Abstracts Week 4 (Monday and Friday)

Bhargav Bhatt

Title: Algebraization and Tannaka duality

Abstract: I'll explain how derived methods help solve some elementary algebraization questions about maps of schemes. In particular, I will give a description of the arc space functor that does not use formal schemes.

Christopher Hacon

Title: On the boundedness of the functor of KSBA stable varieties

Abstract: Let X be a canonically polarized smooth n-dimensional projective variety over $\mathbf{C}$ (so that ω_X is ample), then it is well-known that a fixed multiple of the canonical line bundle defines an embedding of X in projective space It then follows easily that if we fix certain invariants of X, then X belongs to finitely many deformation types. Since canonical models are rarely smooth, it is important to generalize this result to canonically polarized n-dimensional projective varieties with canonical singularities. Moreover, since these varieties specialize to non-normal varieties it is also important to generalize this result to semi-log canonical pairs. In this talk we will explain a strong version of the above result that applies to semi-log canonical pairs.

This is joint work with C. Xu and J. McKernan

James McKernan

Title: Toroidal modifications

Abstract: Shokurov has conjectured that the set of log discrepancies of singularities in a fixed dimension satsfies the ACC (ascending chain condition). As part of an attempt to approach this conjecture, we propose a conjectural partial classification of log terminal singularities, which uses toric singularities as a building block.