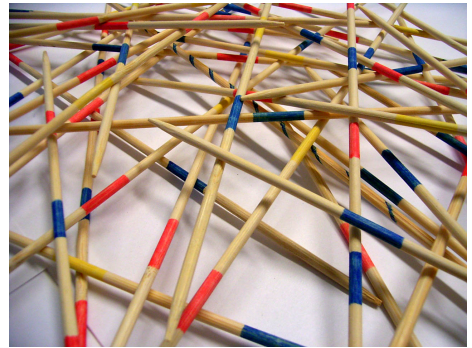


Oberseminar Geometrie
Department of Mathematics
University of Fribourg
Seminar room, Math II (Lonza)
Wednesday November 18, 2015, 10:20-12:00



IVAN MARTINO (Fribourg)

Arrangements of subspaces for finite groups and certain motivic computations

I am going to introduce the notion of classifying stack, BG , of a (finite) group G , its class in the Grothendieck ring of algebraic stacks.

Then, I am going to sketch the proof that the motivic class of the classifying stack of every finite linear (or projective) reflection group is trivial. The argument rests on the combinatorial analysis of a formula by Ekedahl interpreted in terms of certain subspace arrangements A^V associated to any representation V of a finite group.

This arrangement and its quotient by the canonical action of the group seems to be a key combinatorial object also in the study of the motivic class of the quotient variety U/G . Here U is the open set of V where the group acts trivially. I am going to prove that if G is a finite subgroup of $GL_3(k)$ then the class of U/G is combinatorially encoded by the arrangement A^V . (k is an algebraically closed field of characteristic zero.)

These studies relate naturally to invariant theory and to Noether's Problem. Several examples of groups G where the class of BG is not trivial arise from counterexamples to Noether's Problem.

(Partial joint work with Emanuele Delucchi.)