

PARTICLE PHYSICS SEMINAR SERIES

**Measure what is measurable and
make measurable what is not so:
Uncover new physics with bosons
at the LHC and maximize the
discovery potential with machine
learning method**

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Fermilab

Tuesday, November 5

4:00 pm - Rm 415 NSH

The Standard Model describes the building blocks of matter and their interactions. It has been tested extensively with experimental data and found to be incredibly successful in describing nature. Discovering the Higgs boson in 2012 at the LHC completed the picture of the SM. The LHC is at the forefront of directly searching for new physics which is Beyond-Standard-Model, and I will discuss searches for supersymmetric partners of the electroweak bosons, as well as measurement of an extremely rare process with three W bosons to stringently test the SM. I will also discuss the R&D studies towards solving the trigger and computing challenges at the HL-LHC by applying innovative machine learning techniques in future high energy experiments.



PHYSICS