1086-VI-2797 **Jason Michael Calmes*** (jcalmes@tulane.edu). *Estimating the Probability of Accurate Phylogeny Reconstruction by Quartet Aggregation.*

The reconstruction of phylogenetic trees from biological sequence data is an important and vexing problem for researchers. This problem is not only stochastic rather than deterministic in nature, but verification of any result is almost always impossible, leaving researchers to rely heavily on the strength of their algorithms and estimates of support for their outputs.

To address this limitation of existing approaches, we have developed a method for calculating a probability that is useful in the assessment of phylogenetic accuracy. Given a tree produced from sequences of length n, the probability of the simultaneous reconstruction of all quartets consistent with the tree of interest is estimated.

In this presentation, the technique is introduced on quartets and is then generalized to problems of arbitrary size. Validation for the method is presented in the form of simulation results. (Received September 25, 2012)