

Certificate of Participation

Tomás Caetano

took part in the

JUNIQ-EPIQ Summer School on Quantum Computing

from 1 to 5 September 2025,

The school focused on hands-on experiences in developing and implementing algorithms on both gate-based devices and quantum annealers. Therefore, the attendees made use of JUNIQ's cloud-programming platform to access quantum devices located at the Jülich Supercomputing Centre. The hands-on sessions were accompanied by several lectures covering basic concepts of gate-based and annealing systems, the design and implementation of use-cases, and big-picture lectures, all given by experts from the field. The summer school was complemented by a poster session where attendees presented their research activities to each other.

The summer school covered the following topics: Introduction to Gate-Based Quantum Computing, Introduction to Quantum Annealing, Introduction to Quantum Simulation, Formulating QUBO Problems and Ising Hamiltonians, Quantum Approximate Optimization Algorithm, Classical vs Quantum Optimization, Error Correction, Error Mitigation, Entangling Gate Mechanism, Cooling Quantum Systems, Introduction to Quantum Computing with Trapped Ions.

The school took place during the following times:

Monday, 1 September:	09:00 to 18:30 CEST
Tuesday, 2 September:	09:00 to 18:30 CEST
Wednesday, 3 September:	09:00 to 18:15 CEST
Thursday, 4 September:	09:00 to 18:30 CEST
Friday, 5 September:	09:00 to 15:00 CEST

This certificate was created by automatic means and is valid without signature.

Gabriel Fazito Rezende Fernandes

(Project manager of Jülich UNified Infrastructure for Quantum Computing - JUNIQ)

Jülich, September 05, 2025