

**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  $\mathcal{B}$  is a computable Banach space that is linearly isometric to  $\ell^p$ . The *isometry degree* of  $\mathcal{B}$  is the least powerful Turing degree that computes a linear isometry of  $\ell^p$  onto  $\mathcal{B}$ . When  $p = 2$ , it follows from a recent result of A. Melnikov that this degree is  $\mathbf{0}$ . Suppose  $p \neq 2$ . In this case it follows from recent work by McNicholl that every isometry degree is  $\Delta_2^0$  and every c.e. degree is an isometry degree. We discuss recent work on classifying the isometry degrees.