



detector seminar

SPEAKER: Rosa Simoniello
TITLE: **A detector for CLIC: performance optimisation and R&D;**
DATE: 9 Jun 2017, 11:00
PLACE: 40-S2-A01 - Salle Anderson

ABSTRACT

The Compact Linear Collider (CLIC) is one of the options for the future of CERN. It would provide electron-positron collisions with energy operation in three stages from a few hundred GeV up to 3 TeV. This offers a rich precision physics program combined with high sensitivity to a wide range of possible new phenomena. The precision required for such measurements and the specific conditions imposed by the beam bunch sizes and time structure put strict requirements on the detector design and technology development. This includes ultra-low mass vertexing and tracking systems with small cells, highly granular imaging calorimeters, and a precise hit-timing resolution for all subsystems. A complete model matching these requirements has been integrated in the CLIC simulation framework. A variety of detector optimisation studies have been carried out to establish the overall detector performance and to assess the impact of different technology options. In parallel, ambitious R&D programs, e.g. for silicon tracking detectors, are pursued for the testing, demonstration and validation of new approaches to address the challenging detector requirements.