



1ST YEAR PHD STUDENTS' WORKSHOP

SEPTEMBER 25 AND 26, 2025

SALA CONSIGLIO - PHYSICS DEPARTMENT - VIA CELORIA 16 - MILAN

SEPTEMBER 25, 2025

9:00 am **Welcome: Aniello Mennella**

Chairperson: Aniello Mennella
9:30 **Eva D. Z. Groenendijk:** Proton structure and high-precision calculations in QCD

9:50 **Gabriele F. Sala:** Transverse-momentum resummation in the Drell-Yan process

10:10 **Alice Barcella:** Standardized phantom-based approaches for image quality assessment and AI-driven quantification in digital mammography

10:30 **Coffee Break**

Chairperson: Barbara Caccianiga
11:00 **Laura Cadeo:** Studying transport-related aerosol emissions through experimental and modelling cutting-edge approaches

11:20 **Rebecca Casati:** Quantum computing methods for space and underwater domains

11:40 **Andrea Corti:** Understanding feature learning in neural networks with statistical mechanics

12:00 **Lorenzo Dal Fabbro:** Interaction of ionic liquids with biological systems

Chairperson: Stefano Olivares
2:00 pm **Davide Genna:** Tracking the evolution of light nuclei toward the Island of Inversion at $N = 20$

2:20 **Davide Alimonti:** Accurate interatomic potentials for metallic nanoparticles from small datasets

2:40 **Fatima Houria:** JUND commissioning phase: work on site and data analysis

3:00 **Coffee Break**

Chairperson: Alberto Pullia
3:30 **Niccolò Laurora:** Characterization of a multi-mode quantum state for quantum computation with superconducting circuits

3:50 **Karina M. Landivar Zambrana:** Bridging theory and experiment for design and functionalization of defects in 2D materials

4:10 **Petru Milev:** Modelling excitons and magnons in complex materials: efficient algorithms, GGA kernels, and non-equilibrium dynamics

4:30 **Francesca S. Maddaloni:** Innovative approaches in photon-counting computed tomography: from image quality characterization to preliminary contrast media investigations

SEPTEMBER 26, 2025

Chairperson: Aniello Mennella
9:00 am **Giulia Maineri:** Probing dark photons via missing transverse momentum at the ATLAS detector

9:20 **Lorenzo A. Malanga:** Understanding protoplanetary disc evolution with population synthesis

9:40 **Chiara D. Mascherpa:** Dualities in 2d

10:00 **Stefano Radice:** Developing neuromorphic computing and receptron networks

10:20 **Coffee Break**

Chairperson: Fabio Giavazzi
10:50 **Leonardo Raso:** Semiclassical approach to nonadiabatic dynamics

11:10 **Giovanni Roncoli:** Interferometry and AB effect with antiprotons

11:30 **Cecilia D. Almagioni:** Snow cover: from the Alps to High Mountain Asia

11:50 **Varun Shah:** Thermal forming of high-precision optics for the 'LiveMirror' project