

**Speaker:** Akshay Venkatesh

**Title:** Diophantine problems and the Torelli map

**Abstract:** I will explain joint work with Brian Lawrence which reduces the Mordell conjecture to proving that certain algebraic families have large monodromy. I will explain carefully how this works in the model case of the  $S$ -unit equation.

The same ideas can be applied to bound the set of varieties in a given family with good reduction outside a fixed set  $S$ . I will describe a modest application along these lines to hypersurfaces in projective space. Here we make essential use of very recent results (due to Bakker and Tsimerman) concerning the transcendence of period maps.