1145-VM-2862 **Michael P Cohen***, mcohen@carleton.edu. *Maximal metrics and distortion of circle diffeomorphisms.* Preliminary report.

I'll discuss a new notion of distortion of circle diffeomorphisms: a diffeomorphism of the circle f is called C^k-distorted if the distance of the n-th iterate from the identity grows sublinearly with n, where the distance in question is the Cayley distance associated to a sufficiently small open neighborhood of identity in the topological group of all orientation-preserving C^k circle diffeomorphisms. I will give a simple classification of exactly which diffeomorphisms are C^1-distorted. A classification of C^k-distortion appears very challenging for $k \geq 2$, but I will discuss methods for identifying examples of diffeomorphisms which are C^1-distorted but C^2-undistorted. (Received September 25, 2018)