

Simplicial non-positive curvature and Coxeter groups

One of the leading principles in geometric group theory is studying groups and their algebraic properties via (nice) actions on non-positively curved spaces and polyhedral complexes. The recently developed notion of systolic complexes describes non-positive curvature in purely combinatorial terms and allows for relatively simple curvature testing.

In the talk the notion of systolic spaces and simplicial non-positive curvature (snpc) as well as its relation to CAT(0) geometry and Gromov-hyperbolic spaces will be presented. Further, if time allows, we will show that certain Coxeter groups act nicely on snpc-spaces.