

**CENTRE D'ÉTUDES NUCLÉAIRES DE
BORDEAUX-GRADIGNAN**

Vendredi 23 Février 2018

à 11H

Un café sera servi à partir de 10h45

Stefania BORDONI

CERN

**Pathway to the next generation of LBN
experiments with the CERN Neutrino Platform**

The discovery of neutrino oscillations, awarded the Nobel Prize in 2015, has represented a real breakthrough in our understanding of fundamental particle physics and provided the first evidence of physics beyond the Standard Model. The measurement of δCP , together with the determination of the neutrino mass hierarchy and of the octant of θ_{23} , are still missing information to get a complete understanding of the neutrino oscillation phenomenon. Definitive measurements of such parameters will only be possible with the new generation of accelerator-based experiments which are characterised by very intense neutrino beams and extremely large and massive underground detectors. The two projects currently in the design phase are DUNE/LBNF in the USA and T2-HK in Japan and expected to switch on in 2026.

The coming years are crucial to define the physics potential of the future experiments and the Neutrino Platform, part of the CERN medium-term, plans to foster and support the activities to build the next generation of accelerator-based neutrino experiments.

In this talk I will review the current and future LBN experiments and how we are contributing to these efforts with the CERN Neutrino platform.

Salle des Séminaires du CENBG

Le Haut Vigneau - BP 120 - F-33175 Gradignan Cedex