ADAM CLAY, Université du Québec à Montréal
Foliations of graph manifolds and left-orderability

There is a conjectured relationship between left-orderability of the fundamental group of a 3-manifold M, the existence of taut foliations in M, and whether or not M is an L-space. We show that when M is a rational homology sphere graph manifold, M admits a co-orientable taut foliation if and only if the fundamental group of M is left-orderable. The proof is constructive, inspired by known surgery results relating to foliations and L-spaces. In particular, the construction allows us to associate nice properties of foliations in M with nice properties of left-orderings of the fundamental group of M, and vice versa. This is joint work with Liam Watson and Steve Boyer.