

**Department of Mathematics and Statistics Colloquium**

# **Integral point in orbits of rational functions**

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**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  $p, f(p), f(f(p)), \dots$ . 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 Room 103  
refreshments at 3:30**