

## SEMINAR

TUESDAY, JUNE 24TH 2025 | 3:00 PM

Aula Leonardi - ECT\*

### FEDERICA MANTEGAZZINI

(FBK-Center for Sensors & Devices)

### QUANTUM TECHNOLOGIES IN TRENTO: EXPERIMENTAL PLATFORMS AND RECENT DEVELOPMENTS

Several research teams in Trento are working in the field of quantum technologies, creating strong synergies and collaborations between groups at FBK, University of Trento, INFN-TIFPA, and CNR, and with the support of the joint laboratory Q@TN.

In this seminar, an overview of the quantum experimental platforms that are studied and developed in Trento will be given, with a focus on the field of superconducting quantum circuits.

The development steps to build a superconducting device will be described, starting from design and simulations, followed by microfabrication and cryogenic measurements. Finally, examples of recent results in this field will be reviewed.

The seminar is offered as part of the ECT\* school programme "DTP-TALENT 2025 on Quantum Computing for Nuclear Physics."



Federica Mantegazzini is an experimental physicist coordinating the SQD - Superconducting Quantum Devices research unit at FBK, focused on the development of superconducting quantum devices, both for fundamental physics experiments and quantum applications. After graduating in Physics at University of Milano-Bicocca, F.M. moved to the University of Heidelberg for her doctoral and postdoctoral studies. Since 2022, she is a research scientist at FBK and INFN associated researcher. Her scientific interests cover multiple areas, from cQED, microwave quantum optics and quantum sensing to cryogenic detectors, neutrino physics and astro-particle physics.