





Marius Müller

 June 14, 1993 in Engelskirchen, Germany

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Social Networks



 Researchgate Link

Languages


 German 


 English 

 Italian 


 Japanese 


Volunteering

 As a student: Treasurer of the student representation ('Fachschaft').

 As a PhD student: Speaker of Ulm PhD community (organization of networking events and invitations to mathematical colloquium) ([CLICK FOR INFORMATION](#)).

 AMS MathSciNet Reviewer.

 Referee activities for "AIMS Journal of Mathematics in Engineering", "Interfaces and Free Boundaries", "Applications of Mathematics"

 Design of booklets for the Workshops 'Geometric Variational Problems' and 'Gradient Flows and Variational Methods in PDEs' ([LINK](#)) (together with L. Niebel and F. Rupp).

Education and Academic Background

2011	High School "Allgemeine Hochschulreife"	Gymnasium Lindlar
2011 – 2015	B. Sc. "Wirtschaftsmathematik" (\cong "Mathematics and Economy"). GPA: 1,3. Bachelor Thesis: <i>Two Approaches to the Hardy Uncertainty Principle.</i> Supervisor: Anna Dall'Acqua.	Ulm University
2015 – 2016	M.Sc "Mathematik" Minor Subject: Physics. GPA: 1,0. Master Thesis: <i>Anisotropic Curvature.</i> Supervisor: Anna Dall'Acqua.	Ulm University
2016 – 2017	M.Sc. "Mathematics" Double Degree Exchange Program.	Syracuse University, USA
2017 – 2020	PhD Studies Supervisor: Anna Dall'Acqua, Reviewers: Matteo Novaga (Pisa), Matthias Röger (Dortmund). Grade: summa cum laude. PhD Thesis: Elastic bending – Variational problems and their geometry.	Ulm University
2020 – now	Postdoc Position (Akademischer Rat) Institut für Reine Mathematik, Group "Analysis" (Ernst Kuwert and Guofang Wang).	Freiburg University

Working Experience

2014	Internship at "Fraunhofer ITWM" Topic: Statistical methods for multistep experimental designs. Supervisor: Dr. Sascha Feth	Kaiserslautern
2012 – now	Teaching (see separate section)	Ulm/Syracuse/Freiburg

Awards

2017	Graduation Award "Absolventenpreis Mathematik M.Sc. 2017 Uni Ulm."	Ulm University
2021	Teaching Award "Lehrpreis der Fachschaft Mathematik WiSe20/21." (CLICK FOR INFORMATION)	Freiburg University

Selected Grants

2016	Fulbright Travel Grant Travel Expenses for exchange year in Syracuse, USA	Fulbright Association
2017–2020	LGFG Grant PhD income Grant, LGFG \cong "Landegraduiertenförderungsgesetz", grant no. 1705 LGFG-E.	Ulm University

Organized Workshops

2018 & 2019	Ulm PhD networking workshop sponsored by PROMOS (by DAAD) together with M. Sauter (Ulm) (CLICK FOR INFORMATION)	Kleinwalsertal, Austria
2021	Online Poster Session YR.PDE.GEO Poster Session for young researchers in PDE and geometric analysis, together with P. Gladbach (Bonn) and S. Jarohs (Frankfurt) (CLICK FOR WEBPAGE)	Online

List of Publications

Accepted Papers

- 2019 **An obstacle problem for elastic curves: existence results**
M. Müller
Interfaces Free Bound. **21**. [CLICK HERE TO VIEW ARTICLE/DOI](#)
- 2019 **On gradient flows with obstacles and Euler's elastica**
M. Müller
Nonlinear Anal. **192**. [CLICK HERE TO VIEW ARTICLE/DOI](#)
- 2020 **On the convergence of the elastic flow in the hyperbolic plane**
M. Müller and A. Spener
Geom. Flows **5**. [CLICK HERE TO VIEW ARTICLE/DOI](#)
- 2020 **The elastic flow with obstacles: small obstacle results**
M. Müller
Appl. Math. Optim. **184**. [CLICK HERE TO VIEW ARTICLE/DOI](#)
- 2021 **A Li-Yau inequality for the 1-dimensional Willmore energy**
M. Müller and F. Rupp
Adv. Calc. Var. (ahead of print) [CLICK HERE TO VIEW ARTICLE/DOI](#)

