Titolo del Progetto:	Characterization of the FE chip VMM3 for gaseous single photondetectors
Esperimento/Sigla proponente	EIC_NET
Laboratorio ospitante	CERN
Contatc person presso il laboratorio	Stefano Levorato
Periodo previsto:	November 2021 - May 2022
Sezioni e tutor proponenti :	Trieste Silvia Dalla Torre
Descrizione attività (max 1000 caratteri)	Particle identification is a key ingredient of the experimental setups at the Electron-Ion Collider (EIC). In the hadron sector, it is based on Cherenkov imaging counters requiring adequate single photon detectors. At EIC, promising photon detectors are gaseous ones, thanks to their limited material budget, their capability to operate in presence of magnetic field and the limited cost. The most recent generation of these detectors is based on MPGD technologies. The signals generated by single photoelectrons are very modest even when the MPGD gain is high ($> 10^4$) and, therefore, the use of FE with low noise characteristics is required. Among the most recently developed chips, VMM3 offers the best noise figures. The student will perform the characterization of the VMM3 performance when coupled to a MPGD device detecting single photons. These propaedeutic studies are needed to the gaseous photon detectors for Cherenkov imaging applications at EIC. In the context of the proposed activity, the student will become familiar with MPGDs and electronic read-out of ionizing particle detectors.
Altre indicazioni: (max 500 caratteri)	
Facility che il laboratorio ospitante mette a disposizione	Hostel and cafeteria available
Note:	L'esperienza svolta presso il laboratorio ospitante può essere parte integrante della attività richiesta per un progetto di tesi magistrale.