

# ANALYSIS SEMINAR

## ASYMPTOTICS OF GREEDY ENERGY SEQUENCES

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FRIDAY, OCTOBER 17 AT 2:00 PM IN HUME 331

*Abstract : In this talk we will discuss some results about the asymptotic behavior of certain point configurations called Greedy Energy (GE) points. These points form a sequence which is generated by means of a greedy algorithm, which is an energy minimizing construction. The notion of energy that we consider comes from the Riesz potentials  $V = 1/r^s$  in  $\mathbb{R}^p$ , where  $s > 0$  and  $r$  denotes the Euclidean distance. It turns out that for certain values of the parameter  $s$ , these configurations behave asymptotically like Minimal Energy (ME) configurations. This property will also be discussed in more abstract contexts like locally compact Hausdorff spaces. For other values of  $s$ , GE and ME configurations exhibit different asymptotic properties, for example for  $s > 1$  on Jordan curves or arcs. We will discuss other questions like second order asymptotics on the unit circle, distribution, and weighted Riesz potentials on unit spheres. This is a joint work with E. Saff.*