student Council Mathematics | 2017 — 2019 |

+49 157-83632890
Rychartweg 5, 89075 Ulm Germany
niebel.math@gmail.com

Lukas Niebel

PhD Student at Ulm University

Personal Website
uni-ulm.de/index.php?id=97773

TEACHING EXPERIENCE

| | |
|---|-------------|
| Teaching assistant , <i>University for applied sciences Neu-Ulm</i> , Introduction to R and Statistics | 2020 — 2022 |
| Teaching assistant , <i>University Ulm</i> Analysis 1 and 2, Dynamical Systems, Elements of Functional analysis | 2017 — 2019 |
| Tutor , <i>University Ulm</i> , Analysis 1 and 2 | 2015 — 2017 |

OTHER SCIENTIFIC ACTIVITIES

| | |
|---|-------------|
| Co-organization of the seminar "Mathematisches Kolloquium" at Ulm University | 2020 — 2022 |
| Organization of a mini-workshop for PhD students in mathematics at Ulm University | 2022 |
| Organization of a project for the Workshop of the 25th ISem on "Spectral theory for Operators and Semigroups" | 2022 |
| Visiting researcher, École normale supérieure Paris, one week | 2021 |
| Facilitator at the autumn school "COLLAB – Collaboratory for Global Sustainability 2021" | 2021 |

TALKS AND POSTERS

| | |
|---|------|
| Poster — Frontiers in analysis of kinetic equations, Isaac Newton Institute Cambridge | 2022 |
| Talk — Nonlinear Evolution Equations and Approximations, Essen | 2021 |
| Talk — Oberseminar Analysis, Ulm | 2021 |
| Poster — Winterschool on Analysis and Applied Mathematics, Münster | 2021 |

ATTENDED CONFERENCES

| | |
|---|------|
| Oxbridge PDE Conference, Oxford (virtual) | 2022 |
| Frontiers in the Interplay Between Probability and Kinetic Theory, Edinburgh | 2022 |
| Kinetic Theory: old and new tutorial, INI Cambridge (virtual) | 2022 |
| Frontiers in analysis of kinetic equations, INI Cambridge (virtual) | 2022 |
| Deep Learning and partial differential equations, INI Cambridge (virtual) | 2021 |
| Recent advances in Gradient Flows, Kinetic Theory, and Reaction-Diffusion Equations, Wien (virtual) | 2021 |
| Kinetic Equations: from Modeling Computation to Analysis, CIRM Marseille (virtual) | 2021 |
| Winterschool on Analysis and Applied Mathematics, Münster (virtual) | 2021 |
| PDE/Probability Interactions: Particle Systems, Hyperbolic Conservation Laws, CIRM Marseille | 2019 |
| Parabolic Evolution Equations, Harmonic Analysis And Spectral Theory, Bad Herrenalb | 2019 |
| Non Standard Diffusions in Fluids, Kinetic Equations and Probability, CIRM Marseille | 2018 |
| Evolution Equations in Ulm, Ulm | 2018 |

SKILLS

| | |
|----------------------|---|
| IT Skills | C++, Excel (VBA), Java, \LaTeX , Mathematica, Matlab, R Advanced understanding of software and hardware |
| Communication | German (native speaker), English (C1), French (B1) |