A containment model of a poset \((X, \leq)\) maps each element \(x\) of \(X\) into a set \(M_x\) in such a way that \(x < y\) if and only if \(M_x\) is a proper subset of \(M_y\). It is well known that posets admitting a containment model mapping vertices into intervals of the line (CI posets for short) are the posets with dimension at most 2; thus, if a transitive orientation of a comparability graph \(G\) is a CI poset then any other transitive orientation of \(G\) is also a CI poset. Comparability graphs of CI posets were shown to be the permutation graphs.

Generalizing this idea we began to study posets admitting a containment model mapping vertices into paths of a tree and their comparability graphs (CPT posets and CPT graphs, respectively).

In this talk, I will present some first results on this topic. Several open problems will be posed.

For the DM seminar schedule, see:
http://www.people.vcu.edu/~clarson/DM-seminar.html