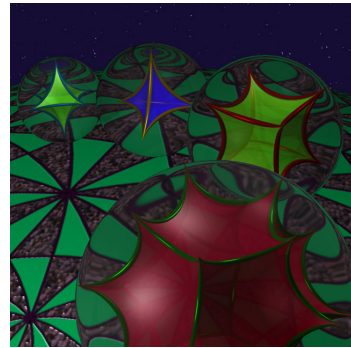


Oberseminar Geometrie
Department of Mathematics
University of Fribourg
Seminar room, Math II (Lonza)
Wednesday May 15, 2019, 10:20-12:00



DOMINIK GRUBER (ETH Zurich)

New examples of infinite n -periodic groups

Burnside's problem on the existence of infinite finitely generated n -periodic groups was one of the major questions of 20th century combinatorial group theory. While we by now know that such groups exist, producing examples satisfying additional interesting properties has remained a notoriously difficult task.

We will discuss two results providing such examples. The first result (joint work with Rémi Coulon) is based on small cancellation theory and yields an explicit and easy-to-apply, yet powerful method for constructing infinite finitely generated n -periodic groups. The second result (joint work with John Mackay) shows that, in a suitable model for random groups, generic quotients of free Burnside groups are infinite. Both proofs rely on constructing acylindrical actions of groups on Gromov hyperbolic spaces.