

Introduction to Quantum Computing School

Venue: CINECA via Magnanelli 6/3, Casalecchio di Reno, Bologna, Italy

Dates: 5th – 9th JUNE 2023

Activities: Theory + Hands-on

Schedule: 09:30 – 13:00, 14:30 – 17:30 (Monday to Thursday)

09:30 – 12:30 (Friday)

AGENDA

Greetings: 5th June 2023 from 8:30 to 9:30

Day1 – QC Intro

09.30 - 11.00 ***QC Intro - first part*** Daniele Ottaviani

11.00 - 11.15 *Coffee Break*

11.15 - 13.00 ***QC Intro - second part*** Daniele Ottaviani

13.00 - 14.30 *Lunch Break*

14.30 - 16.00 ***QC Advanced*** Riccardo Mengoni

16.00 - 16.15 *Coffee Break*

16.15 - 17.30 ***Qiskit Intro + Hands-on*** Riccardo Mengoni

Day2 – Quantum Annealers

09.30 - 11.00 ***Quantum Annealing - first part*** Daniele Ottaviani

11.00 - 11.15 *Coffee Break*

11.15 - 13.00 ***Quantum Annealing - second part*** Daniele Ottaviani

13.00 - 14.30 *Lunch Break*

14.30 - 16.00 ***QA Hands-on - first part*** Gabriella Bettonte

16.00 - 16.15 *Coffee Break*

16.15 - 17.30 ***QA Hands-on - second part*** Emanuele Triuzzi

Day3 – NISQ Technology

09.30 - 11.00 ***NISQ algorithms - first part*** Riccardo Mengoni

11.00 - 11.15 *Coffee Break*

11.15 - 13.00 ***NISQ algorithms - second part*** Riccardo Mengoni

13.00 - 14.30 *Lunch Break*

14.30 - 15.45 **Quantum Compiling + Hands-on** Kevin Mato
15.45 - 16.00 *Coffee Break*
16.00 - 17.30 **Quantum Compiling + Hands-on** Kevin Mato

Day4 – Quantum Simulators

09.30 - 11.00 **Quantum Computing with Neutral Atoms** Riccardo Mengoni
11.00 - 11.15 *Coffee Break*
11.15 - 13.00 **Pulser + Hands-on** Gabriella Bettonte
13.00 - 14.30 *Lunch Break*
14.30 - 16.00 **Tensor Networks + Hands-on** Marco Ballarin
16.00 - 16.15 *Coffee Break*
16.15 - 17.30 **Tensor Networks + Hands-on** Marco Ballarin

Day5 – Further Applications

09.30 - 11.30 **QC for Earth Observation + Hands-on**
Bertrand Le Saux, Alessandro Sebastianelli
11.30 - 11.45 *Coffee Break*
11.45 - 12.30 **Cineca QC Lab – Vision and Closing remarks**
Daniele Ottaviani, Riccardo Mengoni