A binary matroid $M$ is affine if all of its circuits have even cardinality. Thus the cycle matroid of a graph $G$ is affine if and only if $G$ is bipartite. Recently, Chudnovsky, Kalai, Nevo, Novik, and Seymour introduced the notion of bipartite minors for graphs and proved that a bipartite graph is planar if and only if it does not have $K_{3,3}$ as a bipartite minor.

This talk will extend the definition of bipartite minor to binary matroids. For a binary affine matroid, we characterize, in terms of excluded bipartite minors, when $M$ is graphic and when $M$ is cographic. In addition, we extend Seymour’s decomposition theorem for regular matroids to binary affine matroids that are regular. (Received February 11, 2018)