Analysis Seminar

Thursday, April 14, 2016

12:00-13:00 − Room 646 PGH

Speaker: Branimir Ćaćić (Texas A&M University)

Title: Spectral triples for discrete groups

Abstract: The Pontrjagin dual of an Abelian discrete group is a compact topological group, but if the Abelian discrete group is finitely generated, then its dual is actually a Lie group. The reduced group C^*-algebra of a non-Abelian discrete group is certainly a compact quantum group, but under what conditions can we endow it with the structure of a noncommutative manifold? In this talk, I'll recall Connes's construction of spectral triples for discrete groups endowed with a proper length function, and then I'll discuss how to refine this construction for discrete groups endowed with an array (in the sense of Chifan and Sinclair), e.g., a-T-menable groups together with a witnessing proper 1-cocycle. This is joint work in progress with Steve Avsec.