Speaker: Levent Alpoge

Title: A "height-free" effective isogeny estimate for GL_2-type abelian varieties

Abstract: We prove a "height-free" effective isogeny estimate for abelian varieties of GL_2-type.

More precisely, let $g \in \mathbb{Z}^+$, K a number field, S a finite set of places of K, and $A, B/K$ g-dimensional abelian varieties with good reduction outside S which are K-isogenous and of GL_2-type over $\overline{\mathbb{Q}}$. We show that there is a K-isogeny $A \to B$ of degree effectively bounded in terms of g, K, and S only.

We deduce an effective open image theorem for these abelian varieties, as well as an effective upper bound on the number of S-integral K-points on a Hilbert modular variety.