

CV

Lorenzo Monacelli is a tenure track assistant professor (RTT) at the University of Rome Sapienza, specializing in theoretical physics. His research delves into first-principles simulations of matter, with a keen interest in the impact of lattice vibrations on thermodynamics.

Research Highlights:

- Predicted the phase diagram of solid hydrogen and hydrides under extreme pressures. (Nature, 578, 66, 2020 - Nature Physics, 19, 845, 2023)
- Explored the interplay between superconductivity and charge-density waves in transition metal dichalcogenides. (Nature Communications, 12, 598, 2021)
- Investigated the mechanical stability of perovskite solar cells. (Chemistry of Materials, 35, 1702, 2023)
- Thermal transport and thermoelectric efficiency in inorganic materials (Physical Review Letters, 122, 075901, 2019)
- Modelling ultrafast pump-probe spectroscopy (Journal of Physical Chemistry Letters, 8, 966, 2017)

Academic Journey:

Lorenzo Monacelli completed his PhD in 2020 at Sapienza under the guidance of Prof. Francesco Mauri, focusing on the phase diagram of high-pressure hydrogen. He then moved to EPFL in Lausanne, Switzerland, supported by a Marie Curie Fellowship, to research thermoelectric efficiency in perovskite solar cells with Prof. Nicola Marzari. In late 2023, he returned to Sapienza, securing a tenure track position in the Physics Department.