

BENEFICIARY OF MEDEA

Politecnico Milano

SCIENTISTS IN CHARGE:

- **Prof. Dr. Giuseppe Sansone**
- **Dr. Federico De Vettori**

SCIENTIFIC EXPERTISE & FACILITIES:

- Long expertise in development of laser technology for attosecond science (hollow-fiber technique; polarization gating technique)
- The Physics Department currently hosts five experimental laboratories working with XUV pulses generated by HHG.
- The PhD School has adopted the European Principles for Innovative Doctoral Training.
- Member of Laserlab Europe





EARLY STAGE RESEARCHER

ADYTIA PUSALA

PROJECT: *Alignment and HHG imaging of nonplanar molecules Workpackage 3*

High-order harmonics will be driven by tunable mid-IR laser pulses produced by optical parametric amplifiers (OPAs) and focused in jets of aligned molecules with linear, planar or non-linear shape.

The results will be exploited for a reconstruction of the outermost orbital of the molecules. Methods for molecular alignment and orientation will be developed in order to improve the imaging technique. The role of multiple orbitals in high-order harmonic generation will be investigated in order to understand the limits of this reconstruction and to extend it to excited molecules.

This project will be performed in collaboration with the group at **Aarhus University** (Prof. H. Stapelfeldt) and with the support from Dr. Y. Mairesse (CELIA-Bordeaux) and Dr. O. Smirnova (**MBI**). The project will strongly benefit from the collaboration with researchers at **Femtolasers Produktions GmbH**.