

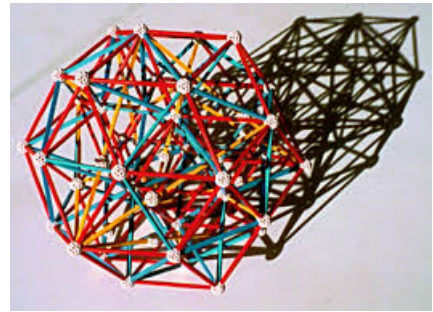
Oberseminar Geometrie

Department of Mathematics

University of Fribourg

Physics 2.52

Wednesday October 6, 2021, 10:10 – 12:00



10:10 – 11:00

Brent Everitt (York University)

Arrangements and their (co)homology

An arrangement is a finite collection of hyperplanes in a vector space over some field. An ancient theorem of Lusztig says that if the arrangement consists of all the hyperplanes in a vector space over a finite field, then a certain brand of homology vanishes in all but the top and bottom degrees. This talk gives an overview of different things that the phrase "(co)homology of an arrangement" might mean, and finishes by generalizing Lusztig's result.

11:10 – 12:00

John Parker (Durham University)

Cusp regions associated to screw parabolic maps

A famous result of Margulis says that regions of a hyperbolic manifold with small injectivity radius are either tubes or cusp regions. In this talk I will focus on the shape of cusp regions in dimension 4 associated to screw parabolic maps whose rotation angle is an irrational multiple of π . A beautiful paper of Erlandsson and Zakeri shows the shape of these regions is very complicated and depends on the continued fraction expansion of the rotation angle. I will describe this and then go on to show how to produce a simpler region lying inside the Margulis region.