1070-11-52 **Joseph H Silverman*** (jhs@math.brown.edu), Mathematics Department - Box 1917, Brown University, Providence, RI 02912. *Number Theory and Dynamical Systems: A Survey.*

Recent years have seen a flourishing new field in which one studies dynamical analogues of classical results and conjectures in algebraic number theory and arithmetic geometry. In this talk I will give a survey of fundamental problems and recent results in arithmetic dynamics. To give a flavor of the talk, I mention two examples. The first is the study of the arithmetic properties of (pre)periodic points. Preperiodic points are dynamical analogues of torsion points on abelian varieties. There are many interesting arithmetic questions that one can ask about preperiodic points, including the problem of uniform boundedness, equidistribution in various topologies, and arithmetic properties of the towers of number fields that they generate. A second topic, which is also an area of much current research, is to describe the intersection of a subvariety with a special set of points such as the set of preperiodic points, sets of points of small height, or orbits of non-preperiodic points. (Received January 11, 2011)