

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

Vendredi 15 Janvier 2016

à

11H

Un café sera servi à partir de 10h45

Diego GONZALEZ-DIAZ

CERN

**Trends in the detection of Rare Interactions
with gaseous Time Projection Chambers**

Gaseous Time Projection Chambers (TPCs) are unparalleled devices when it comes to unambiguously spot a certain type of decay or interaction immersed on an ocean of unwelcome backgrounds. They allow a precise reconstruction of the event topology and its energy and so they are currently favorite choices in 2beta and 2p decays. TPCs are ubiquitous in nuclear research and in searches of exotic dark matter particles.

I will focus in my presentation on the state-of-the-art of TPCs devoted to this type of experiments, discussing both the charge readout (coupled to state-of-the-art micro-pattern gas detectors) and the optical readout (coupled to CCDs or SiPMs). Interestingly, they represent largely complementary approaches, and will be thus used for illustrating possible future trends and instrumentation challenges in Rare Event Searches.

Salle des Séminaires du CENBG

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