

The Medical College of Wisconsin

Division of Biostatistics

Proudly Presents:

A Seminar Talk

By:



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Statistical Learning for Heterogeneous Biomedical Data

Statistical learning allows us to detect hard-to-discern patterns from high dimensional, noisy and complex datasets. This capability is particularly well-suited to biomedical applications, especially cancer prognosis and prediction that depend on complex omics measurements. Hypervariability and latent heterogeneity that often exist in such datasets pose great challenge to traditional statistical learning methods, and can lead to inaccurate results. In this talk, we sample two methods from our work in statistical learning that meet this challenge. One is a new biclustering method that handles hypervariability by simultaneously dissecting mean and variance structures in the data. The other is a new classification method that accommodates latent heterogeneous subclasses by using composite classifiers. By applying the new methods to various high dimensional biomedical datasets, we demonstrate their strength in detecting cancer subtypes and predicting Alzheimer disease prognosis.

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3:30 PM – 4:30 PM

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Light snacks provided