Università degli Studi di Padova

DiSC

Mercoledì **4 settembre 2024** alle ore **15:00** presso l'aula G

il **Dr. Tomas Orlando**

National High Magnetic Field Laboratory
& Florida State University
Tallahassee, FL, USA

terrà il seminario dal titolo:

Enhanced NMR spectroscopy in liquids via dynamic nuclear polarization

Dynamic nuclear polarization (DNP) methods can increase NMR signals by orders of magnitude. In liquids, the spin polarization is transferred from unpaired electrons of organic radicals to coupled target nuclei via microwave irradiation.

Here, we present an overview of our recent understanding of the polarization transfer mechanisms, where electron-nuclear cross-relaxation relies on hydrogen bonds, halogen bonds, or other non-covalent interactions mediated by molecular collisions.

Additionally, we discuss recent breakthrough in probe design that overcome the microwave absorption of liquids at high frequencies and allow for DNP-enhanced NMR spectroscopy in one and two-dimensions on large sample volumes.

Federico Rastrelli

Il Direttore del Dipartimento
Stefano Mammi