

BI-CO MATHEMATICS COLLOQUIUM

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“Big Mapping Class Groups and Their Actions on Infinite Graphs”

Monday, February 3, 2020

Talk at 4:00 – Hilles 109

Tea at 3:30 – Hilles 208, Math Lounge

Abstract:

One natural way to study a "finite type" surface (for example a torus, or an n -holed torus) is through its group of symmetries, which is called the mapping class group. Associated to this group is a certain infinite graph, called the curve graph, and studying the interplay between these two is extremely useful for understanding the algebraic and geometric properties of the mapping class group.

Recently, there has been an interest in studying the analogues of these objects for "infinite type" surfaces (for example, surfaces with infinitely many holes) and trying to understand the interaction between mapping class groups and curve graphs in this setting. In this talk, I will explain these stories in detail (no extensive background will be assumed in this area) and then go on to describe the problem of explicitly constructing infinite-type mapping classes with interesting actions on an associated graph. This represents joint work with Carolyn Abbott and Priyam Patel.

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