

1146-51-276

**Thomas Weighill\*** (tweighil@vols.utk.edu). *Lifting coarse homotopies*. Preliminary report.

Coarse homotopies were defined by Mitchener in 2010, with a similar definition appearing in the recent work of Bunke and Engel on coarse homotopy theory using infinity categories. In this talk, we prove a general lifting lemma for coarse homotopies for quotients of metric spaces by a group action satisfying a coarse version of proper discontinuity considered by the author and Higginbotham in a recent paper. We will then address possible generalizations and consequences for the coarse fundamental group as defined by Mitchener-Norouzizadeh-Schick. (Received January 24, 2019)