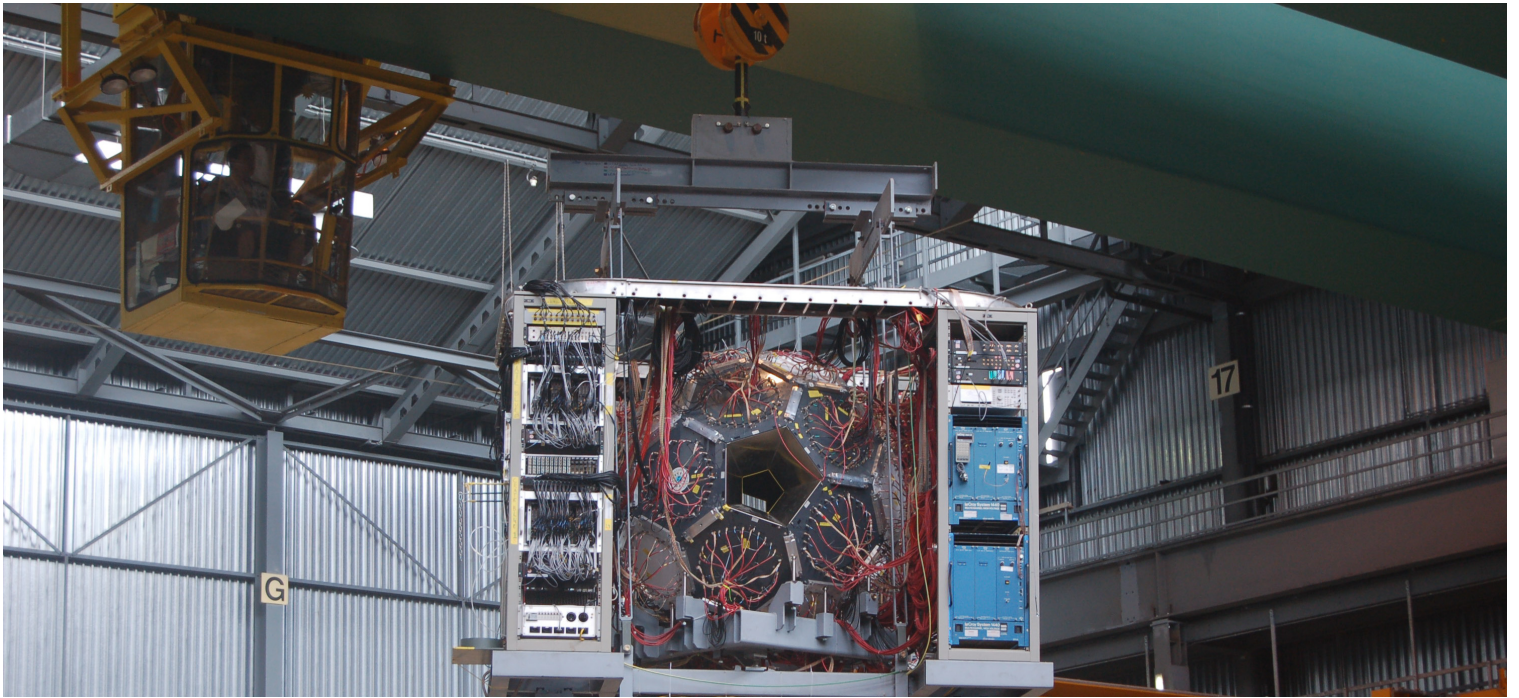


Boston University High Energy Experiment Seminar



MuLan: The Fermi Constant to 0.5 part per million

The Standard Model of Particle and Nuclear physics makes thousands of successful experimental predictions, based on roughly 20 input parameters, which must be experimentally determined. Current studies at the electroweak frontier in particular, require extremely precise values of a subset of these parameters, including the Fermi Constant. I will describe the MuLan experiment, which aims to measure the muon lifetime to a precision of one part per million, improving our knowledge of the Fermi Constant by a factor of twenty. I will describe the physics motivation for the experiment, emphasize the subtle design and analysis challenges involved in measurements at the precision frontier, and discuss both our early results and progress towards our ultimate physics goal.

Kevin Lynch

Boston University

March 26, 2009 (Thursday) at 3:30pm
3 Cummington St., Room 595, Boston University