

# MATTIA CAVANI

## Curriculum Vitae

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### EDUCATION

#### PhD Course | 11/2025 - present

*University of Modena and Reggio Emilia, Italy*

Title: Cavity magnonics with magnet-superconductor hybrid circuits.

Supervisor: Prof. Marco Affronte; co-Supervisor: Dr. Alberto Ghirri

#### Master of Science | 9/2023 - 10/2025

*University of Modena and Reggio Emilia, Italy*

28/10/2025 Master Degree in Physics, 110/110 cum laude

Title: Coherent coupling and nonlinear dynamics in planar magnet-superconductor hybrid circuits.

Supervisor: Prof. Marco Affronte; co-Supervisor: Dr. Alberto Ghirri

#### Bachelor of Science | 9/2020 - 9/2023

*University of Modena and Reggio Emilia, Italy*

22/9/2023 Bachelor Degree in Fisica, 108/110

Title: Studio e realizzazione di un test di compatibilità elettromagnetica. Emissioni radiate di un sensore di temperatura.

Supervisor: Prof. Stefano Frabboni; co-Supervisor: Dr. Silvia Vicenzi

### PUBLICATIONS

1. A. Ghirri, **M. Cavani**, C. Bonizzoni and M. Affronte, *Journal of Magnetism and Magnetic Materials*, 173859 (2026)

Coherent coupling between YBCO superconducting resonators and sub-micrometer-thick YIG films

### CONFERENCES, WORKSHOP AND SCHOOLS

3-6/2/2026 **Magnet2026**, Lecce, Italy

poster *Coherent coupling and nonlinear dynamics in planar magnet-superconductor hybrid circuits.*

23-26/6/2026 **Grenoble Workshop on Nanomagnetism**, Grenoble, France

talk *Frequency comb in a magnet-superconductor hybrid system.*

### TEACHING ACTIVITIES

10-12/2024 Tutor activity

*University of Modena and Reggio Emilia, Italy*

Fisica, Bachelor Degree in Computer Science, Prof. Rossella Brunetti

3-5/2025 Tutor activity

*University of Modena and Reggio Emilia, Italy*

Fisica, Master Degree in Chemistry and Farmaceutical Technology, Prof. Rossella Brunetti

3-5/2025 Tutor activity

*University of Modena and Reggio Emilia, Italy*

Fisica con Elementi di Matematica, Master Degree in Farmaceutical Science, Prof: Rossella Brunetti

10-12/2025 Tutor activity

*University of Modena and Reggio Emilia, Italy*

Laboratorio di Fisica I, Bachelor Degree in Physics, Prof. Andrea Bizzeti

3-5/2026 Tutor activity

*University of Modena and Reggio Emilia, Italy*

Fisica, Master Degree in Chemistry and Farmaceutical Technology, Prof. Ciro Cecconi

10-12/2026 Tutor activity

*University of Modena and Reggio Emilia, Italy*

Laboratorio di Fisica I, Bachelor Degree in Physics, Prof. Andrea Bizzeti

## **DISSEMINATION**

10-12/2025 Tour Guide

*Tesori Modenesi Ritrovati - Exposure of historical laboratory instrumentation, Modena*