

1096-AG-2084 **Tara Brendle*** (tara.brendle@glasgow.ac.uk), School of Mathematics & Statistics, 15
University Gardens, University of Glasgow, Glasgow, G12 9PX, United Kingdom. *Finite
generation of the mapping class group and the complex of curves.*

A surface homeomorphisms supported on an annulus is known as a Dehn twist. It turns out these small, simple elements are the basic building blocks of the entire mapping class group of any surface, that is, Dehn twists generate the group. In other words, every homeomorphism of a surface can given by a finite sequence of Dehn twists (up to isotopy), much the same as one can solve any Rubik's cube puzzle by a finite sequence of twists. In this talk we will describe Dehn twists, and, as a first step, show that the (infinite) set of all Dehn twists generates the mapping class group. We will then introduce the complex of curves of a surface, and explain how to use this powerful combinatorial tool to show that in fact a finite set of Dehn twists suffices to generate. Consequences of this fundamental theorem include the fact that the mapping class group (for genus at least 3) is perfect, that is, its abelianization is trivial. (Received September 17, 2013)