Speaker: Timothy McNicholl

Title: isometry degrees of computable copies of $\ell^p$ (joint work with D. Stull)

Abstract: Suppose $p$ is a computable real so that $p \geq 1$, and suppose $B$ is a computable Banach space that is linearly isometric to $\ell^p$. The isometry degree of $B$ is the least powerful Turing degree that computes a linear isometry of $\ell^p$ onto $B$. When $p = 2$, it follows from a recent result of A. Melnikov that this degree is 0. Suppose $p \neq 2$. In this case it follows from recent work by McNicholl that every isometry degree is $\Delta^0_2$ and every c.e. degree is an isometry degree. We discuss recent work on classifying the isometry degrees.