

NICCOLÒ DI EUGENIO

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SUMMARY

Graduated in Physics at the University of Milano-Bicocca, I am now a PhD student at the Politecnico di Torino, where my research deals with Machine Learning Potentials and DFT Methods to improve Molecular Dynamics simulations of collision cascades in complex superconducting materials. I am also implementing Time-Dependent Ginzburg-Landau simulations of vortex lattice phase transitions. My research interest include the study of Machine Learning methods, statistical mechanics and numerical modeling.

EDUCATION

PhD - Physics November 2023 - Present

Politecnico di Torino, DISAT Department, Turin, Italy

Supervisors: Prof. Francesco Laviano, Dott. Daniele Torsello

Description: Application of Machine Learning Potentials and Density Functional Theory to improve Molecular Dynamics simulations of collision cascades in superconductors. Time-Dependent Ginzburg-Landau simulations of vortex lattice phase transitions.

Master's Degree - Solid State Physics October 2020 - March 2023

University of Milano-Bicocca, Milan, Italy - **110/110 cum laude**

Dissertation Title: **Machine Learning Methods for Approximating the Microstructural Evolution in Two-Phase Systems**

Supervisors: Prof. Francesco Montalenti, Dott. Roberto Bergamaschini

Description: Use of a Convolutional Recurrent Neural Network approach to predict the microstructural evolution of two-phase systems described by a Phase Field model.

Exchange PEI - PEI - Ingénieur - Physics January 2022 - June 2022

École Polytechnique, Palaiseau, France

Description: Attended classes in both Cycle Ingénieur and Master of Science.

Bachelor's Degree - Physics October 2016 - September 2020

University of Milano-Bicocca, Milan, Italy

Dissertation Title: **Atomic Force Microscopy Characterization of Epitaxial Nanostructures**

Supervisors: Prof. Stefano Sanguinetti, Prof. Marco Bernasconi

Description: Experimental and computational analysis of SiGe samples. Statistical analysis of the Hopkins-Skellam index regarding the cluster tendency of the data set.

Diploma di Liceo Classico Europeo September 2011 - July 2016

Baccalauréat Général Littéraire (EsaBac)

Liceo Classico Europeo Melchiorre Delfico, Teramo, Italy

Ontario Secondary School Diploma September 2014 - June 2015

Nepean High School, Ottawa, Canada

WORKSHOPS/SUMMER SCHOOLS

IREF - Irradiation Effects on HTS for Fusion November 12 - November 16 2023

Arona, Italy

Summer School: "Bridging Time and Length Scales in Molecular and Materials Modelling"

Lennard-Jones Centre, University of Cambridge (UK)

September 2 - September 6 2024

IV. AWARDS, SCHOLARSHIPS, FELLOWSHIPS AND GRANTS

Ontario Scholar

June 2015

Ontario Scholars are high school graduates in the Canadian province of Ontario who attain an average of 80% or greater in their six best Grade 12 courses.

LANGUAGES

Italian	Mother Tongue
English	C2 (Ontario Diploma)
French	B2 (Diplôme du Baccalauréat Général avec la mention bien)

TECHNICAL SKILLS

Programming Languages	Python, Bash, MATLAB, C++, C, FORTRAN
Operating Systems	Linux, Windows
Editors	LaTeX, Microsoft Office
Illustrators	InkScape, GIMP