Geometry, Groups and Dynamics/GEAR Seminar
(held at the Illinois hub of GEAR **)**

12:00 pm, Tuesday, November 15, 2016, 243 Altgeld Hall
Mark Bell (Illinois Math)
Polynomial-time Nielsen--Thurston classification
We will discuss a new polynomial-time algorithm, joint with Richard Webb, for computing the Nielsen--Thurston type of a mapping class. The procedure works by considering the maps action on the curve graph. To be able to compute this action, we need to be able to construct geodesics through the curve graph. However, this graph is locally infinite and so standard pathfinding algorithms struggle. We will discuss a new refinement of the techniques of Leasure, Shackleton, Watanabe and Webb for overcoming this local infiniteness that allows such geodesics to be found in polynomial time.

Video