UNIVERSITÀ DI TRENTO
Dipartimento di Fisica

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December 1st 2022 h 2.30 p.m.

(Room A204 - Povo1)

"OPTICAL AND MECHANICAL WAVE MANIPULATION IN DIELECTRIC METASURFACES"

Abstract:

Artificial structured materials – metamaterials – are the quintessential tool for controlling and manipulating all degrees of freedom of either optical or mechanical waves. In this talk I will show the application of the metamaterial concept on a dielectric optomechanical membrane, where light and vibration dynamics are coupled and strongly intertwined.
The optomechanical metasurface unveils interesting features linked to the device symmetry, including mechanical-based polarization modulation and polarimetry, anisotropy and anomalous refraction of mechanical waves and the mutual coupling of fully optomechanical Bloch modes.

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