

# Luca Nigro

QUANTUM COMPUTING · QUANTUM MACHINE LEARNING

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“Facing the world as often as possible.”

## Summary

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Current Ph.D. candidate in Physics at the University of Milan. 3+ years of experience in programming, classical and quantum computing, Linux system maintenance, and many other technical skills. Participant of many conferences, giving talks and posters, but also as a scientific committee and conference secretary. Always interested in devising a better problem-solving method for challenging tasks and learning new technologies and tools if the need arises.

## Work Experience

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### Università degli Studi di Milano

TEACHING ASSISTANT

Milan, Italy

Feb. 2024 - Today

- Prepare hands-on lectures about quantum computing with different frameworks (PennyLane and OceanSDK).
- Concept of the notebooks for the students.
- Giving lectures and practical guidance.
- Exams.

### Joint APS March Meeting & April Meeting 2025

ABSTRACT SORTER

Anaheim, CA, USA

Mar. 2025

- Sorting submitted abstracts into sessions.

### CINECA HPC & QC 2024 Workshop

ORGANIZATION COMMITTEE

Bologna, Italy

Dec. 2024

- Evaluation of submitted abstracts.
- Chairperson session.

### DICE 2024 - Quo Vadis, Fisica?

CONFERENCE SECRETARY

Castiglioncello (LI), Italy

Sep. 2024

- Acceptance and registration of participants.
- Technical support for the instrumentation.

## Talks & Posters

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### APS March Meeting

ORAL TALK

Anaheim, CA, USA

Mar. 2025

“Benchmarking quantum computing for the wind farm layout optimization problem”

### DICE 2024 - Quo Vadis, Fisica?

POSTER PRESENTATION

Castiglioncello (LI), Italy

Sep. 2024

“Quantum digital simulation of the nuclear de-excitation of tritium”

### EQAI Summerschool

POSTER PRESENTATION

Lignano Sabbiadoro (UD), Italy

Sep. 2024

“Enforcing fading memory of noisy quantum echo state networks”

### APS March Meeting

ORAL TALK

Minneapolis, MN, USA

Mar. 2024

“Quantum digital simulation of the nuclear de-excitation of tritium”

### CINECA HPC & QC 2023 Workshop

ORAL TALK

Bologna, Italy

Dec. 2023

“Hybrid quantum-classical algorithms for quantum simulation”

## Papers

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### Advanced Quantum Technologies

L. NIGRO, C. BARBIERI, E. PRATI

Simulation of a Three-Nucleons System Transition on Quantum Circuits

<https://doi.org/10.1002/qute.202400371>

Wiley

Dec. 2024

## Education

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### University of Udine

EQAI SUMMERSCHOOL

European Quantum Artificial Intelligence

Lignano Sabbiadoro (UD), Italy

Sep. 2023

### Università degli Studi di Milano

PHD IN PHYSICS

- Topic: "Next generation of quantum algorithms for optimization and quantum chemistry"

Milan, Italy

Oct. 2023 - Today

### University of Oslo

ERASMUS+

Studied Complex Media, Space Physics and Computational Physics

Oslo, Norway

Aug. 2022 - Jan. 2023

### University of Copenhagen

4EU+ SUMMERSCHOOL

- "Quantum Mechanics from Condensed Matter to Computing"

Copenhagen, Denmark

Jun. 2022

### Università degli Studi di Milano

MSc IN PHYSICS

- Thesis: "Simulation of Nuclear Reactions by a Gate Model Quantum Computer" (110/110 cum laude)

Milan, Italy

Oct. 2020 - Jul. 2023

### Università degli Studi di Milano-Bicocca

BSc IN PHYSICS

- Thesis: "Study of HUBO Problems on Adiabatic Quantum Computers"

Milan, Italy

Oct. 2016 - Sep. 2020

## Extracurricular Activity

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### Peace Operators Association

VOLOUNTEER

- General purpose help at the orphanage

Allipalli, AP, India

Aug. 2018