

Beyond the Standard Model

Christophe GROJEAN

July 20-21-22 9:10 and July 23-24 10:15

Summary of the proposed lectures:

With the Higgs boson in their hands, particle physicists have, for the first time in history, a consistent description of the fundamental constituents of matter and of their interactions. Nonetheless, the Standard Model is not short of inadequacies and fails to explain some cosmological data. The lectures will provide some glimpses on how new physics beyond the Higgs might look like: new particles, new symmetries, new space-time dimensions, interplays between particle physics and cosmology...

Prerequisite knowledge and references:

The lectures would require any prior knowledge of physics beyond the standard model and will build upon the lectures by T. Shears, Y. Grossman and M. Kraemer earlier this month.

For a popular account: G. Giudice *"A Zeptospace odyssey"*. [CERN library link](#)

For a more technical account: P. Ramond *"Journeys beyond the standard model"*. [CERN library link](#)

Brief CV:

1999: PhD in theoretical high energy physics, Saclay, France (*"Symmetries and symmetry breakings beyond the electroweak theory"*)

1999--2001: postdoc UB Berkeley, USA

2001 – 2006: Staff scientist, Saclay, France

2006 – 2012: Staff scientist, CERN, Switzerland

2012 – 2014: Research professor, IFAE, Barcelona, Spain

2015 onwards: Leading scientist, DESY, Hamburg, Germany

Publications + Webpage:

<http://inspirehep.net/author/profile/C.Grojean.1>

<http://grojean.web.cern.ch/grojean/>