

Title: Phenomenology of the Minimal pNGB Higgs

Speaker: Eduardo Pontón - IFT-UNESP and ICTP/SAIFR

Abstract

The ATLAS and CMS collaborations have discovered a scalar resonance with properties consistent with those of the Standard Model (SM) Higgs boson. This seems to complete a theoretical framework that has been extremely successful in describing microscopic phenomena up to energies of order the TeV scale, i.e. the scale of electroweak (EW) symmetry breaking. Nevertheless, it is an open question whether this particle is elementary down to extremely short distances, as it seems could be possible within the SM, or instead a composite particle with constituents that could be revealed at energies not far from the EW scale. The latter possibility, with the Higgs arising as a pseudo-Nambu Goldstone Boson (pNGB) of a new strongly interacting sector has received much attention. I will review the underlying ideas and the constructions that lend themselves to phenomenological applications. I will also explore how different realizations could be distinguished at the LHC by studying more precisely the properties of the 125 GeV resonance.