If you go to the Kifune Shrine in Kyoto (it must be at midnight), you can cut out a piece of paper, write the name of your enemy on it, and hammer nails into it to hurt them... This is like the Zariski topology; if you take a polynomial and hammer it enough times in $\mathbb{C}$, it will die.

—Kazuya Kato

THE TRIVIAL NOTIONS SEMINAR

Dylan Pentland

will speak on

Abelian varieties over a finite field

ABSTRACT

Over the complex numbers, it is (relatively) easy to understand the category of abelian varieties using Hodge structures. Over a finite field this becomes much more difficult but is actually still possible!

Honda–Tate theory gives a complete description of the isogeny category of abelian varieties over $\mathbb{F}_q$. We'll go over what exactly this description entails and give a brief explanation about how the proof goes. At the end, I'll talk about a recent result of Centeleghe and Stix which heavily uses Honda–Tate theory to give a description of the category of abelian varieties over $\mathbb{F}_q$.

Friday, November 4, 2022
at 11.50am
Science Center, Room 507