**Seminarium Studium Doktoranckiego NCBJ**
**Thursday, 27 February, 9:00**
**Sala 404 w NCBJ, Pasteura 7**

Speaker:
**Piotr Kalaczyński (Studium Doktoranckie NCBJ)**

Title:
**CORSIKA simulations for KM3NeT: atmospheric charm and muon multiplicity reconstrucion**

Abstract:
In my talk I will present the concept of Extensive Air Showers (EAS) and the most popular tool to simulate them on an event-by-event basis: CORSIKA. This all will be in context of the KM3NeT experiment: European research infrastructure located at two sites at the bottom of the Mediterranean Sea. I will introduce both KM3NeT detectors and give a status on their construction and discuss their main physics goals. Structure of the whole KM3NeT simulation chain will be explained with focus on the CORSIKA branch. Finally application of CORSIKA simulations in a physics analysis (charmed component of air showers) and in a reconstrucion method (muon multiplicity using machine learning) will be shown.