Speaker: Victor Nistor

Title: Relations between some results of Feigin-Tsygan, delocalized equivariant infinitesimal cohomology, and the cross-products of finite type algebras

Abstract: A (complex) finite type algebra is a unital complex algebra A that is a finitely generated module over its center $Z(A)$, which, in turn, is assumed to be a finitely generated complex algebra. These algebras arise in the study of reductive p-adic groups, the most notable example being that of a Hecke algebra. Another, closely related example is that of the crossed product of the coordinate ring of an affine algebraic variety by the action of a finite group. Using some results of Feigin-Tsygan, Kazhdan, Nistor, and Schneider have shown that the periodic cyclic homology of a finite type algebra is directly related to the cohomology of its (primitive ideal) spectrum via a spectral sequence. In the C^∞-case and for crossed product algebras $C^\infty(X) \rtimes G$, a more precise result (due in different forms to Brylinski, Baum-Connes, and Feigin-Tsygan) identifies the periodic cyclic homology to the delocalized equivariant cohomology (with complex coefficients). Here G is finite. The goal of this talk is to explain how to extend this result to the algebraic case. This is joint work with Brodzki and Dave.