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

Mathematics seminar

Christian Voigt
University of Glasgow

A deformation of the Baum-Connes assembly map

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IMADA seminar room

Abstract

A central theme in the study of K-theory of operator algebras is the Baum-Connes conjecture, which predicts the K-theory of group C^*-algebras and crossed products. In the case of complex semisimple Lie groups like SL(n, \mathbb{C}), the conjecture can be reformulated as saying that a certain deformation induces an isomorphism in K-theory.

In this talk I'll first review these constructions and results, and then explain a similar picture for complex semisimple quantum groups. These quantum groups can be viewed as deformations of classical complex semisimple groups; on a technical level they are obtained using the Drinfeld double construction. In particular, I'll show how to obtain an analogue of the Baum-Connes assembly map in this setting. The quantum assembly map is an isomorphism, and it contains the classical Baum-Connes assembly map as a direct summand. I'll also discuss how the various deformations involved fit together in a conceptual way. (joint with A. Monk)

Host: David Kyed