1163-05-146   **Hannah Alpert**, **Russell Barnes**, **Seth Bell**, **Annika Mauro*** (`amauro@stanford.edu`),
Na'ama Nevo, **Nataya Tucker** and **Hanna Yang**. *Routing by matching on convex pieces of grid graphs.* Preliminary report.

In this talk, we present an upper bound for the routing number of graphs that are the intersection of a convex polygon with the square lattice grid. The routing number is a graph invariant introduced in 1993 by Alon, Chung, and Graham and has been studied for path, tree, and star graphs, but not for classes of graphs chosen according to a geometric criterion. The geometric motivation for this goal is a continuous version of the problem: studying the set of arrangements of n disjoint identical disks within a polygon. The routing number is a discrete analogue of the diameter of such a configuration space. We show that, consistent with the bound for rectangular grid pieces, the routing number of grid pieces contained within convex polygons grows linearly in the diameter of the graph. (Received August 22, 2020)