

Department of Mathematics, BGU

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# Operator Algebras

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*On Tuesday, November ,8 2016*

*At 16:00 – 17:00*

*In Math 101-*

Magdalena Georgescu (BGU)

will talk about

## **Noncommutative geometry and spectral flow**

Abstract: The goal of this talk is to explain the connection of spectral flow to K-theory/K-homology, and to introduce the  $p$ -summable integral formula for spectral flow. Recall that spectral flow (introduced in the talk on Nov. 1st) measures, for a path of Breuer-Fredholm self-adjoint operators, the net amount of spectrum which crosses zero in the positive direction as you move along the path. In a specific context, the spectral flow can be used to calculate the index pairing between K-theory and K-homology. I will start with a bird's eye view of K-theory and K-homology, leading up to the main result of the talk, which is the  $p$ -summable integral formula for spectral flow.