Luca Martinoia

Personal info

18/04/1992
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Languages

Italian
English

IT skills

Python, Office Suite, Wolfram Mathematica and LaTeX

Personal website

Summary

I am a Project Engineer at STAM, working on R&D projects within the Horizon Europe program. Currently, I am leading a project related to air traffic management under SESAR JU.

During my research experience I developed excellent problem-solving skills, while learning highly-technical topics in physics and math. I worked in an international group, where I managed my own projects, mentored students, and gained expertise in presenting technical work both in writing and orally.

I am a quick learner with a curious mind: I love learning new topics to solve challenging problems.

Work experiences

2025 – to date **Project Engineer** STAM s.r.l.
- Technical Project Engineer, working on R&D solutions.
- Leading a SESAR project about Air Traffic Management in the presence of cyber-attacks to the ADS-B datalink.
- Using Python to simulate air traffic flows.

2024 – 2025 **Researcher in theoretical neuroscience** University of Padova
- Lead a project with the goal of predicting how stochastic neural networks respond to external stimuli.
- Used Python to simulate the network's dynamics.

2024 **Researcher in theoretical physics** University of Genova
- Lead a project on understanding how living matter, such as bacterial colonies or flocks of birds, moves cohesively as a group.
- Solved a 30-year-old problem on the physics of active matter.
- Experience with analytic solutions to stochastic PDEs.

Education

2024 **Ph.D. in Theoretical Physics** University of Genova
- Final mark: Excellent cum laude.
- Developed a theory that extends hydrodynamics.
- Used Wolfram Mathematica extensively to analyze physical models.

2022 **Visiting researcher** Université Libre de Bruxelles
Spent three months in Bruxelles to study quantum field theories.

2020 **Master's degree in Theoretical Physics** University of Genova
Final mark: 110/110.

2014 **Bachelor's degree in Physics** University of Genova
Final mark: 110/110 cum laude.

Research experience

I have five years of research experience in theoretical physics. My research focuses primarily on fluid dynamics, thermodynamics and statistical physics, with the goal of describing the dynamics of electrons in strongly-correlated materials. I also worked on the topic of superconductivity in metallic films and on quantum field theories. Recently, my interests have expanded to studying collective motion in living systems and the dynamics of complex networks.

For further details, see my personal website.

Publications I have published 10 papers in renowned peer-reviewed journals. I have actively collaborated to every stage of the research process, from brainstorming, to performing computations and writing the papers.

Conferences I have attended several international conferences, schools and workshops across Europe, where I have presented my research to the scientific community.