



# A QUANTUM OF MATTER

## 2<sup>nd</sup> Physics of Matter Ph.D. Students Welcome Day

Department of Physics, University of Trento

**Wednesday November 29, 2023 - 17.00**  
**Aula A102 – Polo Ferrari (Povo 1), Povo**

It is a matter of fact that Ph.D. students represent one of the leading forces in the research activities that are conducted in our department. A successful Ph.D. program should, however, not uniquely be focused on guiding the candidates to produce—outstanding, as is often the case—scientific results, but also on helping them to establish an independent network of collaborations both inside and outside the home institution, a fundamental ingredient in the development of their future career. This second edition of the “Physics of Matter Ph.D. Students Welcome Day” is thus devoted to meeting the students of the 39th Ph.D. cycle in the Physics of Matter research area who have recently joined our department. Each student will provide a short presentation about their research activity with a twofold purpose: on the one hand, and in the spirit of “A Quantum of Matter”, the establishment of new collaborations between research groups within the Physics Department of UniTn. On the other hand, and most importantly, the aim is to introduce the speakers of this event to the figures in the department that work in the field of Physics of Matter at all levels of career, in this way helping the new Ph.D. students to develop a solid and fruitful collaboration network since the very beginning of their academic path.

### Speakers:

- **Pietro Nicolò Brangi:** *“Pressure and strain effects on cuprate superconductors from first principles calculations”*
- **Anna Giulia Carloni:** *“Development of a reduced order model of fission gas diffusion in columnar grains”*
- **Ahmad Chehaimi:** *“Ultrafast Laser Direct Writing for the production of a positronium Bose-Einstein condensate target”*
- **Alessandro Chesini:** *“Photoelectrochemical hydrogen production from surfactant rich waste waters”*
- **Riley Craig Ferguson:** *“Characterizing radiation-induced defects by means of positron annihilation spectroscopy”*
- **Guglielmo Grillo:** *“Combining physics, biology and machine learning to understand genome organization in cancer cells”*
- **Pamela Maronese:** *“TDDFT studies on silver nanoclusters and their interaction with 2-aminopurine”*
- **Fabio Mazza:** *“Molecular Dynamics investigation of the SpCas9 protein structure network”*
- **Francesca Martini:** *“Optical properties of 2D carbon nitrides for water splitting”*
- **Roberto Miani:** *“Synthesis of new analogs of Ebselen with anti-tumor effect”*
- **Denis Nabari:** *“Development of topoelectrical circuits via transmission lines”*
- **Camilla Spreti:** *“Effects of membrane curvature on molecular sorting”*
- **Giulio Volpato:** *“Interpolation of periodic and non-periodic operators in the optimally smooth subspace”*

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**A Quantum of Matter** is a series of events dedicated to the research in Physics of Matter that is carried out in the **Physics Department of the University of Trento**. The goal of **A Quantum of Matter** is to develop synergies and collaborations between research groups: for this reason, the seminars will focus not only on the results obtained, but also on the techniques employed by the groups and on the possible research themes that could be developed in partnership, leaving plenty of room for exchange of opinions and discussion.

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Organizers: Giovanni Marini and Roberto Menichetti  
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