

# Geometry and Topology Seminar

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*Classifying spaces for families of  
subgroups for non-positively curved groups*

## **Abstract:**

Given a group  $G$ , the classifying space  $EG$  is a homotopical invariant of  $G$  which carries information about certain actions of  $G$  on topological spaces. As a convenient generalization, given a family  $F$  of subgroups of  $G$ , one can consider the so-called classifying space of  $G$  for the family  $F$ . It is in a sense the universal  $G$ -space with stabilizers in  $F$ , and when  $F$  contains only the trivial subgroup it recovers the usual classifying space  $EG$ . In this talk I will show how the geometry of certain non-positively curved groups, the so-called systolic groups, leads to constructions of nice models for the classifying spaces for certain families. Before doing so, I shall give some background on the theory of systolic complexes and groups. This is joint work with Damian Osajda.