
LIST OF PUBLICATIONS

Critical trajectories in kinetic geometry <i>with H. Dietert, C. Mouhot and R. Zacher, arXiv/HAL, link to the preprint.</i>	08/2025
Steady bubbles and drops in inviscid fluids <i>with D. Meyer and C. Seis, arXiv, link to the preprint.</i>	03/2025
On a kinetic Poincaré inequality and beyond <i>with R. Zacher, Journal of Functional Analysis, 289, link to the article.</i>	03/2025
Fundamental solutions to Kolmogorov-Fokker-Planck equations with rough coefficients: Existence, uniqueness, upper estimates <i>with P. Auscher and C. Imbert, accepted for publication in SIAM Journal on Mathematical Analysis, link to the preprint.</i>	03/2024
Weak solutions to Kolmogorov-Fokker-Planck equations: Regularity, existence and uniqueness <i>with P. Auscher and C. Imbert, arXiv/HAL, link to the preprint.</i>	03/2024
A trajectorial interpretation of Moser's proof of the Harnack inequality <i>with R. Zacher, Ann. Sc. Norm. Super. Pisa Cl. Sci. (5), 26, 2025., link to the preprint.</i>	05/2023
Kinetic maximal L^p-regularity with temporal weights and application to quasilinear kinetic diffusion equations <i>with R. Zacher, Journal of Differential Equations, 307, p. 29–82, link to the article.</i>	01/2022
Kinetic maximal $L^p_\mu(L^p)$-regularity for the fractional Kolmogorov equation with variable density <i>Nonlinear Analysis, 214, link to the article.</i>	01/2022
Kinetic maximal L^2-regularity for the (fractional) Kolmogorov equation <i>with R. Zacher, Journal of Evolution Equations, 21, p. 3585–3612, link to the article.</i>	04/2021

EDUCATION

PhD Mathematics <i>Ulm University</i> <ul style="list-style-type: none">• Thesis: Analytic aspects of kinetic partial differential equations.• Advisor: Prof. Dr Rico Zacher.• Referees: Prof. Dr Cyril Imbert, Prof. Dr Hongjie Dong.• Grade: Summa cum laude, awarded by the Ulmer Universitätsgesellschaft.	04/2019 — 06/2023
M.Sc. Mathematics <i>Ulm University</i> <ul style="list-style-type: none">• Thesis: Kolmogorov equations - Well-posedness, regularity, asymptotics and Harnack inequalities.• Grade: 1.0 with distinction, awarded for the best graduation.	03/2018 — 03/2019
B.Sc. Mathematics <i>Ulm University</i> <ul style="list-style-type: none">• Thesis: Long-time behaviour of Markov chains by discrete functional inequalities and entropic Ricci curvature.• Grade: 1.1 with distinction, awarded for the best graduation.	10/2014 — 02/2018
Abitur , <i>Joachim-Hahn-Gymnasium Blaubeuren</i>	06/2014
Junior studies in mathematics , <i>Fernuniversität Hagen and Pfh Göttingen</i>	04/2013 — 09/2014

WORKING EXPERIENCE

Postdoctoral fellow at the University of Münster	since 04/2023
Predoctoral fellow at Ulm University	10/2022 — 03/2023
Teaching assistant at the University of Applied Sciences Neu-Ulm	03/2020 — 10/2022
Predoctoral fellow at Ulm University	04/2019 — 10/2019
Working student at Daimler AG Research & Development	03/2015 — 03/2019
Scientific assistant at Ulm University	10/2015 — 03/2019

TALKS AND POSTERS

Talk — Seminar Nichtlineare Partielle Differentialgleichungen, <i>KIT Karlsruhe</i>	05/2025
Poster — Kinetic equations and turbulence, <i>CentraleSupélec and Collège de France</i>	03/2025
Talk — Münster–Imperial Day in PDE, <i>University of Münster</i>	10/2024
Talk — Oberseminar Analysis, <i>University of Bonn</i>	09/2024
Poster — Mathematics Münster Mid-term Conference, <i>University of Münster</i>	03/2024
Talk — Séminaire Analyse Numérique et EDP, <i>Université Paris-Saclay</i>	11/2023
Talk — Seminar of the AG Analysis-Probability, <i>MPI Leipzig</i>	09/2023
Talk — Real Analysis and Geometry, <i>CIRM Marseille</i>	06/2023
Talk — Willhelm Killing Colloquium, <i>WWU Münster</i>	04/2023
Talk — Chair Dynamics Control and Numerics, <i>FAU Erlangen</i>	03/2023
Talk — TULKKA, <i>KIT Karlsruhe</i>	02/2023
Poster — Kinetic Theory, <i>CIRM Marseille</i>	11/2022
Talk & Poster — Horizons in non-linear PDEs, <i>Ulm University</i>	09/2022
Poster — When Kinetic Theory meets Fluid Mechanics, <i>ETH Zürich</i>	07/2022
Poster — 11th Summer school on “Methods and Models of Kinetic Theory”, <i>Pesaro</i>	06/2022
Poster — Frontiers in analysis of kinetic equations, <i>INI Cambridge</i>	01/2022
Talk — Nonlinear Evolution Equations and Approximations, <i>University of Duisburg-Essen</i>	07/2021
Talk — Oberseminar Analysis, <i>Ulm University</i>	03/2021
Poster — Winterschool on Analysis and Applied Mathematics, <i>University of Münster</i>	02/2021

