Abstract:
Nori proved in 2002 that given a complex algebraic variety $X$, the bounded derived category of the abelian category of constructible sheaves on $X$ is equivalent to the usual triangulated category $D(X)$ of bounded constructible complexes on $X$. He moreover showed that given any constructible sheaf $\mathcal{F}$ on $\mathbb{A}^n$, there is an injection $\mathcal{F} \hookrightarrow \mathcal{G}$ with $\mathcal{G}$ constructible and $H^i(\mathbb{A}^n, \mathcal{G}) = 0$ for $i > 0$.

In this talk, I'll discuss how to extend Nori’s theorem to the case of a variety over an algebraically closed field of positive characteristic, with Betti constructible sheaves replaced by $\ell$-adic sheaves. This is the case $p = 0$ of the general problem which asks whether the bounded derived category of $p$-perverse sheaves is equivalent to $D(X)$, resolved affirmatively for the middle perversity by Beilinson.

Special Note:
Pre-talk 1:30 PM