# Marco Badran

Postdoc at ETH Zürich

[email](#) | [website](#)

## Employment

**Postdoc at ETH Zürich**
2023 – ongoing
Mentor: Prof. Joaquim Serra.

## Education

**Ph.D. in Mathematics**
University of Bath, 2019 – 2023
Thesis Title: *Concentrating solutions in the magnetic Ginzburg–Landau model.*
Supervisor: Prof. Manuel del Pino.

**Master in Mathematics**
Università statale di Milano, 2017 – 2019
Thesis Title: *The Allen–Cahn equation: a conjecture by De Giorgi.*
Supervisor: Prof. Bernhard Ruf.

**Bachelor in Mathematics**
Università statale di Milano, 2014 – 2017

## Preprints and publications

- *Stationary p-harmonic maps approaching planar singular harmonic maps to the circle.* (with J. Van Schaftingen) **arXiv**

- *Harmonic maps to the circle with higher dimensional singular set.* **arXiv**

- *Solutions of the Ginzburg–Landau equations concentrating on codimension-2 minimal submanifolds.* (with M. del Pino.) **J. London Math. Soc.**

- *Entire solutions to 4-dimensional Ginzburg–Landau equations and codimension 2 minimal submanifolds.* (with M. del Pino.) **Adv. Math.**

## Invited speaker - seminars

- Analysis seminar, UniMi Milano (12.22)

- Geometry seminar, UCL London (01.23)

- Analysis seminar, UAM/ICMAT Madrid (01.23)

- Analysis seminar, University of Bath (02.23)

- Young researchers in PDEs, UAM/ICMAT Madrid (10.23)

- Analysis & PDE seminar, NUS Singapore (02.24)

- Analysis Seminar, ETH Zürich (02.25)

- Analysis Seminar, SNS Pisa (03.25)

- PDE Seminar, Cambridge (05.25)

## TEACHING

- Graduate Teaching Assistant at University of Bath (several courses, 2019 – 2023)
- Organiser for *Analysis IV*, D-MATH ETHZ. (Spring 2024)
- Lecturer for *Nonlinear Analysis and Perturbation Methods*, D-MATH ETHZ. (Fall 2024)
- Organiser for *Analysis I*, D-INFK ETHZ (Spring 2025)
- Organiser for *Partial Differential Equations*, D-MATH ETHZ (Spring 2025)

## OTHER ACTIVITIES

**Referee for:** Adv. Differential Equations, Ars Inven. Analytica, Proc. London Math. Soc., Discrete Contin. Dyn. Sys., Journal of Differential Equations

**Supervision:**
- Matteo Gatti (Bachelor thesis – ETH Zürich, 2025)
- Lennard Trautmann (Semester paper – ETH Zürich, 2025)
- Luana Jost (Semester paper – ETH Zürich, 2025)
- Derk Steffens (Reading Course – ETH Zürich)