

Center for Applied Mathematics & Science

Department of Mathematics at UWG

Talk: Graph theory problems with elementary solutions

Speaker: Hua Wang, Georgia Southern University

Time: Tuesday 13 October at 2:00 pm

Place: Room 302

Abstract: We will discuss two 'open' problems on subtrees of trees. 1) On the existence of non-Sperner subtree poset. The set of subtrees can be considered as a partially ordered set with inclusion ordering. It was asked if all such subtree posets are Sperner. The answer is negative and a tree with non-Sperner subtree poset was constructed in 1995. The same authors asked for infinitely many such trees, we will present a construction that answers this question. 2) On the average order of a subtree. The average order of a subtree in a tree has been studied before, a conjecture was posted in 1981 that the average order is at least half of the total number of vertices if the original tree has no internal vertex of degree 2. We shall see that the conjecture is correct.

Although both problems have been around for a while, the solutions are elementary (accessible to students). Definitions will be given in the talk.