

Pascal Steinke

Curriculum Vitae

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Personal data

Date of Birth May 22, 1999
Place of Birth Gießen, Germany
Home Address Im Krausfeld 47
53111 Bonn, Germany
Nationality German

Current position

Nov. 2022 – Present **PhD Student in Mathematics**, *Institute für Applied Mathematics, University of Bonn*, Germany
Supervisors: Prof. Stefan Müller and Prof. Sergio Conti

Research interests

Main research fields: Partial Differential Equations and Calculus of Variations.
Key words: Elasticity, phase separation processes, fracture, phase-field models, nonlinear PDEs.

Publications and Preprints

- [1] **F. Colasanto and PS**, *Second-Order Gamma Limit for the Cahn–Hilliard Functional with Dirichlet Boundary Conditions*, To be Submitted, 2025.
arXiv.2510.15431
- [2] **M. Friedrich, PS and K. Stinson**, *Linearization of quasistatic fracture evolution in brittle materials*, Ann. Inst. H. Poincaré C Anal. Non Linéaire, 2025.
10.4171/aihpc/161
- [3] **PS**, *Convergence of Allen-Cahn equations to De Giorgi’s multiphase mean curvature flow*, Submitted, 2023.
arXiv.2301.12237
- [4] **PS**, *Inequalities for BVA-Functions*, 2021.
arXiv.2112.06019

In preparation:

PS, *Homogenization of Interaction Energies of Dislocations*, 2025.

Education

- Oct. 2020 – Sep. 2022 **Master of Science Degree in Mathematics**, *Department of Mathematics*, University of Bonn, Germany
 Thesis title: *Convergence of Allen–Cahn equations to De Giorgi’s multiphase mean curvature flow.*
 Supervisor: Prof. Tim Laux
 Grade: 1.0.
- Oct. 2017 – Sep. 2020 **Bachelor of Science Degree in Mathematics**, *Department of Mathematics*, University of Bonn, Germany
 Thesis title: *Inequalities for BVA-functions.*
 Supervisor: Prof. Franz Gmeineder
 Grade: 1.1.
- Sep. 2009 – Jul. 2017 **High School Diploma**, *Liebigschule*, Gießen, Germany
 Specialization in scientific studies.

Known Languages **German** (Native), **English** (Fluent)

Computer Skills $\text{\LaTeX}$, Linux, Microsoft Windows, C, C++, SQL, Java (basic).

Awards and Scholarships

- Jan. 2022 **“BMG Bachelor Prize” Award (2020–21 Edition)**, *University of Bonn*, Germany

Research stays

- Mar. 23 – Apr. 03, 2025 **Global Math Exchange Program**, *Dr. Kerrek Stinson*, *University of Utah*, Salt Lake City, UT
- Jan. 31 – Mar. 23, 2025 **Global Math Exchange Program**, *Prof. Irene Fonseca*, *Carnegie Mellon University*, Pittsburgh, PA

Short visits

- Jul. 23, 2025 **Robert Wegner**, *KIT Karlsruhe*, Germany
- Jan. 15–17, 2025 **Prof. Tim Laux**, *University of Regensburg*, Germany

Teaching

- Oct. 2025 – now **Teaching Assistant for Nonlinear Partial Differential Equations I (Prof. Stefan Müller)**, Institute for Applied Mathematics, University of Bonn, Germany
- Apr. 2025 – Sep. 2025 **Teaching Assistant for Partial Differential Equations and Modelling (Prof. Stefan Müller)**, Institute for Applied Mathematics, University of Bonn, Germany
- Apr. 2024 – Sep. 2024 **Teaching Assistant for Nonlinear Partial Differential Equations II (Prof. Margherita Disertori)**, Institute for Applied Mathematics, University of Bonn, Germany
- Apr. 2022 – Sep. 2022 **Helpdesk Tutor for Analysis II**, *BSc in Mathematics*, University of Bonn, Germany

- Oct. 2020 – Mar. 2021 **Tutor for Functional Analysis and PDEs**, *MSc in Mathematics*, University of Bonn, Germany
- Oct. 2019 – Mar. 2020 **Tutor for Analysis III**, *BSc in Mathematics*, University of Bonn, Germany

Talks

- Jul. 23, 2025 **Group Seminar Nonlinear Partial Differential Equations**, *Karlsruhe Institute of Technology*, Germany
- May 7, 2025 **Group Seminar Geometric Methods in Calculus of Variations**, *University of Bonn*, Germany
- Mar. 24, 2025 **Group Seminar Partial Differential Equations (Prof. Feldman)**, *University of Utah*, Salt Lake City, UT
- Mar. 13, 2025 **SIAM Student Chapter Seminar**, *Carnegie Mellon University*, Pittsburgh, PA
- Jan. 17, 2025 **Group Seminar Partial Differential Equations**, *University of Regensburg*, Germany
- Otc. 31, 2024 **Graduate Seminar on New Developments in PDE (Prof. Angkana Rühland)**, *University of Bonn*, Germany

Attended Workshops, Conferences and Schools

- Jul. 07–11, 2025 **Geometric Methods in Calculus of Variations**, *Centro di Ricerca Matematica Ennio De Giorgi*, Pisa, Italy
- Jun. 16–20, 2025 **Vito Volterra Meeting in Calculus of Variations**, *Department of Mathematics, Sapienza*, Rome, Italy
- Jun. 3–6, 2025 **Workshop “Frontiers in Applied Analysis”**, *Carnegie Mellon University*, Pittsburgh, PA
- Jul. 10–14, 2023 **Hausdorff School “Analysis of PDEs: Variational and Geometric Perspectives”**, *Hausdorff Center for Mathematics*, Bonn, Germany
- Mar. 20–24, 2023 **Recent Trends in the Mathematics of Complex Materials**, *Hausdorff School for Mathematics*, Bonn, Germany
- Aug. 8–12, 2022 **Hausdorff School “Geometric Analysis and Nonlinear PDEs”**, *Hausdorff Center for Mathematics*, Bonn, Germany