Contribution ID: **12** Type: **not specified**

Introduction to Hybrid Quantum-Classical Machine Learning

Wednesday, 1 June 2022 14:50 (30 minutes)

Recent advances in machine learning (ML) and quantum computing (QC) hardware draw significant attention to building quantum machine learning (QML) applications. In this talk, I will first provide an overview of the hybrid quantum-classical machine learning paradigm. Important ideas such as calculating quantum gradients will be described. Then I will present the recent progress of QML in various application fields such as classification, distributed or federated learning and reinforcement learning. Potential advantage and scalability in the NISQ era will be discussed as well. Finally, I will briefly discuss several promising research directions.

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Session Classification: Quantum Algorithms: Status and Prospects