

Algebra/Topology Seminar

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UNIVERSAL SPACES FOR PROPER ACTIONS,
VIETORIS–RIPS COMPLEXES, AND
EQUIVARIANT DISCRETE MORSE THEORY

Thursday, October 13, 2022
3:00 p.m. in ES-143

ABSTRACT. I will talk about a joint article with Matt Zaremsky. Our main result is that all asymptotically $CAT(0)$ groups have finite universal spaces for proper actions, given by Vietoris–Rips complexes. My goal is to introduce all these concepts and explain why we care about them. The technique we develop to prove this result is an equivariant version of Bestvina–Brady discrete Morse theory, which we believe to be of independent interest.