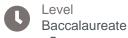
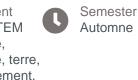


UE Thematic and interdisciplinary projects





Component
UFR PhITEM
(physique,
ingénierie, terre,
environnement,
mécanique)



> Teaching language(s): English

> Open to exchange students: Yes

> Code d'export Apogée: PAX9NPAL

Presentation

Description

This UE Thematic and interdisciplinary projects is divided in 2 parts :

Part 1: Quantum practicals on IBM-Q

Teachers: Julien Renard (CNRS) Matias Urdampilleta (CNRS)

Projects will be focused on the implementation of elementary quantum algorithms on superconducting quantum processors and simulators (IBM-Q). It relies on a "learning by doing" strategy. Developed skills: Python & quantum circuits.

Part 2: Quantum seminars

A series of seminars (regular and extended ones) will complete the regular course offer during the fall semester. For the academic year 2024-2025, the program (18 hours in total) is the following:

- 3 extended seminars (3 x 1.5 hours each)
 - Mechanical systems in the quantum limit, Jérémie Viennot (CNRS)
 - Spin Qubits with NV centers, Benjamin Pigeau (CNRS)
 - Modeling and Simulation for Spin Quantum Dots and Qubits, Yann-Michel Niquet (CEA)





- 3 regular seminars (1.5 hour each)
 - What is a PhD ? Olivier Isnard, Director of the Physics Doctoral School
 - Quantum Start-ups presentations.
 - Short presentations of PhDs students about their work.

Course parts

UE Thematic and interdisciplinary projects - CMTD

Lectures (CM) & Teaching Unit (UE)

34h

Period: Semester 9

Useful info

Campus

> Grenoble - University campus

