Title: Shrinking targets for interval exchange transformations and sequences.

Abstract: Let $T\colon [0,1) \to [0,1)$ be a dynamical system. In many examples of natural interest (or under mild general assumptions), it is easy to see that for any $\epsilon > 0$ and almost every x the sets $\bigcap\limits_{n=1}^{\infty}\bigcup\limits_{i=n}^{\infty} B(T^i x, \epsilon)$ and $\bigcap\limits_{n=1}^{\infty}\bigcup\limits_{i=n}^{\infty} T^{-i}B(x, \epsilon)$ have full measure. One can ask for quantitative analogues of this. That is, pick a sequence $\epsilon_1, \epsilon_2, ...$ does $\bigcap\limits_{n=1}^{\infty}\bigcup\limits_{i=n}^{\infty} B(T^i x, \epsilon_i)$ or $\bigcap\limits_{n=1}^{\infty}\bigcup\limits_{i=n}^{\infty} T^{-1}B(x, \epsilon_i)$ have full measure for almost every (or every) x? The Borel-Cantelli Theorem presents an obvious requirement, $\sum\limits_{n=1}^{\infty} \epsilon_n = \infty$. It is also natural to restrict our attention to non-increasing sequences. Results will be presented for IETs and general sequences. Some of this is joint work with Michael Boshernitzan.