

# Advanced Quantum Information

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- **Abstract:** Quantum information was born from the merging of classical information and quantum physics. Its main objective consists of understanding the quantum nature of information and learning how to process it by using physical systems which operate by following quantum mechanics laws. Within this framework integrated photonics circuits have a strong potential to realize quantum information processing by optical systems. The aim of this course is to provide an advanced overview on quantum information with a special focus on the simulation of quantum systems by exploiting other quantum systems. Theoretical and experimental aspects will be addressed.

- **Required preliminary knowledge of quantum information**

- **Number of hours: 20**

- **Period: January/February**