

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

**Jeudi 15 Décembre 2016**

**à 11H**

*Un café sera servi à partir de 10h45*

**Prof. Nathal SEVERRIJNS**

*Institute for Nuclear and Radiation Physics, KU Leuven University*

**Testing the Standard Model in beta-decay:  
Status and prospects**

Precise measurements of observables in beta decay allow testing the symmetries of the Standard Model or searching for physics beyond at the low-energy and high-intensity frontier. A non-exhaustive overview of this field will be presented based on selected, recent and planned state-of-the-art measurements that use a variety of techniques.

With the precision of these measurements reaching the per mille level small Standard Model effects now have to be included as well. The understanding of these, as e.g. weak magnetism, requires additional efforts, both from experiment and theory, in order to maintain optimal sensitivity to weak interaction properties. In addition, weak magnetism might also be at the heart of the so-called reactor neutrino anomaly.

Finally, the prospects and future of beta decay weak interaction studies in the era of the Large Hadron Collider will be briefly discussed as well.

**Salle des Séminaires du CENBG**

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