

広島統計談話会
Hiroshima Statistics Study Group

第 235 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御案内申し上げます。

You are cordially invited to the 235th meeting as scheduled below.

日 時 : 2007 年 4 月 20 日 (金) 15:00–15 : 55

Date : April 20, 2007 (Fri) 15:00–15 : 55

場 所 : 放射線影響研究所 講堂

Place: RERF Auditorium

演 者 : 中島栄二 (放射線影響研究所統計部主任研究員)

Speaker: Eiji Nakashima, Ph.D., Senior Scientist, Department of Statistics,
RERF

演 題 : 「臨床データへの応用をもつ有限混合モデル：有限混合正規および有限混
合二項モデル」

Title: “Finite mixture models with application to clinical data: finite mixture
normal and finite mixture binary models”

要 約 :

Summary:

Two finite mixture models were considered in application to clinical data; one is finite mixture normal model and the other is finite mixture binary model. These finite mixture models are in the class of finite mixture generalized linear model and can be fit with the EM algorithm.

The first example is the two components finite mixture normal model in determining the cutoff point for the anti-thyroglobulin antibody (TgAb) positivity in thyroid disease prevalence study. The population indicator is thought to be missing variable and was made use in the fitting with the EM algorithm. If we think the data is from finite mixture normal, the medical interpretation for the cutoff point in determining the TgAb positivity is easy. Second example is the finite mixture binary model in the application for diagnostic sensitivity in the postoperative cataract prevalence. In this application, the true diagnosis indicator is thought to be a missing variable and was made use of in the application of the EM algorithm. The true prevalence of postoperative cataract was estimated.