



Contribution ID: 131

Type: **not specified**

## Quantum computing roadmaps toward fault-tolerance

*Tuesday 21 January 2025 09:50 (45 minutes)*

- Synopsis : Olivier Ezratty will present the state of the art of quantum computing across various qubit modalities and algorithms classes, and how the academic and industry vendor ecosystem is planning to build utility-grade fault-tolerant quantum computers in the next decades. He will frame the wealth of challenges ahead related to qubit quality at scale, manufacturing, quantum error correction, quantum computers interconnect, resource estimations, energetic footprints, as well as on algorithms design and software engineering.
- Speaker : Olivier Ezratty is a freelance quantum engineer, author, trainer, teacher and researcher, mostly known for “Understanding Quantum Technologies”, his comprehensive open-source book on quantum technologies (September 2021, 2022, 2023 and 2024, 1,554 pages). He is a teacher and lecturer on quantum and classical technologies at EPITA, CentraleSupélec, ENS Paris-Saclay, and other Universities. He works for a diverse set of government institutions and industry organizations, as a referent expert for Bpifrance, Agence Nationale de Recherche (France), the European Commission (European Quantum Flagship) and venture capital funds. He is also one of the cofounders of the Quantum Energy Initiative. He has an Msc in Computer Science from CentraleSupélec.

**Presenter:** EZRATTY, Olivier

**Session Classification:** Colloquia