Preprints

- 2020 **The biharmonic Alt-Caffarelli Problem in 2D**
M. Müller
[CLICK HERE TO VIEW PREPRINT](#)
- 2020 **The Willmore flow of tori of revolution**
A. Dall'Acqua, M. Müller, R. Schätzle and A. Spener
[CLICK HERE TO VIEW PREPRINT](#)
- 2021 **The Poisson equation involving surface measures**
M. Müller
[CLICK HERE TO VIEW PREPRINT](#)
- 2021 **Optimal thresholds for preserving embeddedness of elastic flows**
T. Miura, M. Müller and F. Rupp
[CLICK HERE TO VIEW PREPRINT](#)

Works in Preperation

- 2021 **Curvature varifolds with orthogonal boundary**
E. Kuwert and M. Müller
[CLICK HERE FOR AN ABSTRACT](#)

List of Talks/Posters/Workshops

Past Talks

12/2018	EDDY Weekly Seminar <i>On Gradient Flows with obstacles and Euler's elastica</i>	RWTH Aachen
07/2019	TULKKA-Treffen <i>The biharmonic Alt-Caffarelli Problem</i> (LINK)	KIT Karlsruhe
11/2019	Winter School 'Gradient flows...' <i>On Gradient Flows with obstacles</i> (LINK)	Ulm University
12/2020	Online Seminar Geometric Analysis <i>The Willmore Flow of Tori of Revolution</i> (YOUTUBE VIDEO)	Online (University Salzburg)
07/2021	Applied Analysis Seminar Heidelberg <i>The biharmonic Alt-Caffarelli Problem</i> (LINK)	Online (Heidelberg University)

Upcoming Talks

09/2021	DMV-Tagung, Sektion "Variationsrechnung, geometrische Analysis" <i>Embeddedness-breaking of elastic flows</i>	Online (University of Passau)
10/2021	Probability, Differential Geometry and Mathematical Physics <i>Embeddedness-breaking of elastic flows</i> (LINK)	Online (Texas Tech University)

Posters

2019	Elastica in the hyperbolic plane (LINK)
2020	A Biharmonic Bernoulli Problem (LINK)

Selection of attended workshops

06/2017	Curves and Networks in Geometric Analysis	Centro De Giorgi, Pisa
03/2018	Workshop on Geometric Evolution Equations	University of Regensburg
05/2018	Cologne Conference on Positivity and Differential Equations On the occasion of 60th Birthday of G. Sweers.	University of Cologne
06/2018	International School on Extrinsic Curvature Flows	ICTP Trieste
07/2018	Variational Problems arising from Physics and Geometry On the occasion of 60th Birthday of T. Bartsch	Giessen University
07/2018	Geometric PDEs in Freiburg Received funding for accomodation expenses	Freiburg University
01/2019	Variational Problems, PDEs and Applications	University of Pisa
02/2019	Spring School on Local & Nonlocal Elliptic and Geometric Problems Received DAAD grant for travel/accomodation expenses	AIMS Senegal, Mbour
05/2019	Variational Problems and the Geometry of Submanifolds Received funding for accomodation expenses	CIRM Marseille
06/2019	Geometric Analysis and General Relativity On the occasion of the 60th Birthday of G. Huisken	ETH Zürich
11/2019	Winter School 'Gradient Flows and Variational methods in PDEs' Presented a talk and a poster	Ulm University
02/2020	Calculus of Variations and Applications On the occasion of the 65th birthday of G. Dal Maso	SISSA Trieste
02/2021	Winterschool on Analysis and Applied Mathematics	Online (WWU Muenster)
04/2021	Online Poster Session "Young researchers in PDE and geometric analysis" as an organizer	Online (Freiburg University)

