Title: Support stability of maximizing measures

Abstract: In this talk we present the results of [1] that establishes a fundamental difference between $\mathbb{Z}$ subshifts of finite type and $\mathbb{Z}^2$ subshifts of finite type in the context of ergodic optimization. Specifically we consider a subshift of finite type X as a subset of a full shift F. We then introduce a natural penalty function f, defined on F, which is 0 if the local configuration near the origin is legal and -1 otherwise.

We show that in the case of $\mathbb{Z}$ subshifts, for all sufficiently small perturbations, g, of f, the g-maximizing invariant probability measures are supported on X (that is the set X is *stably maximized* by f). However, in the two-dimensional case, we show that the well-known Robinson tiling fails to have this property: there exists arbitrarily small perturbations, g, of f, for which the g-maximizing invariant probability measures are supported on $F \backslash X$. This is a join work with Anthony Quas and Jason Siefken.

[1] Juliano S. Gonschorowski, Anthony Quas and Jason Siefken, **Support stability of maximizing measures for shifts of finite type** *Ergodic Theory and Dynamical Systems* , Volume 41 , Issue 3 , March 2021 , pp. 869 - 880