

# Photonics quantum information processing

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## Abstract

Photonic quantum technologies represent a promising platform for several applications, ranging from long-distance communications to the simulation of complex phenomena. Indeed, the advantages offered by single photons do make them the candidate of choice for carrying quantum information in a broad variety of areas with a versatile approach. Furthermore, recent technological advances are now enabling first concrete applications of photonic quantum information processing. The goal of this lecture is to provide the audience with an overview of the state of the art in this active field, with a due balance between theoretical, experimental and technological results.