1011-15-137   **Thomas Britz**, **Dale Olesky**, **Pauline vanden Driessche** and **Bryan L. Shader***
(`bshader@uwyo.edu`), Math Department 3036, 1000 E. University, Laramie, WY 82071. *Sign patterns, inverses, and generalized inverses.* Preliminary report.

In this introductory talk definitions, concepts and results from qualitative matrix theory will be presented, and then applied to various problems concerning the relationship between the sign-pattern of a matrix and its inverse or generalized inverse. In particular, necessary conditions for a sign pattern to allow a matrix with an (entrywise) nonnegative left inverse, and sufficient conditions for a sign pattern to allow a matrix with an (entrywise) nonnegative Moore Penrose inverse will be discussed. (Received August 22, 2005)