**Speaker:** Ronnie Chen

**Title:** Structurability by contractible simplicial complexes

**Abstract:** In this talk, we will discuss the classes of countable Borel equivalence relations which are structurable by $n$-dimensional contractible simplicial complexes, for $n = 1, 2, ..., \infty$. The case $n = 1$ is the well-studied class of treeable equivalence relations. Generalizing a classical result of Jackson-Kechris-Louveau in the treeable case, we show that for each $n < \infty$, there is a constant $M_n < \infty$ such that every equivalence relation structurable by $n$-dimensional contractible simplicial complexes Borel embeds into an equivalence relation structurable by such complexes with the further property that each vertex belongs to at most $M_n$ edges. Our proof also yields that (for the case $n = \infty$) every countable Borel equivalence relation Borel embeds into an equivalence relation structurable by locally finite contractible simplicial complexes.