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**Kevin McGoff\*** ([mcgoff@math.umd.edu](mailto:mcgoff@math.umd.edu)), Department of Mathematics, Mathematics Building,  
University of Maryland, College Park, MD 20910. *Random Subshifts of Finite Type.*

A dynamical system consists of a space and a rule for how points move through space as time progresses. In this talk, we give an introduction to a class of discrete dynamical systems called subshifts of finite type (SFTs). We survey some of the characteristics of SFTs, and finally we discuss some recent results on likely properties of SFTs that have been "chosen at random," described below.

Let  $X$  be an irreducible shift of finite type (SFT) of positive entropy, and let  $B_n(X)$  be its set of words of length  $n$ . Define a random subset  $\omega$  of  $B_n(X)$  by independently choosing each word from  $B_n(X)$  with some probability  $\alpha$ . Let  $X_\omega$  be the (random) SFT built from the set  $\omega$ . For each  $0 \leq \alpha \leq 1$  and  $n$  tending to infinity, we compute the limit of the likelihood that  $X_\omega$  is empty, as well as the limiting distribution of entropy for  $X_\omega$ . For  $\alpha$  near 1 and  $n$  tending to infinity, we show that the likelihood that  $X_\omega$  contains a unique irreducible component of positive entropy converges exponentially to 1. (Received September 22, 2010)