

Department of Mathematics, BGU

BGU Probability and Ergodic Theory (PET) seminar

On Thursday, March ,31 2022

At 11:10 – 12:00

In 101-

Annette Karrer (Technion)

will talk about

The rigidity of lattices in products of trees

Abstract: Each complete $CAT(0)$ space has an associated topological space, called visual boundary, that coincides with the Gromov boundary in case that the space is hyperbolic. A $CAT(0)$ group G is called boundary rigid if the visual boundaries of all $CAT(0)$ spaces admitting a geometric action by G are homeomorphic. If G is hyperbolic, G is boundary rigid. If G is not hyperbolic, G is not always boundary rigid. The first such example was found by Croke-Kleiner.

In this talk we will see that every group acting freely and cocompactly on a product of two regular trees of finite valence is boundary rigid. That means that every $CAT(0)$ space that admits a geometric action of any such group has the boundary homeomorphic to a join of two copies of the Cantor set. The proof of this result uses a generalization of classical dynamics on boundaries introduced by Guralnik and Swenson. I will explain the idea of this generalization

by explaining a higher-dimensional version of classical North-south-dynamics obtained this way.

This is a joint work with Kasia Jankiewicz, Kim Ruane and Bakul Sathaye.