



DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

Colloquium

SPACES AND SYMMETRIES OF GROUP ACTIONS ON TREES

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ABSTRACT:

Group actions on trees are ubiquitous in geometric group theory and a fruitful source of both strange examples and powerful theorems. If a group acts without global fixed point on a tree, it typically does so in many ways, leading Forester, Clay and Guirardel–Levitt to initiate the study of deformation spaces of trees. I will begin with examples of group actions on trees: fundamental groups of graphs, surfaces and 3-manifolds, as well as $SL_2(\mathbb{Z})$, and discuss the idea of a graph of groups. From there we will meet deformation spaces of trees and think about how to move around in them. Along the way I will discuss my work understanding the group of symmetries of a deformation space with applications to the geometry of deformation spaces, dynamical properties of outer automorphisms and algorithmic questions about groups acting on trees. This will include joint work in progress with Lee Mosher.

4 – 5pm

Wednesday, December 21, 2022

Room 204, Smith Hall