

**Dr. Tung Pham**

**Title:** *Improvement to some linear classifiers for high dimensional low sample size data.*

**Abstract:** High dimensional low sample size (HDLSS) data appear in many area of science nowadays. In a two-class discrimination problem where the difference between two classes is only in a shift, the linear classifiers, for example the centroid and support vector machine, assign any new datum to the class of larger sample size. To improve the performance of these linear classifiers, scaled squared distance classifiers were introduced by Chan and Hall (2009).

In this talk, I will present the adjusted scaling method that transforms some linear classifiers to scaled squared distance classifiers. Some theoretical properties of these newly scaled classifiers will be obtained under weak conditions. A short mathematical explanation will be given. The effectiveness of the adjusted scaling method will be demonstrated on a prostate cancer data set.