List of Teaching Experience

2012-2016	Several jobs as Grader & Tutor Including tutorials for a total of 11 modules. Among those the 4-week University preparation course ‘Uni-Trainingscamp’ (LINK) and exam preparation tutorials (‘Repetitorien’).	Ulm University
2016	Teaching Assistant Orientations 4-week pedagogical training prior to US-teaching assistant positions	Syracuse University, USA
Fall 2016	Teaching Assistant “Calculus 3” Bachelor’s course, course instructor: Loredana Lanzani. Responsibilities: Tutorial sessions, grading of weekly quizzes and midterm exams.	Syracuse University, USA
Spring 2017	Teaching Assistant “Calculus 2” Bachelor’s course, course instructor: Jeff Meyer. Responsibilities: Content and grading of weekly quizzes, grading of midterm exams, tutorial sessions.	Syracuse University, USA
Summer 2017	Teaching Assistant “Elemente der Funktionalanalysis” ($\hat{=}$ Elementary Functional Analysis). Bachelor’s course, course Instructor: Jochen Glück. Responsibilities: Content and solutions of exercise sheets and presentation thereof. (LINK)	Ulm University
Summer 2017	Teaching Assistant “Elemente der Funktionentheorie” ($\hat{=}$ Elementary Complex Analysis). Bachelor’s course, course instructor: Friedmar Schulz. Responsibilities: Content and solutions of exercise sheets and presentation thereof.	Ulm University
Winter 2017	Teaching Assistant “Variationsrechnung” ($\hat{=}$ Calculus of Variations). Master’s course, course Instructor: Anna Dall’Acqua. Responsibilities: Content and solutions of exercise sheets and presentation thereof.	Ulm University
Summer 2018	Teaching Assistant “Elementare Differenzialgeometrie” ($\hat{=}$ Elementary Differential Geometry). Bachelor’s course, course instructor: Julian Scheuer. Responsibilities: Solutions of exercise sheets and presentation thereof (LINK).	Ulm University
Winter 2019	Teaching Assistant “Advanced Topics in the Calculus of Variations” Master’s course, course instructors: Anna Dall’Acqua and Emil Wiedemann. Responsibilities: Content and solutions of exercise sheets (LINK).	Ulm University
Summer 2020	Teaching Assistant “Riemann’sche Geometrie” ($\hat{=}$ Riemannian Geometry). Master’s course, course Instructor: Anna Dall’Acqua. Responsibilities: Content and solutions of exercise sheets, screencast video content.	Online (Ulm University)
Winter 2020	Teaching Assistant “Analysis 3” Bachelor’s course, course instructor: Ernst Kuwert. Responsibilities: Video solutions to exercise sheets, content of in-class quizzes, tech support. (LINK) Teaching Award “Lehrpreis der Fachschaft Mathematik”	Online (Freiburg University)
Winter 2020	Assistant for Student Seminar “Geometrie ebener Kurven” ($\hat{=}$ Geometry of plane curves). Master’s course, instructor: Ernst Kuwert. Responsibilities: Support of students in preparation of their talks.	Online (Freiburg University)
Summer 2021	Teaching Assistant “Elementare Differentialgeometrie” ($\hat{=}$ Elementary Differential Geometry). Bachelor’s & master’s course, instructor: Ernst Kuwert. Responsibilities: Video solutions to exercise sheets, content of in-class quizzes, tech support. (LINK)	Online (Freiburg University)
Summer 2021	Assistant for Student Seminar “Differentialformen” ($\hat{=}$ Differential forms). Master’s course, instructor: Ernst Kuwert. Responsibilities: Preparatory online lectures, support of students in preparation of their talks.	Online (Freiburg University)

Upcoming

Winter 2021	Lecturer “Gewöhnliche Differentialgleichungen” ($\hat{=}$ Ordinary Differential Equations). Bachelor’s course. Responsibilities: Course instructor – content of lectures and exercises.	Freiburg University and/or Online
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September 3, 2021

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