



UNIVERSITÀ  
DEGLI STUDI  
DI MILANO



*Physics Department seminar*

DIPARTIMENTO DI FISICA, VIA CELORIA 16, MILANO

**Aula A in presence and streaming**

<https://fisica-unimi.zoom.us/j/96889184852?pwd=L1FqLzZCUm9CWSsvRHNYSDI2Zy9Ndz09>

**6 Maggio 2022– 14:30**

**ARNAU RIOS HUGUET**

University of Barcelona

Institute of Cosmos Sciences and

Department of Quantum Physics and Astrophysics

## **From nuclei to pulsars and dark matter using nuclear theory**

Nuclear theory aims at describing the properties of nuclei - from their masses, to their sizes and their decay modes. In this talk, I will briefly describe recent methods developed by nuclear theorists to describe nuclei and neutron stars. Along the way, I will also describe how nuclear theory can also help us answer fundamental questions in physics like "what does dark matter look like?" or "what is the densest stable matter in the universe?". The answers to these questions cover a wide range of scales in length, density, temperature and energy, from femtoscopic nuclei to macroscopic stars - and require a deep understanding of quantum mechanics and strong interaction.



Students are cordially invited – Contact [silvia.leoni@mi.infn.it](mailto:silvia.leoni@mi.infn.it)