Anna Logioti

Curriculum Vitae

Institut für Analysis, Dynamik und Modellierung - IADM
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Personal Information

Nationality **Greek**.

Research Interests

- **Applied Mathematics**
- **Analysis of Partial Differential Equations**
  Reaction-Diffusion Systems
  Bifurcations
- **Stochastic Partial Differential Equations**
- **Well-Posedness, Qualitative Behaviour of Solutions**
- **Free Boundary problems**
  Obstacle-type Problems
- **Mathematical Biology**
  Cell polarization
  Pattern formation

Employment

11/2022-present **Universität Stuttgart**, Stuttgart, Germany.
- **Postdoctoral researcher**, with Prof. Dr. Guido Schneider

10/2018-09/2022 **Rheinische Friedrich-Wilhelms-Universität**, Bonn, Germany.
- **Research assistant**, with Prof. Dr. Barbara Niethammer

Education

10/2018-09/2022 **Ph.D. in Mathematics**, Grade: "magna cum laude ", Rheinische Friedrich-Wilhelms-Universität, Bonn, Germany.
- **Ph.D. Thesis:** "*A non-local free boundary problem arising in a model of cell polarization*," under supervision of **Prof. Dr. Barbara Niethammer**

10/2015-08/2018 **M.Sc. in Mathematics**, Grade: "excellent", National and Kapodistrian University of Athens, Athens, Greece.
- **M.Sc. Thesis:** "*One and Two Dimensional Connecting Orbits for Phase Transition Systems*," under supervision of **Prof. Dr. Nicholas D. Alikakos**

10/2011-06/2015 **B.Sc. in Mathematics**, Grade: "very good", National and Kapodistrian University of Athens, Athens, Greece.

- **Specialization:** "*Pure Mathematics*"

Certificates

02/2022-05/2022 **Data Science with Python** , National and Kapodistrian University of Athens, e-learning.

- NumPy, Pandas, Matplotlib
- Machine Learning & Deep learning (Scikit Learn, TensorFlow, Keras)

Honors & Awards

- Hausdorff Doctoral Scholarship, Bonn International Graduate School, 2018-2022.
- Scholarship for extraordinary nationwide university entrance examination score and admission in the Mathematics Department of university of Athens, National Post Agency of Greece, 2011.
- Nationwide University Entrance Examination Score, Grade: 18.500/20.000, *(top 2% nationwide).*

Peer-reviewed Publications

- With Guido Schneider. "Validity of the stochastic Ginzburg-Landau approximation in higher space dimensions -A Wiener algebra approach-" *J. Differ. Equ.* (2026) Vol. 479. https://doi.org/10.1016/j.jde.2026.114601
- With Xin Meng and Guido Schneider. "Some remarks about an effective description of high-frequency wave-packet propagation" *to appear in SIAM J. Math. Anal.* (2026)
- With Barbara Niethammer, Matthias Röger and Juan J.L. Velázquez. "Interface behavior for the solutions of a mass conserving free boundary problem modeling cell polarization" *EMS Press* (2025), pp. 249–274. https://doi.org/10.4171/NNU90/10
- With Nicole Gauss, Guido Schneider, and Dominik Zimmermann. "Global existence for long wave Hopf unstable spatially extended systems with a conservation law." *J Dyn Diff Equat* (2024). https://doi.org/10.1007/s10884-024-10380-9
- With Barbara Niethammer, Matthias Röger and Juan J.L. Velázquez. "Qualitative properties of solutions to a mass-conserving free boundary problem modeling cell polarization." *Commun. Partial. Differ. Equ.* (2023) Vol. 48.
- With Barbara Niethammer, Matthias Röger and Juan J.L. Velázquez. "A parabolic free boundary problem arising in a model of cell polarization." *SIAM J. Math. Anal.* (2021) Vol. 53.

Preprints

- "Validity of the stochastic Landau approximation for super-pattern forming systems with a spatial 1:3 resonance" *https://arxiv.org/abs/2412.11870*

Thesis

- "On a non-local free boundary problem modeling cell polarization." *PhD Thesis, Rheinische Friedrich-Wilhelms-Universität Bonn (2022).*

Organized

06/2025 **Nonlinear Waves Meets Stochastic Dynamics**, Minisymposium, Thessaloniki, Greece.

- **together with Bastian Hilder**

04/2025 **Young Women in Mathematical Biology**, Workshop, Bonn, Germany.

