1014-06-1664 **Steven R. Givant*** (givant@mills.edu), Department of Mathematics and Computer Scienc, Mills College, 5000 MacArthur Boulevard, Oakland, CO 94613. *Simple Relation Algebras.*

This talk will present a brief overview of an abstract theory of binary relations developed in the nineteenth century and given a modern foundation by Tarski. The talk will focus on the role of simple relation algebras, describing some of the beautiful examples that can be constructed from groups, projective geometries, and modular lattices. The final part of the talk will present a new method of constructing simple relation algebras. The method uses the notion (developed by Ralph McKenzie in his doctoral dissertation) of the quotient of a relation algebra by an equivalence element (an abstract version of an equivalence relation). Given a family of relation algebras $(\mathfrak{A}_i : i \in I)$ and a family of equivalence elements $(e_{ij} : i, j \in I)$, the construction yields a simple relation algebra that has a copy of the quotient $\mathfrak{A}_i/e_{ij}$ in the ij-th component for each i, j in I. (Received September 28, 2005)