

**Speaker:** Ziyang Gao

**Title:** Heights in 1-parameter families of abelian varieties

**Abstract:** Given an abelian scheme over a smooth curve over a number field, we can associate two height functions: the fiberwise defined Neron-Tate height and a height function on the base curve. For any irreducible subvariety  $X$  of this abelian scheme, we prove that the Neron-Tate height of any point in an explicit Zariski open subset of  $X$  can be uniformly bounded from below by the height of its projection to the base curve. This height inequality can many applications, for example it can be used to prove the Geometric Bogomolov Conjecture over characteristic 0. This is joint work with Philipp Habegger.