Reconfiguration of Triangulations of a Planar Point Set
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In a reconfiguration problem, the goal is to change an initial configuration of some structure to a final configuration using some limited set of moves. Examples include: sorting a list by swapping pairs of adjacent elements; finding the edit distance between two strings; or solving a Rubik’s cube in a minimum number of moves.

Central questions are: Is reconfiguration possible? How many moves are required?
In this talk I will survey some reconfiguration problems, and then discuss the geometric case of triangulations of a point set in the plane. A move in this case is a flip that replaces one edge by the opposite edge of its surrounding quadrilateral when that quadrilateral is convex.

In joint work with Zuzana Masárová and Uli Wagner we characterize when one edge-labelled triangulation can be reconfigured to another via flips. The proof involves combinatorics, geometry, group theory, and topology.