

Department of Mathematics, BGU

Geometry and Group Theory

On Sunday, January ,15 2017

At 14:30 – 15:30

In 101-

Arielle Leitner (Technion)

will talk about

Transitions of the Diagonal Cartan Subgroup in $SL(n, \mathbb{R})$

Abstract: A geometric transition is a continuous path of geometries which abruptly changes type in the limit. The most intuitive example is to imagine blowing up a sphere so that eventually it becomes so large, it looks like a plane. This is a transition from spherical geometry to Euclidean geometry.

We will study limits of the Cartan subgroup in $SL(n, \mathbb{R})$. A limit group is the limit under a sequence of conjugations of the Cartan subgroup in $SL(n, \mathbb{R})$. We will show using the hyperreal numbers that in $SL(3, \mathbb{R})$ there are 5 limit groups, each determined by a degenerate triangle.

In the second part of the talk, we will show that for $n \geq 7$ there are infinitely many nonconjugate limit groups of the Cartan subgroup.