

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, data analysis and numerical modeling.

EDUCATION

PhD - Physics

November 2023

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 a two-phase systems described by a Phase Field model.

Exchange PEI - PEI - Ingénieur - Physics

January 2022 - June 2022

École Polytechnique, Palaiseau, France

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"

September 2 - September 6 2024

Lennard-Jones Centre, University of Cambridge (UK)

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)

PROGRAMMING SKILLS

LANGUAGES Python, Bash, MATLAB, C++, C, FORTRAN

OPERATING SYSTEMS Linux, Windows

EDITORS LaTeX, Microsoft Office

ILLUSTRATORS InkScape, GIMP