

It is now high time to plan projects at the CERN laboratory for the time after the physics programme of the HL-LHC collider is over. One of the options is a nearly 100 km long collider with centre-of-mass energies up to 100 TeV in Geneva area - Future Circular Collider (FCC). A proton-proton collider called FCC-hh is the main part of the project. The design of the detector for the FCC-hh experiment is one of the challenges. Our group is involved in the studies of the electromagnetic calorimeter for this project. The student will learn the concept of the proposed calorimeter. The goal of the thesis is a reconstruction of the Higgs boson decay into two photons and a study of the influence of the coincident collisions on the Higgs boson mass peak resolution.