Tanguy Marsault

MSc in Engineering
Quantum Engineering
CentraleSupélec, Engineering School, Paris, France

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EXPERIENCE

•DESY-FTX group *February 2023-August 2023*

Intern in detector physics Hamburg, Germany
- Design of the calorimeter used for the LEAP experiment (generation of a polarized electron beam using laser-plasma acceleration)
- Data analysis for its calibration

•CEA-Saclay IRFU *July 2022-December 2022*

Intern in data analysis Paris, France
- Study of CP-violation in $t\bar{t}H$ events for the ATLAS experiment at LHC
- Identification of relevant variables to probe the CP nature of the top-Higgs Yukawa coupling
- Data analysis and simulation using `MadGraph5_aMC@NLO`

•CentraleSupélec *September 2021-June 2022*

Teaching Assistant in Mathematics Paris, France
- Teaching mathematics classes to first year students at CentraleSupélec
- Focusing on topology, linear algebra, measure theory and PDEs

EDUCATION

•CentraleSupélec *2020-2024*

MSc. in Engineering, specialized in Quantum Engineering GPA: 4.33 (top 1%)

- Mathematics courses: measure theory, topology, PDEs, Lie theory, general topology, algebraic topology, group theory, probabilities, statistics, ...
- Physics courses: electromagnetism, condensend matter, quantum physics, general relativity, quantum field theory, statistical physics, ...

•CPGE Lycée Stanislas MPSI/MP* *2018-2020*

Classes Préparatoires aux Grandes Ecoles at Lycée Stanislas in Paris studying maths and physics CGPA: 4

- Mathematics courses: linear algebra, general topology, group theory, analysis
- Physics courses: classical mechanics, statistical physics, electromagnetism, electronics

PERSONAL PROJECTS

•Quantum Mechanics course for CentraleSupélec's students *2021*

Writing of a quantum mechanics lecture note for the first year course at CentraleSupélec to help out students

- Focusing on the basics of quantum mechanics, from the Dirac formalism to the hydrogen atom
- The note is accessible on my website in both French and English

•Introductory note to quantum field theory *2022*

Quantum field theory lecture note for students at CentraleSupélec

- Following the canonical formalism to describe the ins and outs of quantum field theory
- The note can be found on my website in French

•Development of a tool to automatically translate LaTeXprojects *2023*

Automatization of LaTeX translation and DeepL's API

- Code written in Python
- Accessible on my github

TECHNICAL SKILLS AND INTERESTS

Languages: French (native), English (fluent), Spanish (basic)
Programming: Python, C++ (basics), Unix, LaTeX
Areas of Interest: theoretical and mathematical physics, chess player(rated 1986 FIDE), Electronic music and DJing

POSITIONS OF RESPONSIBILITY

•President of CentraleSupélec's chess club *2021-2022*

Coach, president and player in competitive events for CentraleSupélec's chess club

•Jury for TFJM^2 in 2022 *2022*

Jury in a mathematics competition for french highschool students