1145-00-2550   **Sarah Koch***, Department of Mathematics, University of Michigan, 530 Church Street, East Hall, Ann Arbor, MI 48109. *What is the shape of a rational map?*

One aspect of complex dynamical systems concerns the study of iterating rational maps on the Riemann sphere. A wealth of complicated and deep behavior can emerge when a rational map is iterated; this behavior is governed by the orbits of the critical points of the map under iteration. A rational map is said to be *postcritically finite* if every critical point eventually maps into a periodic cycle. Postcritically finite maps are particularly nice to study and are of central importance in complex dynamics. Loosely speaking, in the space of all rational maps, those that are postcritically finite play a role akin to the rational numbers in the reals. In this talk, we explore potential answers to the question in the title that come from complex dynamics, focusing on postcritically finite rational maps.

Material in this talk is based on joint work with: X. Buff and A. Epstein, and with L. DeMarco and C. McMullen. (Received September 25, 2018)