

Talk Title: Lie models of classifying spaces.

Abstract: In Rational Homotopy Theory, the Lie algebras allow us to model topological spaces to obtain rational information about its homotopy and homology up to torsion. If L is the Lie model of a simply connected space X then, we know how to model the universal covering of the classifying space $\text{Baut}^*(X)$ by means of the Lie algebra of derivations, $\text{Der } L$. However, this classical result is doubly limited by the fact that the topological space is simply connected and that we do not have information about the fundamental group of the classifying space.

In this talk, I present some new techniques that give a generalization of the result above. Using complete Lie algebras of derivations, we can obtain relevant information about $\text{Baut}^*(X)$, even in the case of X not being simply connected.

This is a joint work with Yves Félix and Aniceto Murillo.