

**The College of Arts & Sciences  
Department of Mathematical Sciences**

Colloquium

# **Dr. Tatiana Toro**

**University of Washington**

**Wednesday, April 17  
Room 808, Swift Hall  
4:00 – 5:00 pm**

## ***The Geometry of Measures***

In the 1920's Besicovitch studied linearly measurable sets in the plane, that is sets with locally finite "length". The basic question he addressed was whether the infinitesimal properties of the "length" of a set  $E$  in the plane yield geometric information about  $E$  itself. This simple question marks the beginning of the study of the geometry of measures and the associated field, Geometric Measure Theory.

In this talk I will present several examples of measures that arise naturally in different contexts, for example PDEs and free boundary regularity problems. I will discuss how the infinitesimal properties of a measure yield a great deal of information about the measure and its support. In turn this sheds light on the original problem which gave rise to the measure in question.

**Refreshments will be served 3:00 – 3:30 pm in the Faculty & Graduate Student Lounge Room 4118 French Hall West**