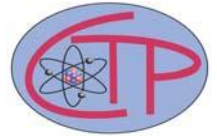




*NEW YORK CITY COLLEGE OF TECHNOLOGY*  
**Physics Department**  
**Center for Theoretical Physics**



## ***Top Quark and Higgs Boson at the LHC***

**Miguel C. N. Fiolhais**

**BMCC CUNY**

**Thursday, May 11 at 12:30**  
**Namm, Room 823**

The recent discovery of a new scalar particle, compatible with the SM Higgs boson, by the ATLAS and CMS collaborations of the Large Hadron Collider at CERN brought us the most important missing piece of the Standard Model. With the LHC operating at a center-of-mass energy of 13 TeV, this is an exciting epoch for particle physics as the next decade will feature an unprecedented quest for new physics beyond the SM. In this talk, the role of precision measurements of the top quark and Higgs boson properties in the search for new anomalous physics contributions will be explored. In particular, the measurement of the W boson polarization in top quark decays and the production of a top quark pair in association with a Higgs boson will be presented in detail.