OTHER SCIENTIFIC ACTIVITIES

Research stay at Prof. Dr Rico Zacher, <i>Ulm University</i> , one week	07/2025
Research stay at Dr. Björn de Rijk, <i>KIT Karlsruhe</i> , one week	05/2025
Research stay at Prof. Dr Pascal Auscher, <i>Université Paris-Saclay</i> , two weeks	04/2025
Research stay at Prof. Dr Rico Zacher, <i>Ulm University</i> , one week	02/2025
Research stay at Prof. Dr Pascal Auscher, <i>Université Paris-Saclay</i> , two weeks	11/2024
Research stay at Prof. Dr Rico Zacher, <i>Ulm University</i> , one week	07/2024
Research stay at Prof. Dr Pascal Auscher, <i>Université Paris-Saclay</i> , one week	05/2024
Research stay at Prof. Dr Pascal Auscher, <i>Université Paris-Saclay</i> , one week	04/2024
Research stay at Prof. Dr Pascal Auscher, <i>Université Paris-Saclay</i> , one week	11/2023
Research stay at Dr Tobias Ried, <i>MPI Leipzig</i> , one week	09/2023
Research stay at Prof. Dr Rico Zacher, <i>Ulm University</i> , one week	07/2023
Research stay at Nicola De Nitti, <i>FAU Erlangen</i> , one week	03/2023
Research stay at Prof. Dr Christian Seis, <i>WWU Münster</i> , half a week	02/2023
Research stay at Prof. Dr Cyril Imbert, <i>École normale supérieure Paris</i> , half a week	02/2023
Supporting the organisation of the summer school “Horizons in non-linear PDEs” at <i>Ulm University</i>	09/2022
Co-organisation of the seminar “Mathematisches Kolloquium” at <i>Ulm University</i> for six semesters	03/2020
Organisation of a workshop for PhD students in mathematics at <i>Ulm University</i>	06/2022
• One weekend, 15 participants, funding (2500 €) acquired by the <i>StuVe Ulm University</i> .	
Supervision of a three-month project for the workshop of the 25th Internetseminar	03/2022
• Title: <i>Kolmogorov equation in $L^p(\mathbb{R}^{2n})$ – Semigroup, spectrum, maximal regularity?</i>	
Research stay at Prof. Dr Cyril Imbert, <i>École normale supérieure Paris</i> , one week	11/2021
Facilitator at the autumn school “COLLAB – Collaboratory for Global Sustainability 2021”, <i>Toronto/Ulm</i>	10/2021
Supporting the organisation of the winter school “Grad. Flows and Var. Methods in PDEs” at <i>Ulm University</i>	11/2019
Referee for one Bachelor’s thesis and one Master’s thesis at the <i>University of Münster</i>	
Refereeing activity for <i>Communications in Partial Differential Equations</i> , <i>Discrete and Continuous Dynamical Systems</i> , <i>Annales de l’ENS</i> , <i>European Journal of Mathematics</i> , and <i>Journal of Evolution Equations</i>	

AWARDS AND SCHOLARSHIPS

PhD thesis award “Promotionspreis der Ulmer Universitätsgesellschaft” (1500 €)	02/2025
Travel grant by the ProTrainU Mobility-Programme, Ulm University (1000 €)	06/2022
Master graduation award “Absolventenpreis M.Sc. Mathematik Uni Ulm 2020” for the best graduation (500 €)	04/2022
Graduate scholarship granted by the State of Baden-Wuerttemberg, Germany (52.200 €)	11/2019
Bachelor graduation award “Absolventenpreis B.Sc. Mathematik Uni Ulm 2018” for the best graduation (500 €)	05/2018
Ferry Porsche award and graduation award of the ”Deutsche Physikalische Gesellschaft”	06/2014

VOLUNTEER WORK

Elected member of the council of PhD students at Ulm University	02/2021 — 09/2022
• <i>Representing the interests of doctoral students in university committees, e.g. for the change of the PhD regulations. Chair of the council of PhD students (12/2021 — 09/2022).</i>	
Elected member of the faculty council for Mathematics and Economic Sciences, Ulm University	02/2021 — 09/2022
Member of the Academic Student Council Mathematics	07/2017 — 03/2019
• <i>Member of the appointment committee for a professorship in “Stochastics”.</i>	

