



## Colloquium

March 6, 4:05 p.m. (9<sup>th</sup> Period)  
(in the Atrium)

**Speaker:** Aaron Kolby Thrasher

**Title:** Price Inequalities and an Analog of Almgren's Frequency  
Function

### Abstract

Almgren's frequency function, defined over a harmonic function  $f$  in Euclidean space, is a ratio of L2-norms involving  $f$  and its gradient. In Euclidean space, the monotonicity of Almgren's frequency function has found useful applications in the calculus of variations and geometric measure theory – particularly questions regarding minimizing surfaces and the regularity of minimizers of the Dirichlet energy. In this talk, we will explore an analogous function in Euclidean space which retrieves the monotonicity of Almgren's frequency function in that setting. Moreover, we will discuss how this function can be used to study the growth of L2-norms of harmonic functions in the more general setting of negatively curved spaces.