Physics & Astronomy Colloquium
Fall 2021

Tuesday, Sep 14th at 3:30 pm

(Zoom colloquia: Please find the meeting information below)

Dr. Breese Quinn

University of Mississippi

First Results from the Fermilab Muon g-2 Experiment

Almost 20 years ago, an experiment at Brookhaven National Laboratory measured the muon anomalous magnetic moment aμ=(g-2)/2 to a precision of 540 ppb. That result disagrees with the Standard Model prediction by 3.7 standard deviations (σ) and represents one of the strongest hints we have had of new physics for the past two decades. To investigate this longstanding tension, the Muon g-2 experiment was built at Fermilab using the BNL storage ring along with new muon beam and detector systems to achieve the goal of measuring aμ to a precision of ~100 ppb. I will present the first results from the ongoing FNAL Muon g-2 experiment, based on 6% of the expected final dataset. These first results confirm the earlier BNL measurement, and combined push the g-2 discrepancy to 4.2 σ giving us the strongest evidence to date of new physics beyond the Standard Model.

Zoom meeting ID: 995 291 7599 Passcode: PHAS

(Find more information at Department Colloquia Webpage)