**Seminarium Studium Doktoranckiego NCBJ**

**czwartek, 17 października, godzina 9:00**

**Sala 404 w NCBJ, Pasteura 7**

**Speaker: Kamil Skwarczyński (Studium Doktoranckie NCBJ)**

**Title: Detection of (anti)neutrino interactions with outgoing protons in T2K**

Abstract: Precision for measurements of the oscillation parameters in the Tokai-to-Kamioka (T2K) experiment depends on our knowledge on (anti)neutrino-nucleus interactions. I will describe different interactions of (anti)neutrinos with emphasis on interactions on correlated nucleon pair (2p2h).

Those interactions were recently postulated and are still not confirmed experimentally. I will present visibility studies of 2p2h in antineutrino beam of T2K. Furthermore, I will describe upgrade plans concerning near detector of T2K, most notably new scintillation detector sFGD. New detector will help greatly with measuring (anti)neutrino interactions like 2p2h. Prototype of sFGD has been assembled and tested at CERN. I will present crosstalk behaviour in sFGD prototype based on protype tested at CERN.