1077-05-1719 **Devin R Bickner*** (dbickner@iastate.edu). *Counting Binary Normal Networks.*

Evolution can be represented using directed, acyclic graphs, in which vertices represent species, leaves represent extant species, and edges represent relationships between species. Trees have been used as the standard model. Recently, networks, which allow the inclusion of hybridization, have become more popular. Consider a set of leaf labels X. The number of binary rooted trees on X is known. However, the number of general networks on X is infinite. We will discuss a special class of networks called *normal* networks. We will discuss a method for finding an upper bound on the number of binary normal networks on X using special deletion and addition operations, as well as some related results. (Received September 20, 2011)