Lie Groups and Representation Theory Seminar at the University of Tokyo

リー群論・表現論セミナー

DATE July 14 (Tue), 2015, 17:00–18:30

PLACE Room 122, Graduate School of Mathematical Sciences

SPEAKER **Paul Baum** (Penn State Univeristy)

TITLE MORITA EQUIVALENCE REVISITED

ABSTRACT Let X be a complex affine variety and k its coordinate algebra. A k-algebra is an algebra A over the complex numbers which is a k-module (with an evident compatibility between the algebra structure of A and the k-module structure of A). A is not required to have a unit. A k-algebra A is of finite type if as a k-module A is finitely generated. This talk will review Morita equivalence for k-algebras and will then introduce — for finite type k-algebras —a weakening of Morita equivalence called geometric equivalence. The new equivalence relation preserves the primitive ideal space (i.e. the set of isomorphism classes of irreducible A-modules) and the periodic cyclic homology of A. However, the new equivalence relation permits a tearing apart of strata in the primitive ideal space which is not allowed by Morita equivalence.

Let G be a connected split reductive p-adic group, The ABPS (Aubert–Baum–Plymen–Solleveld) conjecture states that the finite type algebra which Bernstein assigns to any given Bernstein component in the smooth dual of G, is geometrically equivalent to the coordinate algebra of the associated extended quotient. The second talk will give an exposition of the ABPS conjecture.