

# No channel left behind: revisiting $Vh$ production at LHC, HL-LHC and FCC-hh

*jeudi 2 juin 2022 14:00 (20 minutes)*

Diboson production processes constitute an interesting probe of New Physics related to the Higgs boson and the EW sector. We revisit the  $Vh$  and  $Vh$  production processes, with  $h \rightarrow VV$  and leptonically decaying gauge bosons. For the first time, we include the neutrino decay channel of the Z boson and perform a scale-invariant b-tagging. We study these processes in the SMEFT framework and derive bounds on four dimension-6 operators at LHC Run 2, Run 3 and HL-LHC. We show how most of our sensitivity comes from the events with a boosted Higgs. We also present projections for the bounds from these channels at FCC-hh and compare with previous results obtained for the case of  $h \rightarrow VV$ .

**Orateur:** ROSSIA, Alejo (University of Manchester)

**Classification de Session:** Parallel session 3