

2010-2011 VUB Francqui Chair

Prof. Dr. Fabio Maltoni

Center for Cosmology, Particle Physics and Phenomenology (CP3), Université
Catholique de Louvain

LHC phenomenology: a journey from standard model measurements to new physics discoveries

Inaugural lecture, March 18, 2011, 16 – 17 h (VUB, auditorium E0.04)

Title: **An expedition to the TeraWorld : challenges and opportunities at the LHC**

Abstract: The recent start-up of the Large Hadron Collider (LHC) at CERN has opened a new era in the exploration of the fundamental laws of Nature. Phenomena at energy scales in the range of the Tera Electron Volt will be probed for the first time. Expectations are high and wide open: from finding the Brout-Englert-Higgs boson to possibly unveiling new symmetries, forces, matter constituents or even additional space-time dimensions. I illustrate the challenges and possible paths towards making discoveries at the LHC.

First lecture, March 25, 2011, 16-18 h (VUB, auditorium E0.05)

Title: **QCD at work: simulating events at the LHC**

Second lecture, April 1, 2011, 16-18 h (VUB, auditorium E0.05)

Title: **BEH boson phenomenology**

Third lecture, April 8, 2011, 16-18 h (VUB, auditorium E0.05)

Title: **The importance of being top**

Fourth lecture, April 15, 2011, 16-18 h (VUB, auditorium E0.05)

Title: **Hunting for New Physics**