1146-03-38   **Robert E. Jamison*** (`rejam@clemson.edu`), NC. *Metatheories of Closure.* Preliminary report.
"The use of a formal language enables us to make certain statements about entire classes of theorems where 'conventional' Mathematics enables us to [treat] only individual theorems." — Abraham Robinson

This talk will present two formal languages for closure. The first, the dependency calculus, is first order and is devised to encode the theory of alignments (finitary closure systems). The second, the forcing calculus, is a second order extension of the dependency calculus. Because of its greater expressive power, it is often more natural to convert statements about closure systems from the mathematical vernacular into the forcing calculus than into the dependency calculus. One key question is this: What second order statements in the forcing calculus reduce to first order conditions in the dependency calculus? Several examples of metatheorems, such as an extension of Tverberg's finitization of the Eckhoff Partition Conjecture, will be given.