

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

## Mathematics seminar

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### Finite abelian group actions on Kirchberg algebras

Thursday 14 September 2017, 14:15-15:15  
IMADA seminar room

#### Abstract

In this talk I will summarize some of my research carried out at SDU during the last two years. The talk is based on three different but thematically related joint projects with Xin Li, Gábor Szabó, and Wojciech Szymański, respectively. In the first project, we characterize for certain actions on Kirchberg algebras when the associated crossed products satisfy the universal coefficient theorem by Rosenberg-Schochet. The other two projects deal with actions by quasi-free automorphisms on graph  $C^*$ -algebras in the sense of Evans and Zacharias. We will see that for a considerably large class of graphs, all of which giving rise to Kirchberg algebras, outer actions of finite, abelian groups by quasi-free automorphisms are strongly approximately inner in the sense of Izumi, and thus classifiable. Finally, we will address the question of which finite, abelian group actions on the Cuntz algebra  $O_2$  are conjugate to actions by quasi-free automorphisms on graph  $C^*$ -algebras. We will give an affirmative answer for actions associated to a certain natural class of unitaries of the Cuntz algebra. Consequently, these action all turn out to have the Rokhlin property.

Host: David Kyed