On the motivic class of the commuting variety

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In 1960, Walter Feit and Nathan Fine discovered an elegant polynomial formula counting the number of $\mathbb{F}_q$ points on the commuting variety, i.e. pairs of commuting matrices over the finite field $\mathbb{F}_q$. This formula is in fact valid in the Grothendieck ring of varieties over any base field. We will explain a new geometric proof which leads to several refinements and generalizations of the original result recently used to find the virtual motives of $\text{Hilb}^n(\mathbb{C}^3)$.

Tuesday, May 6
4:00 – 5:00 p.m.
Harvard (SC 507)