**Enrica Romano** is a Ph.D. student in "Chemical, Environmental, Biomedical, Hydraulic and Materials Engineering", Cycle XXXIX at the University of Palermo. Enrica obtained her BSc in Biomedical Engineering from the University of Palermo (Italy) in 2020, specializing in the field of biomaterials. Subsequently, she relocated to Turin (Italy) in October 2020 to pursue a MSc in Biomedical Engineering (Bionanotechnologies curriculum), provided by Politecnico di Torino. During her master's degree, she actively contributed to a project to design an esophageal graft for the treatment of benign stenoses, in collaboration with Rimed Foundation and IRCCS ISMETT (Palermo). Enrica's PhD project is dedicated to evaluating endothelial cell proliferation on various substrates through the manipulation of flow conditions. The primary objective is to promote the establishment of a stable endothelium while simultaneously introducing an innovative approach to minimize thrombogenicity. Experimental validation efforts will involve the implementation of two distinct cellular assays to evaluate the traction force of the cells: PA-TFM and 3D-TFM.