Integral point in orbits of rational functions

Vijay Sookdeo, Catholic University of America

Abstract: Let $f$ be a rational function with rational coefficients. The forward orbit of a rational number $p$ under $f$ is the collection of all images $p, f(p), f(f(p)), \ldots$. The backward orbit of $p$ under $f$ is the collection of all pre-images of $p$. A theorem of J. Silverman gives a condition for when the forward orbit of $p$ contains at most finitely many integers. We will introduce a conjecture for when the backward orbit of $P$ contains at most finitely many "integral" points, and discuss results towards this conjecture.

Monday, November 10 at 3:45 in Roop 103
refreshments at 3:30