Algebra and Number Theory Seminar

Galois theory of iterated endomorphisms

Jeremy Rouse
Wake Forest

Abstract: The basic question we study is the following. Given an abelian algebraic group A defined over $\mathbf{Q}$, a point α in $A(\mathbf{Q})$, and a prime ℓ, what fraction of primes p have the property that the reduced point α in $A(\mathbf{F}_p)$ has order coprime to ℓ?
Associated with the choice α and ℓ is an arboreal Galois representation. We give surjectivity criteria for this representation and use these to answer the question above in many examples where A is an algebraic torus or an elliptic curve.

Tuesday, October 5, 2010, 3:00 pm
Mathematics and Science Center: E408

Mathematics and Computer Science
Emory University