ATTENDED CONFERENCES

Kinetic equations and turbulence, <i>CentraleSupélec Paris</i>	04/2025
Nonlocal Equations: Analysis and Numerics, <i>Bielefeld University</i>	03/2025
Münster–Imperial Day in PDE , <i>University of Münster</i>	10/2024
3rd IST Austria Summer School in Analysis and PDEs, <i>IST Austria</i>	06/2024
Mathematics Münster Mid-term Conference, <i>University of Münster</i>	03/2024
Phase mixing, kinetic theory and fluid mechanics, <i>SRS Les Diableretes</i>	02/2024
Kinetic and hydrodynamic PDEs, <i>ETH Zürich</i>	01/2024
Workshop on Stability, Mixing and Fluid Dynamics, <i>University of Münster</i>	08/2023
Stability and dynamics in fluid mechanics and kinetic theory, <i>ICL London</i>	07/2023
New Directions in Compressible and Incompressible Flows, <i>MPI Leipzig</i>	06/2023
Real Analysis and Geometry, <i>CIRM Marseille</i>	06/2023
Kinetic Theory, <i>CIRM Marseille</i>	11/2022
Horizons in non-linear PDEs, <i>Ulm University</i>	09/2022
2nd IST Austria Summer School in Analysis and PDEs, <i>IST Austria</i>	07/2022
When Kinetic Theory meets Fluid Mechanics, <i>ETH Zürich</i>	07/2022
25th Internetseminar “Spectral Theory for Operators and Semigroups”, <i>Agropoli</i>	06/2022
11th Summer school on “Methods and Models of Kinetic Theory”, <i>Pesaro</i>	06/2022
Oxbridge PDE Conference, <i>University of Oxford</i>	05/2022
Frontiers in the Interplay Between Probability and Kinetic Theory, <i>ICMS Edinburgh</i>	04/2022
Kinetic Theory: old and new tutorial, <i>INI Cambridge</i>	01/2022
Frontiers in analysis of kinetic equations, <i>INI Cambridge</i>	01/2022
Deep Learning and partial differential equations, <i>INI Cambridge</i>	07/2021
Recent advances in Gradient Flows, Kinetic Theory, and Reaction-Diffusion Equations, <i>University of Vienna</i>	03/2021
Kinetic Equations: from Modeling Computation to Analysis, <i>CIRM Marseille</i>	03/2021
Winterschool on Analysis and Applied Mathematics, <i>University of Münster</i>	02/2021
Gradient flows and variational methods in PDEs, <i>Ulm University</i>	11/2019
PDE/Probability Interactions: Particle Systems, Hyperbolic Conservation Laws, <i>CIRM Marseille</i>	10/2019
Parabolic Evolution Equations, Harmonic Analysis And Spectral Theory, <i>Bad Herrenalb</i>	05/2019
Non Standard Diffusions in Fluids, Kinetic Equations and Probability, <i>CIRM Marseille</i>	12/2018
Evolutionsgleichungen in Ulm, <i>Ulm University</i>	04/2018

TEACHING EXPERIENCE

Co-supervision of a Master thesis , <i>University of Münster</i> of Yuanjiang Han (now PhD student in Münster with Prof. Seis)	Summer 2025
Supervisor , <i>University of Münster</i> Seminar on De Giorgi-Nash-Moser theory	Winter 2024
Teaching assistant , <i>University of Münster</i> Partial Differential Equations	Winter 2024
Teaching assistant , <i>University of Münster</i> Analysis and Numerics of Differential Equations	Winter 2023
Teaching assistant , <i>Ulm University</i> Analysis 1, Local coordinator of the 26th ISEM	Winter 2022
Teaching assistant , <i>University of Applied Sciences Neu-Ulm</i> Business Mathematics and Statistics 1	Summer 2022
Teaching assistant , <i>University of Applied Sciences Neu-Ulm</i> Business Mathematics and Statistics 2 - Regression Models/Statistical Testing	Winter 2021
Teaching assistant , <i>University of Applied Sciences Neu-Ulm</i> Business Mathematics and Statistics 1	Summer 2021
Teaching assistant , <i>Ulm University</i> Dynamical systems	Winter 2020
Teaching assistant , <i>University of Applied Sciences Neu-Ulm</i> Business Mathematics and Statistics 2 - Regression Models/Statistical Testing	Winter 2020
Teaching assistant , <i>University of Applied Sciences Neu-Ulm</i> Business Mathematics and Statistics 1	Summer 2020
Teaching assistant , <i>Ulm University</i> Organisation of the Trainingscamp, a yearly event for first-year students to refresh their mathematical skills.	Winter 2019
Teaching assistant , <i>Ulm University</i> Analysis 1	Summer 2019
Teaching assistant , <i>Ulm University</i> Dynamical systems	Winter 2018
Teaching assistant , <i>Ulm University</i> Elements of functional analysis	Summer 2018
Teaching assistant , <i>Ulm University</i> Analysis 2	Winter 2017
Tutor , <i>Ulm University</i> Mathlabs for Analysis 1 & Analysis 2	Winter 2015 — Summer 2017