Contribution ID: **141** Type: **Parallel talks**

Quartic Gauge-Higgs couplings: Constraints and Future Directions

Monday 17 July 2023 18:40 (20 minutes)

Using the κ framework, the constraints on the quartic interactions of Higgs with gauge bosons give a qualitative picture of consistency with the SM when the statistical yield is low. However, increasing statistics demand a more theoretically consistent framework to limit such couplings. Adopting the Higgs Effective Field Theory (HEFT) framework, we calculate the radiative corrections to Higgs decays and obtain the current and future sensitivity to quartic Higgs gauge couplings using the single Higgs data. We further discuss the improvements in the sensitivity of these couplings by employing the approach of Graph Neural Networks to Higgs pair production via weak boson fusion.

Author: Dr ., Anisha (University of Glasgow)

Presenter: Dr ., Anisha (University of Glasgow)

Session Classification: Higgs theory and experiment

Track Classification: Higgs theory and experiment