QCNN WORKSHOP

Quantum Computing & Quantum Neural Networks

Final Program

Room: Quirino Theater

09:00-10:00 **IJCNN Opening Ceremony & Personal Welcome**

Room: Leopardi

10:00-10:10 **M. Panella** & **S. Giagu** (Sapienza University of Rome, Italy): Welcome greetings

10:10-10:30 **Fabio Sciarrino** (Sapienza University of Rome, Italy): "The Italian research on quantum computing and the PNRR achievements"

Room: Pontifical Gregorian University Hall

10:30-11:00 **Coffee Break**

Room: Leopardi

11:00-11:30 **Samuel Yen-Chi Chen** (Wells Fargo Bank, USA): "The interplay between quantum computing and artificial intelligence"

11:30-12:00 **Bertrand Le Saux** (AI for Earth, France): "The quest for use-cases and applications of Quantum machine learning"

12:00-12:30 **Silvia Zorzetti** (Fermilab, USA): "Quantum computing and applications at DOE's SQMS Quantum Research Center"

12:30-13:00 **Oleksandr Kyriienko** (University of Sheffield, U.K.): "Physics-aware Quantum Machine Learning"

Room: Pontifical Gregorian University Hall

13:00-14:00 **Buffet lunch**

Room: Leopardi

14:00-14:45 **Michele Grossi** (CERN, Switzerland): "Quantum Technology and High energy physics: a mutual interaction"

14:45-15:30 **Zoë Holmes** (EPFL, Switzerland): "Pauli Propagation: a classical simulation algorithm to compete with and enhance quantum circuits"

Lecture (Workshop papers):

15:30-15:45 **"Hybrid and hardware-oriented approaches for quantum diffusion models"**
Andrea Cacioppo, Lorenzo Colantonio, Simone Bordoni, Stefano Giagu (Sapienza University of Rome)

15:45-16:00 **"Classical to Quantum Knowledge Distillation: A Study on the Impact of Hybridization"**
Simone Piperno, Giacomo Vittori (Sapienza University of Rome), David Windridge (Middlesex University), Antonello Rosato, Massimo Panella (Sapienza University of Rome)

16:00-16:15 **"Variational Inference for Quantum HyperNetworks"**
Luca Nepote (Eurecom), Alix Lhéritier, Nicolas Bondoux (Amadeus), Marios Kountouris (Eurecom), Maurizio Filippone (Kaust)

16:15-16:30 **"A Study on Quantum Reservoir Recurrent Models for Time-Constrained Volatile Sequence Forecasting"**
Antonello Rosato, Andrea Ceschini, Federico Succetti (Sapienza University of Rome), Samuel Yen-Chi Chen (Wells Fargo Bank), Massimo Panella (Sapienza University of Rome)

Room: Pontifical Gregorian University Hall

16:30-17:00 **Tea Break**

Room: Leopardi

17:00-18:00 **Marco Cerezo** (Los Alamos National Laboratory, USA): "Quantum machine learning beyond parametrized quantum circuits: Quantum Gaussian Processes"

NOTICE: Non-registrants for the IJCNN 2025 Conference may choose a "Workshop Only" admission ticket for USD 122.00. Read more on https://2025.ijcnn.org/registration

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