



# 2nd YEAR PHD STUDENTS' WORKSHOP

SEPTEMBER 29, 2025

9-11 Sala Consiglio & 11-13 Hall next to Sala Consiglio  
Physics Department | Via Celoria 16 | Milan



## 3 MINUTE PRESENTATIONS

9:00 am Welcome: Prof. B. Caccianiga

- 9:05 **Paolo Luppi** (Zoom): Temporal nonclassicality in continuous time quantum walks
- 9:09 **Ankita Ganguly** (Zoom): Detection of organic tissue discriminator using non-destructive approach in VIS-NIR range
- 9:13 **Andrea Afify** (video): A lagrangian formulation to optimize interactions in virtual environments
- 9:17 **Michele Dradi** (video): Fermionic contributions to the NNLO EW neutral current Drell-Yan process
- 9:21 **Luca Nigro** (video): Quantum optimization for sustainable energy applications
- 9:25 **Paolo Zentilini** (video): Graph reinforcement learning resistant to sparsity scaling
- 9:29 **Lorenzo Apollonio**: Amplifying UHECR arrival direction information using Xmax estimators at the Pierre Auger Observatory
- 9:33 **Matilde Barberi Squarotti**: Towards the detection of the HI auto-power spectrum. Advances in line intensity mapping for cosmology
- 9:37 **Silvia Bressan**: A polymorphic reconfigurable multi-electrode device based on electrically bistable nanostructured metallic films
- 9:41 **Stefano Brolli**: Diagrammatic Monte Carlo for structure and reaction calculations
- 9:45 **Simone Codispoti**: Tuning the phase diagram of biomolecular condensates: the effect of DNA structure
- 9:49 **Simone Contu**: Topological magnetoplasmon
- 9:53 **Leticia Finger Basso**: Gold decoration to improve Rh-Nanoalloys for CO-adsorption
- 9:57 **Pietro Glorioso**: Supersymmetric state counting from transcendental equations
- 10:01 **Massimiliano Luciani**: Studying shape coexistence in Ca isotopes by  $(n, \gamma)$  reactions

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- 10:05 **Enrico A. Maraboli**: Gravitational redshift effects in galaxy clusters
- 10:09 **Marco M. Messa**: Optical studies of transient low mass X-ray binaries
- 10:13 **Elisa Percalli**: JUNO detector: calibrations and commissioning
- 10:17 **Viviana Pezzotta**: Weighing protoplanetary disks: how much material is available to form planets?
- 10:21 **Luna Rampinelli**: Revealing the water vapor distribution in the birthplace of planets
- 10:25 **Davide Ripamonti**: Biofilm: a cultural heritage's revolution?
- 10:29 **Alessandro Ruzza**: DBNets2.0: simulation-based inference for dust substructures in protoplanetary disks
- 10:33 **Concetta Santangelo**: Static and dynamic scattering of X-rays and light to model cellular trafficking events
- 10:37 **Valeria Trabattoni**: Development of cryogenic electronics for next-generation neutrino experiment and dark matter search
- 10:41 **Jacob B. Yohanna**: Understanding electronic and ionic contributions to energy dissipation for a tip-on-metal system through atomistic simulation
- 10:45 **Luigi Zallio**: Extracting protoplanetary gas disk properties: the perspective from the ALMA DECO Large Program
- 10:49 **Alessandro Zambon**: Sampling the space of solutions of an artificial neural network
- 10:53 **Riccardo Zanzottera**: Silicon pixel detectors for future high energy physics experiments
- 10:57 **Sofia Zinzani**: Bridging structure and activity in nanocatalysts via machine learning and global structure representations

## POSTER SESSION & Coffee Break

11:00 am-1:00 pm