Contribution ID: **744** Type: **Parallel talk**

Higgs physics at the LHeC and the FCC-eh

Friday, July 12, 2019 5:15 PM (15 minutes)

The Large Hadron-electron Collider (LHeC) is a proposed upgrade of the LHC at CERN. It consists of an ERL providing electrons to collide with the HL-LHC, HE-LHC and the FCC-hh proton beams achieving centre-of-mass energies 1.3-3.5 TeV and luminosities $\sim 10^{34}$ cm^{-2} s^{-1}, respectively. These large energies and luminosities lead to charged current Higgs production cross sections which are comparable (LHeC) or 3-4 times larger (FCC-eh) than those of Z-Higgs-strahlung at e^+e^- colliders. In this talk we present the latest results on the determination of Higgs couplings, both in ep at the LHeC and the FCC-eh, and in combination with their hadronic counterparts HL-LHC/HE-LHC and FCC-hh, exhibiting a strong $ep + pp$ synergy and very interesting complementarity to e^+e^- Higgs prospects. We also show the implication that a precise determination of PDFs in ep has for precision Higgs measurements at hadron colliders.

Primary author: ARMESTO PEREZ, Nestor (Universidade de Santiago de Compostela (ES))

Presenter: KLEIN, Uta (University of Liverpool (GB))

Session Classification: Higgs Physics

Track Classification: Higgs Physics