IMIA Operator Algebra and Noncommutative Geometry Seminar
University of Wollongong

Title: Globally non-trivial almost-commutative manifolds

Speaker: Koen van den Dungen (University of Wollongong/Australian National University)

Time and Date: 3:30pm Thursday, 12 June 2014

Location: Room 39C.meeting room

Abstract: Within the framework of Connes' noncommutative geometry, the special case of almost-commutative manifolds is of particular interest for the construction of models in particle physics (such as the full standard model or possible extensions thereof). Such almost-commutative manifolds are described in terms of globally trivial vector bundles. In this talk I will describe how to generalise this approach to the globally non-trivial case. I will focus on those globally non-trivial almost-commutative manifolds which can be used to describe a gauge theory on the underlying manifold. Next, I will discuss till what extent these objects can be described in purely operator-algebraic terms. This talk is based on joint work with Jord Boeijink (Radboud University Nijmegen).