- **together with Eugenia Franco**

Contributed Talks

03/2026 **GAMM 96th Annual Meeting**, Young Researchers' Minisymposium, Stuttgart, Germany.

- **Mathematical analysis of active cells**

12/2025 **19th Panhellenic Conference in Mathematical Analysis**, Minisymposium, Athens, Greece.

- **Dynamic systems - Mathematical modeling**

02/2025 **Conference on Mathematics of Wave Phenomena 2025**, Minisymposium, Karlsruhe, Germany.

- **Bifurcation and Pattern Formation in Dynamical Systems**

06/2024 **Equadiff 2024**, Minisymposium, Karlstad, Sweden.

- **Pattern-forming systems and asymptotic models**

03/2024 **GAMM 94th Annual Meeting**, Minisymposium, Magdeburg, Germany.

- **Free Boundary Problems in the Sciences: PDE Analysis and Modeling**

04/2023 **Mathematical Life Sciences**, Conference, Bonn, Germany.

- **Mathematical Biology**

07/2022 **CEDYA / CMA 2022**, *Minisymposium, Zaragoza (online).*

- **PDE Models in Biology**

07/2022 **Second Congress of Greek Mathematicians SCGM-2022**, Conference, Athens, Greece.

- **Differential Equations**

09/2021 **FBP2021**, Minisymposium, Berlin (online) .

- **Free boundary problems in cell biology**

09/2021 **ICMS**, Workshop, Edinburgh (online) .

- **Modelling Diffusive Systems: Theory & Biological Applications**

06/2021 **CEDYA / CMA 2020**, Minisymposium, Gijón (online) .

- **Nonlinear PDEs and its applications in Natural Sciences**

02/2021 **Women in Applied Mathematics**, Workshop, Crete (online).

Schools, Conferences and Workshops attended

04/2021 **Hausdorff School**, on "*Diffusive Systems: Pattern Formation, Bifurcations, and Biological Applications*", Bonn, Germany (online).

09/2019 **CIME School**, on "*Geometric Measure Theory and Applications: From Geometric Analysis to Free Boundary Problems*", Cetraro, Italy.

02/2019 **Workshop**, "*Geometric Measure Theory and Free Boundary Problems*", Bonn, Germany.

06/2018 **Conference**, "*First Congress of Greek Mathematicians FCGM-2018*", Athens, Greece.

Teaching Experience

Summer 2026 **Teaching Assistant**, Universität Stuttgart (Prof. Dr. Guido Schneider).
- **Lecture:** "*Höhere Mathematik 2 für kyb, mecha, phys*"

Winter 2025/2026 **Teaching Assistant**, Universität Stuttgart (Prof. Dr. Guido Schneider).
- **Lecture:** "*Höhere Mathematik 1 für kyb, mecha, phys*"

Summer 2025 **Teaching Assistant**, Universität Stuttgart (Prof. Dr. Wolf-Patrick Düll).
- **Lecture:** "*Analysis 2*"

Winter 2024/2025 **Teaching Assistant**, Universität Stuttgart (Prof. Dr. Wolf-Patrick Düll).
- **Lecture:** "*Analysis 1*"

Summer 2024 **Teaching Assistant**, Universität Stuttgart (Prof. Dr. Andreas Kollross).
- **Lecture:** "*Lineare Algebra und Analytische Geometrie 2*"

Winter 2023/2024 **Teaching Assistant**, Universität Stuttgart (Prof. Dr. Andreas Kollross).
- **Lecture:** "*Lineare Algebra und Analytische Geometrie 1*"

Summer 2023 **Teaching Assistant**, Universität Stuttgart (Prof. Dr. Ingo Steinwart).
- **Lecture:** "*Höhere Mathematik 2 für el, mecha, phys, tkyb*"

Winter 2022/2023 **Teaching Assistant**, Universität Stuttgart (Prof. Dr. Ingo Steinwart).
- **Lecture:** "*Höhere Mathematik 1 für el, mecha, phys, tkyb*"

Summer 2020 **Teaching Assistant**, University of Bonn (Prof. Dr. Juan J. L. Velázquez).
- **Seminar:** "*Ordinary Differential Equations and Dynamical Systems*"

10/2013-06/2018 **Private Tutor**, Athens, Greece.

Programming Skills

- **Python, Matlab**

Languages

- **Greek:** Native
- **English:** Fluent

- **German:** Fluent