Speaker: Ted Chinburg

Title: Taking on new capacities

Abstract: Abstract: Arithmetic capacity theory has do with the set $X(\mathbb{E})$ of algebraic points on a variety X over a global field, whose Galois conjugates all satisfy a set $\mathbb{E}$ of adelic constraints. I will describe two numbers which pertain to $X(\mathbb{E})$. These are the *sectional capacity* $S(\mathbb{E})$, defined in the 1990's, and a new *finite morphism capacity* $F(\mathbb{E})$ defined recently with G. Pappas, L. Moret-Bailly and M. Taylor. If $S(\mathbb{E}) < 1$ then $X(\mathbb{E})$ is not Zariski dense, while if $F(\mathbb{E}) > 1$ then $X(\mathbb{E})$ is Zariski dense. One has $F(\mathbb{E}) < S(\mathbb{E})$, with $F(\mathbb{E}) = S(\mathbb{E})$ if X is a smooth projective curve. It would be nice to know more generally when $F(\mathbb{E}) = S(\mathbb{E})$. I will discuss some examples having to do with generalized Julia sets.