

Evento organizzato nell'ambito di Engineering
Physics Colloquia



Ca' Foscari
University
of Venice

Department of
Molecular Sciences
and Nanosystems

Gli organizzatori
offriranno coffee &
cookies ai partecipanti

Sarà possibile seguire
il seminario anche da
remoto, collegandosi
al seguente link:

<https://unive.zoom.us/j/88375308128>

Password: seminar1

Organizzazione di
Domenico De Fazio
Stefano Bonetti

An Ultrafast Look at Liquid Crystals

12 marzo 2025, 15.00

Room Delta 1A, Delta Building

Dr. Laura Cattaneo

Max Planck Institute for Nuclear Physics (Germany)

Although matter is generally divided into three well-defined categories (solid, liquid, and gas), there are certain materials not exclusively belonging to either one of these categories. Liquid crystals (LCs) are one of them, being ordered-like solids but fluid-like liquids. So far LCs have been exploited for display applications. LCs are a benchmark material to study new regimes of light-matter interaction where the degree of order among the constituents can be tuned at will, from randomly distributed molecules (liquid)

to a well-organized structure (solid). Our research combines different time-resolved methods including the Nobel-winning high harmonic generation technique, all the way to teraHertz light, spanning time scales from attosecond to picosecond. The goal is to explore the emergence of new dynamics, from electron motion coupled with specific vibrational modes to electron transfer among interacting molecules depending on the particular LC phase.