



Canadian Association
of Physicists

Association canadienne
des physiciens et physiciennes

Contribution ID: 191 Type: **Oral Competition (Graduate Student) / Compétition orale (Étudiant(e) du 2e ou 3e cycle)**

(G*) Characterizing the Higgs Boson at the LHC

Monday 7 June 2021 16:10 (10 minutes)

As the most recently-discovered particle of the Standard Model, the Higgs boson is fundamental to our understanding of particle physics and is the focus of much attention at CERN'S Large Hadron Collider (LHC). The Higgs boson's couplings to other particles are predicted by the Standard Model (SM), so performing precise measurements of these couplings can probe for discrepancies and constrain theories beyond the SM. This talk will present recent work by the ATLAS experiment at CERN to characterize the newly-discovered Higgs boson by measuring its coupling to W bosons using data collected at the LHC from 2015-2018. It will highlight the first ATLAS observation of $H \rightarrow WW^*$ decay in the vector boson fusion (VBF) production channel and its role in rigorously testing the SM.

Primary author: HAYES, Robin (University of British Columbia (CA))

Presenter: HAYES, Robin (University of British Columbia (CA))

Session Classification: M3-9 Exploring the Energy and Precision Frontier I (PPD) / Frontière d'énergie et de précision I (PPD)

Track Classification: Particle Physics / Physique des particules (PPD)