

## ENRICO FERMI INSTITUTE COLLOQUIUM A NEW PATH TO NEW PHYSICS AT THE LHC

## WADE FISHER, Msu



MCP 201 Michelson Center for Physics 933 E 56th Street

During Run 2 of the LHC, experiments increased their data sample by a factor of 6 and researchers are diligently studying it for signs of new physics. Despite fleeting hints, no dramatic signs of new phenomena have been observed. Meanwhile, the LHC is currently shut down for a planned upgrade, with the promise of enhanced data collection capabilities starting this year. LHC researchers are preparing new strategies to find even more subtle signs of new physics, with an eye to future data sets 20 times larger than today. This presentation will describe some of the challenges and the opportunities awaiting the ATLAS collaboration, within the context of the broader state of particle physics in 2022.

