



Temple University

ANNOUNCES A
COLLOQUIUM

Dr. Bing Li

*Penn State University
Department of Statistics*

will speak on

On Dimension Folding Of Matrix-Or Array-Value Statistical Objects

Time: 3:00 – 4:00 PM

Date: Friday, October 30, 2009

Place: Alter Hall 746

Abstract

We consider dimension reduction for regression or classification in which the predictors are matrix-or array-valued. This type of predictors arise when measurements are obtained for each combination of two or more underlying variables --- for example, the voltage measured at different channels and times in electroencephalography data. For these applications it is desirable to preserve the array structure of the reduced predictor (e.g. time versus channel), but this cannot be achieved within the conventional dimension reduction formulation. In this paper we introduce a dimension reduction method, to be called dimension folding, for matrix- or array-valued predictors that preserves the array structure. In an application of dimension folding to an electroencephalography data set, we correctly classified 97 out of 122 subjects as alcoholic or nonalcoholic based on their electroencephalography in a validation sample.

Bing Li, Min Kyung Kim, and Naomi Altman

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(Park Avenue between Cecil B. Moore Avenue & Oxford Street)**