



SYMPOSIUM PROGRAM: Spring School on Open-Source Tools for Quantum Computing & Simulation

March 31, 2023

ICFO Auditorium

Friday 31st of March

9:00 - 9:30 Registration

9:30 - 10:00 Welcome, with Rob Sewell (ICFO) and Fabio Scafirimuto & Albert Garcia (IB

10:00 - 10:30 Certification of quantum optimisers and simulators, with [Antonio Acin \(ICFO\)](#)

10:30 - 11:00 Exploiting Dynamic Circuits for the Creation of Long-Range Entanglement
, with [Elisa Baumer \(IBM\)](#)

11:00 - 11:30 Keynote lecture, with [Dario Gil \(IBM\)](#)

11:30 - 12:00 COFFEE BREAK

12:00 - 12:30 The Quantum Technology Initiative at CERN: mission and contributions in
the High Energy Physics landscape with [Michele Grossi \(CERN\)](#)

12:30 - 13:00 High-dimensional quantum computation: opportunities and challenges, with

[Alba Cervera-Lierta \(BSC\)](#).

13:00 - 14:00 LUNCH BREAK

14:00 - 14:30 Well-conditioned multi-product formulas for hardware-friendly Hamiltonian simulation with [Almudena Carrera Vazquez \(IBM\)](#)

14:30 - 15:00 Hybrid Variational Classical-Quantum Computing: Ingredients to make it work [Zoe Holmes \(EPFL\)](#)

15:00 - 15:30 Quantum computing and simulation from entanglement as a resource to sampling of polymer melts with [Philipp Hauke \(UniTrento\)](#)

15:30 - 16:00 Quantum simulation of doped Fermi-Hubbard systems, with [Sarah Hirthe \(ICFO\)](#)

16:00 - 16:30 COFFEE BREAK

16:30 - 17:00 Machine learning for quantum data, with [Annabelle Bohrdt \(Harvard\)](#)

17:00 - 17:30 Quantum simulation frontier: The case of correlated topological matter, with [Fabian Grusdt \(LMU\)](#)

17:30 ENDS