

**Title:** Maximal directional singular integrals

**Abstract:** Maximal directional operators are formed by taking a one-dimensional operator acting along a line, and then studying the maximal value as the line changes through a set of directions. In this talk we are going to focus on the maximal directional operator that arises from a singular integral in  $\mathbb{R}^n$ , and we are going to prove the boundedness of this operator when the set of directions is a finite subset of a lacunary set. One of the main difficulties of our result will be the fact that we are dealing with a  $n$ -dimensional operator. To sort this out, we combine ideas from previous results from Parcet-Rogers and Stein-Nagel-Wainger to come up with a new type of geometric covering.