

Speaker: Stefan Patrikis

Title: Variations on a theorem of Tate

Abstract: Let F be a number field. Tate showed that projective representations of the absolute Galois group of F necessarily lift to actual representations. This talk will discuss some refinements of this result, as well as automorphic and motivic analogues. The automorphic variant is most interesting when one considers its interaction with algebraicity of automorphic representations. The motivic variant leads to a (mostly conjectural) generalization and arithmetic refinement of the classical construction of Kuga-Satake, which associates to any complex $K3$ surface a complex abelian variety.