

1096-VK-1952 **Haripriya Chakraborty*** (priyach@udel.edu), Newark, DE 19716, and **Jason D. Mireles-James** (jmireles@math.rutgers.edu), New Brunswick, NJ 08854. *Connecting Orbits of Complex Analytic Maps*.

In this talk, we analyze homoclinic connecting orbits for some complex analytic maps, in order to approximate the Julia sets of the maps from below. For a given complex analytic map on an open disk, we consider the fixed point, which may be repelling or attracting, and explicitly solve Schroder's equation using a computer assisted argument. This leads to a high order polynomial approximation of the conjugacy map with mathematically rigorous computer assisted error bounds. Once the conjugacy map has been computed, we reformulate the homoclinic orbits as solutions of a certain nonlinear equation, which we again analyze using rigorous numerics. We discuss results for the quadratic map and an exponential map as examples. (Received September 16, 2013)