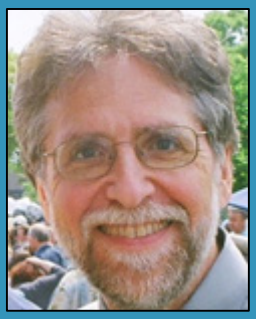
Particle Physics Seminar



Tuesday

April 10

4:00 P.M.

Rm 415 NSH

A Search for Charged Lepton Flavor Violation in Muon-Electron Conversion with a Sensitivity < 10^{-16}

Dr. Robert Bernstein
Scientist, FNAL

Mu2e will search for coherent, neutrino-less conversion of muons into electrons in the field of a nucleus with a sensitivity improvement of a factor of 10,000 over existing limits. Such a charged lepton flavor-violating reaction probes new physics at a scale unavailable by direct searches at either present or planned high energy colliders. The experiment both complements and extends the current studies at MEG and at the LHC. I will present the physics motivation for Mu2e, as well as the design of the muon beamline, tracking spectrometer, and calorimeter. I also discuss the possible evolution of the current program after Mu2e is complete.

PHYSICS