1116-37-2025   **Kelly B. Yancey*** (kbyancey1@gmail.com) and **Jon Fickenscher**. *Structure of Rigidity Sequences for Substitution Dynamical Systems.* Preliminary report.

A special class of dynamical systems that we will focus on are substitutions. Let $\mathcal{A}$ be a finite alphabet. The set $\mathcal{A}^*$ refers to the set of all finite words over the alphabet $\mathcal{A}$. A map $\theta : \mathcal{A} \to \mathcal{A}^*$ which induces a map from $\mathcal{A}^*$ to $\mathcal{A}^*$ by $\theta(ab) = \theta(a)\theta(b)$ where $a, b \in \mathcal{A}$ is called a substitution. This class of systems provides a variety of ergodic theoretic behavior and is connected to self-similar interval exchange transformations.

During this talk we will explore rigidity sequences for these systems. A sequence (n_m) is a rigidity sequence for the dynamical system (X, T, μ) if $\mu(T^{n_m} A \cap A) \to \mu(A)$ for all positive measure sets A. We will discuss the structure of rigidity sequences for substitutions that are rank-one and substitutions that have constant length. (Received September 21, 2015)