

広島統計談話会
Hiroshima Statistics Study Group

第 310 回談話会を下記のように開催致しますので
御参集下さいますようご案内申し上げます。

You are cordially invited to the 310th meeting as scheduled below.

日 時 : 2018 年 5 月 25 日 (金) 15:00 –

Date : May 25th, 2018 (Fri) 15:00 –

場 所 : 放射線影響研究所 講堂

Place : RERF Auditorium

演 者 : 荒木 由布子 博士 (静岡大学大学院総合科学技術研究科・情報学専攻 准教授)

Speaker : Yuko Araki, Ph.D.

Associate Professor

Graduate School of Integrated Science and Technology, Shizuoka University

演 題 : 「高次元データのための関数データ判別と構造方程式モデリング」

Title : “Functional classification method and structural equation modeling for high dimensional data”

要 約 :

Summary:

Recent years have seen that functional data analysis is capable of extracting intrinsic features from recently-arising complicated and high dimensional data, such as three dimensional brain sMRI, time course microarray data, or hundreds of records of human gait, for example. We introduce a functional classification model for classifying individuals with high dimensional covariates. We also talk about how to describe the direct and indirect dependencies among a set of variables including high dimensional covariates. The proposed method is based on extended basis expansions with the help of sparse PCA. Further, L1-type penalty constraints are imposed in the estimation of parameters of logistic discrimination. This two-step regularization method accomplishes both covariate selection and estimation of unknown model parameters simultaneously. The crucial issue is how to select the regularization parameters used in model estimation. We propose a model selection criterion based on an information criterion. The proposed models are applied to real-data examples and Monte Carlo simulations are conducted to examine the efficiency of our modeling strategies.