1139-11-405 **Cara Mullen***, cmullen@harpercollege.edu. *p-adic Hubbard Trees.*

In one-dimensional complex dynamics, the forward orbit of the critical points completely determine the dynamical behavior of a polynomial f. If all such orbits are finite, the polynomial is *post-critically finite* (PCF), and it has an associated Hubbard tree which can capture that behavior. In particular, the Hubbard tree illustrates the *orbit type* of a critical point α, the minimal pair (m, n) such that $f^{m+n}(\alpha) = f^m(\alpha)$, and the geometry of these orbits within the Julia set of f. Hubbard trees have been well studied, and a full classification of finite critical orbit trees is known in this setting. The goal of this talk is to begin to answer the question: What are the analogous objects in a non-Archimedean setting? We explore the critical orbits and corresponding trees for quadratic polynomials of the form $f_c(z) = z^2 + c$ defined over $\mathbb{Z}_p$. (Received February 17, 2018)