John W Snow* (jsnow@shsu.edu), Department of Mathematics and Statistics, Sam Houston State University, Huntsville, TX 77341-2206. *M_4 and Congruence Heredity.*

The notions of congruence heredit and power heredity were recently introduced by Palfy and Hegedus. A congruence lattice \( L \) of a finite algebra \( A \) is hereditary if every 0-1 sublattice of \( L \) is the congruence lattice of an algebra with the same universe as \( A \). \( L \) is power hereditary if every 0-1 sublattice of \( L^n \) is a congruence lattice on the universe of \( A^n \) for all \( n \).

The author recently proved that every congruence lattice representation of \( N_5 \) is power hereditary. Palfy recently demostrated a non-power-hereditary representation of \( M_3 \). To date, there is no know hereditary representation of \( M_4 \).

In this talk, we will prove if \( A \) is a finite algebra satisfying a nontrivial idempotent Maltsey condition and if the congruence lattice of \( A \) contains a copy of \( M_4 \), then the congruence lattice of \( A \) is not hereditary. (Received July 18, 2005)