

TOPOLOGY SEMINAR

Guest Speaker: MurphyKate Montee
Carleton College



Date: Tuesday, October 20, 2020

Time: 2:30 PM

Location: Zoom

Zoom Link: notredame.zoom.us/j/97262637721

Lecture Title:

Cubulating random groups at density $d < 3/14$

Abstract

For random groups in the Gromov density model at $d < 3/14$, we construct walls in the Cayley complex X which give rise to a non-trivial action by isometries on a CAT(0) cube complex. This extends results of Ollivier-Wise and Mackay-Przytycki at densities $d < 1/5$ and $d < 5/24$, respectively. We are able to overcome one of the main combinatorial challenges remaining from the work of Mackay-Przytycki, and we give a construction that plausibly works at any density $d < 1/4$.