Harvard-MIT Algebraic Geometry Seminar

A generic vanishing theorem in positive characteristic

Zsolt Patakfalvi
Princeton

I will present a generic vanishing type theorem in positive characteristic. I will also introduce a new invariant the S-Kodaira dimension which can be thought of as the Frobenius stable Kodaira dimension. Example application of the above mentioned generic vanishing type theorems, that I will present, are: 1.) if the S-Kodaira dimension of a smooth variety $X$ over an algebraically closed field of positive characteristic is zero then the Albanese morphism of $X$ is surjective. In particular, the first Betti number of $X$ is at most twice the dimension of $X$. 2.) a characterization of smooth projective varieties birational to ordinary abelian varieties.

(joint work with Christopher Hacon)

Tuesday, April 8
4:00 – 5:00 p.m.
Harvard (SC 507)