

GIULIA CAVALLERI

PERSONAL INFORMATION

<i>Place and Date of Birth</i>	January 16 1997, Bergamo (Italy)
<i>Citizenship</i>	Italian
<i>Email</i>	giulia.cavalleri01@universitadipavia.it
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CURRENT POSITION

Ph.D. student in Mathematical Analysis **10/22 – Today**

University of Pavia

Joint Ph.D. Program between University of Pavia, University of Milano-Bicocca, and INdAM.

Supervisors: Prof. Pierluigi Colli, Prof. Elisabetta Rocca.

Visiting: I spent 6 months at the University of Le Havre, visiting Prof. Alain Miranville.

Interests: Nonlinear evolution equations for tumor growth models, Cahn–Hilliard equation, optimal control problems.

EDUCATION

Postgraduate Course **9/22**

University of Modena and Reggio Emilia

School in AI: Deep Learning, Vision and Language for Industry - Second Edition.

Master Degree in Mathematics **10/19 – 11/21**

University of Milano-Bicocca

Title of the thesis: “Unique Continuation Principles at the Boundary”.

Supervisor: Prof. Veronica Felli.

Grade: 110/110 cum Laude.

Bachelor’s Degree in Mathematics **10/16 – 11/19**

University of Milano-Bicocca

Title of the thesis: “The Classical Müntz–Szász Theorem and the One on the Unit Disc”.

Supervisor: Prof. Stefano Meda.

Grade: 110/110 cum Laude.

High school **9/11 – 7/16**

Liceo scientifico Filippo Lussana (Bergamo)

Grade: 99/100.

PREPRINTS

4. G. Cavalleri, P. Colli, E. Rocca, Well-posedness for a fourth-order nonisothermal tumor growth model of Caginalp type Preprint: arXiv:2508.07979 [math.AP], (2025), 1-35.

PUBLISHED PAPERS

3. G. Cavalleri, A. Miranville, Optimal control on a brain tumor growth model with lactate metabolism, viscoelastic effects, and tissue damage. To appear in: DCDS-B.
2. G. Cavalleri, P. Colli, A. Miranville, E. Rocca, On a brain tumor growth model with lactate metabolism, viscoelastic effects, and tissue damage. In: Nonlinear Anal. Real World Appl. 87 (2026), p. 104419.
1. G. Cavalleri, A phase field model of Cahn–Hilliard type for tumour growth with mechanical effects and damage. In: J. Math. Anal. Appl. 550.2 (2025), p. 129627.

CONFERENCES, WORKSHOPS AND SCHOOLS

- *Lake Como School of Advanced Study - Mathematical Analysis and Applications.* Como (Italy), June 09-13, 2025. **Poster presentation.**
- *Journée informelle de ReaDiNet.* University of Paris-Saclay (France), January 10, 2025. **Poster presentation.**
- *The 14th AIMS Conference on Dynamical Systems and Differential Equations.* NYU Abu Dhabi (UAE), December 16-20, 2024. **Invited speaker.**
- *Norman working group of Mathematical Biology - LMAH (Le Havre Normandie) & LMRS (Rouen Normandie) - Session 8.* Le Havre (France), November 28-29, 2024. **Invited speaker.**
- *Italian-Japanese Workshop on Variational Perspectives for PDEs.* University of Pavia (Italy), September 09-13, 2024. **Poster presentation.**
- *Diffuse Interface methods in Continuum Mechanics: analysis, singular limits, and algorithms.* Cetraro (Italy), July 08-12, 2024. **Poster presentation.**
- *41th Congress of the French Theoretical Biology Society.* University of Poitiers (France), June 24-27, 2024. **Invited speaker.**
- *From Cells to Tissues: Models, Analysis and Applications.* Como (Italy), June 10-14, 2024. **Contributed talk.**
- *Lions–Magenes Days 2024.* University of Pavia (Italy), May 21-22, 2024. **Poster presentation.**

- *The Cahn-Hilliard equation - recent advances and new challenges*. Chęciny, (Poland), April 21-26, 2024. **Contributed talk**.
- *Cahn-Hilliard and Allen-Cahn Equations in Bio-medicine*. Politecnico di Milano (Italy), February 22, 2024. Participant.
- *Boundary value problems and applications - The legacy of Enrico Magenes*. University of Pavia (Italy), November 21, 2023. Participant.
- *XI Giornata di Studio Politecnico di Milano - Università di Pavia "Equazioni Differenziali e Calcolo delle Variazioni"*. Politecnico di Milano (Italy), October 26, 2023. Participant.
- *CIRM conference "Variational and Geometric Structures for Evolution"*. Levico Terme (Italy), October 8-13, 2023. Participant.
- *Hausdorff School "Analysis of PDEs: Variational and Geometric Perspectives"*. University of Bonn and Hausdorff School for Advanced Studies in Mathematics (Germany), July 10-14, 2023. Selected participant.

TEACHING EXPERIENCE

Univeristy of Pavia

- Tutoring activity for "Complementi di Analisi Matematica I", degree course in Fisica, 40 hours (2024-25).
- Exercise lectures for "Analisi Matematica I", degree course in Ingegneria Civile e Ambientale and Ingegneria Edile e Architettura, 24 hours (2024-2025).
- Coordination of the tutoring activities associated with the course "Analisi Matematica I", degree course in Ingegneria Civile e Ambientale and Ingegneria Edile e Architettura (2023-24).
- Exercise lectures for "Elementi di Matematica", degree course in Scienze e tecnologie per l'ambiente e la natura (2022-23, 2023-24), 12 hours.

University of Milano-Bicocca

- Peer tutoring for students with disabilities and with S.L.D. for "Algebra Lineare e Geometria" (2019-20), "Analisi Matematica I" (2020-21), support in the writing of the bachelor thesis in Mathematical Analysis (2022-23).
- Tutoring activities for "Analisi Matematica I", degree course in Scienze Statistiche ed Economiche (2020-21, 16 hours) and in Matematica (2020-21, 60 hours).
- Tutoring activity for the project "Piano lauree scientifiche - riduzione tassi di abbandono" for "Analisi Matematica I", degree course in Statistica e Scienze delle Informazioni and in Scienze Statistiche ed Economiche (2019-20, 2020-21).

WORK EXPERIENCE

Device engineer junior

1/22 – 9/22

STMicroelectronics

ICs (integrated circuits) are built on a silicon wafer. ICs have a rectangular shape, whereas wafers are circular. Ics disposition on the wafer must be optimized in order to achieve the maximum number of ICs. I worked on the development and management of software tools related to lithographic mask requests and wafer map management.

OTHER SKILLS

Programming

Java, MATLAB, Tcl/Tk

Languages

Italian (mother tongue), English
