CHROMATIC HOMOTOPY, K-THEORY AND FUNCTORS

CIRM, LUMINY, 23-27.01.2023

THUSADY 17:00 – 18:00, **Yury Berest** (Cornell University):

Spaces of Quasi-invariants.

Quasi-invariants are natural geometric generalizations of classical invariants of finite reflection groups. They first appeared in mathematical physics in the early 1990s, and since then have found applications in many other areas: most notably, representation theory, algebraic geometry and combinatorics.

In this talk, I will explain how the algebras of quasi-invariants can be realized topologically as diagrams of spaces naturally attached to compact connected Lie groups. Our main result is a generalization of a well-known theorem of A. Borel that realizes the algebra of invariant polynomials of a Weyl group W as the cohomology ring of the classifying space BG of the associated Lie group G. Most interesting perhaps is the fact that the spaces of quasi-invariants can be also constructed for non-Coxeter (p-adic) pseudo-reflection groups, in which case the compact Lie groups are replaced by p-compact groups, a.k.a. homotopy Lie groups.

Based on joint work with Ajay C. Ramadoss.