



Contribution ID: 420

Type: **Talk**

【511】 Quantum Photonics for Quantum Machine Learning and Secure Computing

Wednesday, 1 September 2021 14:00 (30 minutes)

This talk presents recent experimental demonstrations that use integrated nanophotonic processors for various quantum computations such as quantum machine learning and in particular reinforcement learning, where agents interact with environments by exchanging signals via a communication channel. We show that this exchange allows boosting the learning of the agent. Another experiment underlines the feasibility of photonic quantum system for so-called probabilistic one-time programs that allow for secure classical computation tasks. As outlook I will discuss technological challenges for the scale up of photonic quantum computers, and our group's current work for addressing some of those.

Primary author: Prof. WALTHER, Philip (Universität Wien)

Presenter: Prof. WALTHER, Philip (Universität Wien)

Session Classification: Quantum Information and Quantum Computing

Track Classification: Quantum Information and Quantum Computing