Robert Rumely (University of Georgia). "The Fekete-Szego theorem with local rationality conditions."

Abstract: he classical Fekete-Szego theorem says that if E is a compact set in the complex plane, stable under complex conjugation, and if E has logarithmic capacity greater than 1, then each neighborhood of E contains infinitely many conjugate sets of algebraic integers. Raphael Robinson sharpened this by showing that if E is contained in the real line and has logarithmic capacity greater than 1, then every real neighborhood of E contains infinitely many conjugate sets of totally real algebraic integers. Robinson's theorem turns out to be a very general phenomenon, which generalizes to an adelic setting on algebraic curves. This talk will discuss that generalization and illustrate it with examples on the projective line, elliptic curves, Fermat curves, and Modular curves.