

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE
UNIVERSITY OF SOUTHERN DENMARK, ODENSE

Mathematics seminar

Roberta Iseppi

Spectral triples and application to physics: the BV construction

Thursday 4 October 2018, 14:15-15:15
IMADA methods lab

Abstract

Spectral triples provide a really interesting mathematical framework to study physics and, in particular, gauge theories.

In this talk, I will start by presenting the physical motivation behind the so-called BV (BatalinVilkovisky) construction, which was first discovered in the context of quantization of gauge theories. Then, I will explain how this construction is mathematically implemented for finite dimensional theories.

Finally, I will describe how noncommutative geometry, via the introduction of the notion of BVspectral triple, allows to give a mathematical interpretation of all the physical concepts appearing in this construction, such as the duality bosons/fermions and particles/antiparticles, for $U(n)$ finite dimensional theories.

Host: David Kyed