

Lie Groups and Representation Theory Seminar at the University of Tokyo

リ一群論・表現論セミナー

DATE July 21 (Tue), 2015, 17:00–18:30

PLACE Room 122, Graduate School of Mathematical Sciences

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

TITLE GEOMETRIC STRUCTURE IN SMOOTH DUAL

ABSTRACT Let G be a connected split reductive p -adic group. Examples are $GL(n, F)$, $SL(n, F)$, $SO(n, F)$, $Sp(2n, F)$, $PGL(n, F)$ where n can be any positive integer and F can be any finite extension of the field Q_p of p -adic numbers. The smooth (or admissible) dual of G is the set of equivalence classes of smooth irreducible representations of G . This talk will first review the theory of the Bernstein center. According to this theory, the smooth dual of G is the disjoint union of subsets known as the Bernstein components. The talk will then explain the ABPS (Aubert–Baum–Plymen–Solleveld) conjecture which states that each Bernstein component is a complex affine variety. Each of these complex affine varieties is explicitly identified as the extended quotient associated to the given Bernstein component.

The ABPS conjecture has been proved for $GL(n, F)$, $SO(n, F)$, and $Sp(2n, F)$.