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Priyam Patel* (patelp@math.utah.edu), **Carolyn Abbott** and **Nicholas Miller**. *Infinite-type mapping class groups and their actions on hyperbolic graphs*. Preliminary report.

Given a finite-type surface, there are two important objects naturally associated to it. The first is the mapping class group: the group of homeomorphisms of the surface up to isotopy. The second is the curve graph: an infinite-diameter hyperbolic graph on which the mapping class group acts via isometries. This action is well understood and has been extremely useful in understanding the algebraic and geometric properties of mapping class groups. There has been a recent surge of interest in surfaces of infinite type, and in this talk we shift our focus to their mapping class groups. I will first discuss the problem of choosing an appropriate graph for the mapping class group to act on in this setting, and then describe recent joint work with Carolyn Abbott and Nicholas Miller explicitly constructing mapping classes with interesting (loxodromic) actions on this graph. If time permits, I will discuss some results about 3-manifolds arising as mapping tori for these mapping classes. (Received September 10, 2020)