Speaker: Timothy Susse

Title: Flows, dynamics and algorithms for 3-manifold groups

Abstract: A bounded flow function is a discrete dynamical system on a finitely presented group, mapping the set of paths in the Cayley graph into itself, such that path lengths increase in a bounded way and iteration eventually maps every path into a fixed maximal tree. A group is called stackable if it admits a bounded flow function, and autostackable if the flow can be computed by a finite state automaton (FSA). Thus, the word problem for an autostackable group can be solved using only an FSA. In this talk we will introduce autostackability, discuss its relationship with geometry and outline a proof that all closed 3-manifold groups are autostackable. This is joint work with Mark Brittenham and Susan Hermiller.