Guillaume **Nadal**

Engineering Physicist

Technical Skills

- Experimentation
- Nanofabrication
- Material Characterization
- Data Analysis
- Clean Room
- Optical Setups
- CAD/Simulation

Programming

- Python
- MatLab
- C++
- SQL
- JavaScript
- CSS
- Django
- Next.js

Soft Skills

- Organization
- Self-driven
- Teacher
- Teamwork
- Workload Management
- Solution-oriented
- Team Leadership
- Creative
- Trained First Aider

Classes

- Material Characterization
- Laser
- Spectroscopy
- Quantum Physics
- Quantum Optics
- AI
- Nuclear Science
- Medical Imaging

Languages

- French – Mother Tongue
- English – C1

About

I recently completed my Master's degree in Engineering Physics at Polytechnique Montréal, where I conducted my thesis research in the Nano Quantum Semiconductor Laboratory. My work bridged experimental solid-state physics, quantum systems, and data analysis. I gained hands-on experience developing and operating precise laboratory systems, as well as using programming tools for data acquisition and analysis.
I am deeply motivated by the development of high-performance experimental setups and thrive in collaborative research environments. I enjoy taking initiative to optimize workflows, improve instrumentation, and troubleshoot complex systems.

Education

2023-August 2025 — **Master Research Degree**
Engineering Physics · Polytechnique Montreal
Recipient of an Excellence Mention and nominated for the Best Thesis Award, I conducted my research in the Nano Quantum Semiconductor Laboratory under Prof. Oussama Moutanabbir. My work focused on semiconductors and metals, thin films, and detectors for X-ray, gamma-ray, and infrared radiation. I studied the crystal structure of materials and performed data analysis of atom probe tomography datasets, developing Python algorithms to process large-scale data and extract meaningful insights. In addition, I programmed a user interface, API and Data Base to organize and manage sample processing data.

2019–2023 — **Bachelor Degree**
Engineering Physics · Polytechnique Montreal
Completed a four-month research internship focused on analyzing short-range order in crystals using advanced experimental techniques. Awarded research scholarship, enabling weekly participation in laboratory work throughout my third year. Conducted a one-year final-year project in collaboration with Quandela, aimed at improving algorithms for optical quantum computing.

2017–2019 — **CPGE**
PSI · Stanislas Cannes
Completed two years of intensive training in mathematics, physics, and engineering science, preparing for entry into engineering schools.

Publications

- Thesis: Wide field-of-view laser-assisted atom probe: tomographic data processing and crystallographic analyses (under embargo for patent application).
- Tracking of atomic planes in atom probe tomography
- Atomic-level Mapping of Cd0.9Zn0.1Te Crystals. (Poster at IEEE NSS MIC RTSD 2024)
- Impact of Br-etching on surface and current-voltage characteristics of CZT detector.
- CdZnTe surface conditioning using Ar plasma

Contact

guillaume.nadal@etud.polymtl.ca
+33 6 35 37 38 52
+1 438 388 0489
Web page (Project List): https://guillaumenadal13.github.io/
Research Gate (Link to Articles): https://www.researchgate.net/profile/Guillaume-Nadal