

TTT74
05 July 2010
John Frank Adams Room
Alan Turing building, The University of Manchester
Titles and Abstracts

11:30-12:30 Dr. A. Gonzalez (Barcelona)

Title: Unstable Adams operations acting on p -local compact groups and fixed points.

Abstract: p -local compact groups were recently introduced by C. Broto, R. Levi and B. Oliver as algebraic models for p -completions of classifying spaces of compact Lie groups and p -compact groups. In this new setting, a definition of unstable Adams operations for p -local compact groups was provided in F. Junod, along with a proof of their existence in all cases.

We then study the action of such operations on a fixed p -local compact group, and study whether the corresponding fixed points form a p -local finite group. The importance of such a result is great: first, this would provide a unifying statement and proof for results on compact Lie groups and p -compact groups. Also, this would provide a powerful tool to extend known results on p -local finite groups to the compact case. Some examples will be discussed at the end.

14:15 - 15:15 Dr. J. Giansiracusa (Swansea)

Title: Modular operads and diffeomorphisms of 3-dimensional handlebodies.

Abstract: Configurations spaces of points in the plane form an operad, and configuration spaces of framed points form a cyclic operad (the roles of inputs and outputs can be exchanged). I will describe how the modular operad generated by this cyclic operad gives a model for $B\text{Diffs}$ of 3-dimensional handlebodies. This leads to a graph complex computing the cohomology of these $B\text{Diffs}$.

16:00-17:00 Prof. Ronnie Brown (Bangor)

Title: Some strict higher homotopy groupoids: intuitions, examples, applications, prospects.

Abstract: The aim is to show how the idea of ‘algebraic inverse to subdivision’ led to a family of strict higher homotopy groupoids more intuitive and powerful than the earlier relative homotopy groups, through having structure in a full range of dimensions and also the advantages of symmetry and multiple compositions. These structures help not only to understand traditional

structures of such homotopy groups, such as actions but can allow specific calculations of some such groups through calculation of richer structures, modelling the n -types. Even richer structures allow calculations of say Whitehead products and new results such as an n -adic Hurewicz theorem.