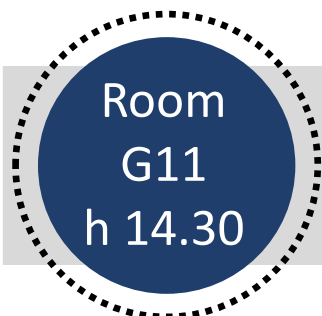




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Ultrafast spectroscopy in bio-molecules and optical nanostructures: harnessing light and manipulating matter

Ultrafast spectroscopy techniques use sequences of ultrashort light pulses to study photoinduced dynamical processes in atoms, molecules, nanostructures, and solids.¹ The manipulation of light-matter interactions at molecular and nano-scale has unlocked unprecedented opportunities in several fields, ranging from the control of photophysical material functionalities to high-speed signal processing. In this talk ultrafast spectroscopy will be exploited in different scenarios. First the photoinduced dynamics of bio-molecules and photosynthetic complexes will be discussed in the context of bioinspired light harvesting.²⁻³ Then, an optically active nanostructure will be demonstrated for the control of the polarization state of light.⁴ Finally, a new paradigm for controlling physico-chemical processes will be proposed to tailor molecular dynamics on demand.⁴

[1] M. Maiuri et al. *JACS*, **2019**, 142, 3-15.

[2] M. Maiuri, et al. *Nature Chemistry*, **2018**, 10, 177-183.

[3] V. Petropoulos et al. *JPCL*, **2024**, <https://doi.org/10.1021/acs.jpcllett.4c00372>.

[4] A. Schirato, M. Maiuri, et al. *Nature Photonics*, **2020**, 14, 723-727.

[5] <https://cordis.europa.eu/project/id/101077181>



The event will be streamed on
MS Teams for external participants!

For registrations: seminari.dipchi@unimi.it



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