

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

Mathematics seminar

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C*- algebras in Topology and Mathematical Physics

Thursday 14 March 2019, 13:15-14:15
D-IAS seminar room

Abstract

The study of C^* -algebras draws its inspiration from the duality between algebra and topology, as well as from the intrinsic non-commutativity of quantum mechanics. In this talk, I will describe how operator algebraic constructions naturally surface in topology and mathematical physics, notably in the study of gauge theories. I will explain how one can describe bundles in terms of modules over operator algebras, by illustrating the construction in the context of the well-known Hopf fibration. Furthermore, I will explain how gauge theories on graphs can be elegantly described using groupoid C^* -algebras.

Host: Wojciech Szymanski