Analysis of Hierarchical Data Using Semiparametric Models

Naisyin Wang
Texas A&M University, U.S.A.

The analysis of hierarchical biomedical data sometimes causes the standard parametric modeling strategy unpractical. In certain applications, knowledge regarding the variation embedded in different levels of hierarchies, as well as the information regarding central locations, are of interest. In this talk, I will describe a simple semiparametric approach that allows us to model both the first and second moments flexibly in hierarchical data. In particular, the method enable us to reduce estimation variation of the first moment through accounting for correlations in the data. It also enable us to obtain a simple covariance structure when simplification can be achieved. I will use data from on-going Biomedical studies to illustrate the main points of the modeling strategy.

[Naisyin Wang, Department of Statistics, Texas A&M University, College Station, TX 77843-3143, U.S.A.; nwang@stat.tamu.edu]