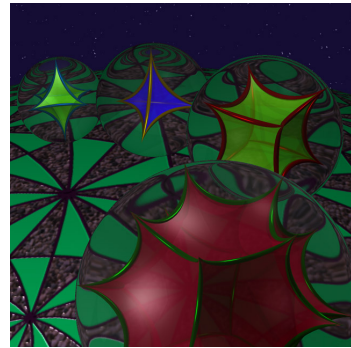


Oberseminar Geometrie
Department of Mathematics
University of Fribourg
Seminar room, Math II (Lonza)
Wednesday March 6, 2019, 10:20-12:00



TOMOSHIGE YUKITA (Waseda)

A new example of hyperbolic Dehn filling in dimension 4

Recently, there was a progress in 4-dimensional hyperbolic geometry; for examples, construction of hyperbolic 4-manifolds, deformation theory of discrete groups in $\text{Isom}(\mathbb{H}^4)$, hyperbolic Dehn fillings, and so on.

In this talk, we will begin by giving a brief survey of the recent development, mainly focus on the construction of hyperbolic 4-manifolds and hyperbolic Dehn fillings in dimension 4. After that, we consider a hyperbolic 4-polytope defined by one of Napier cycles and construct a new analytic path of closed hyperbolic cone 4-manifolds that interpolates two cusped hyperbolic 4-manifolds. Such a deformation procedure can be considered as a 4-dimensional analog of Thurston's hyperbolic Dehn filling. This is joint work with Gye-Seon Lee, Ludovic Marquis, and Stefano Riolo.