

# Quantum photonics using nanodiamonds and integrated optics

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## Abstract

We will present our recent work on integrated quantum photonics based on a hybrid system made of colour centres in nanodiamonds and single photons within a common optical bus. This platform is a first step towards scalability for quantum communications. Ultimately, we aim to achieve entanglement via the interaction between two nodes thanks to a common photonics waveguide. We will present how we plan to control the positioning of nanodiamonds as well as the quantum optics properties of such emitters.