

広島統計談話会  
Hiroshima Statistics Study Group

第 282 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 282<sup>nd</sup> meeting as scheduled below.

日 時 : 2014 年 4 月 25 日 (金) 15:00 –  
Date : April 25th, 2014 (Fri) 15:00 –

場 所 : 放射線影響研究所 講堂  
Place : RERF Auditorium

演 者 : 三角 宗近 (放射線影響研究所 統計部 研究員)  
Speaker : Munechika Misumi, Ph.D.  
Research Scientist  
Department of Statistics, RERF

演 題 : 「Simulation-extrapolation の放影研 LSS データへの適用」  
Title : “Application of simulation-extrapolation (SIMEX) to the RERF Life Span Studies data”

要 約 :

**Summary:**

A broad variety of measurement error correction methods has been proposed, but each method has pros and cons. Studies at Radiation Effects Research Foundation (RERF) only applied a regression calibration to deal with so-called classical type error assuming a multiplicative error model, and implementation of new adjustment taking both classical and Berkson errors into consideration has been considered. Since the regression calibration needs assumption on the distribution of true, or unobserved, exposed radiation dose, the robustness of the adjustment method for the true dose assumption should be evaluated. The SIMEX is originally designed for estimating a parameter in problems with additive measurement error. The underlying idea is that the effect of measurement error can be corrected for by an application of simulation and approximately unbiased estimate can be obtained by extrapolating the result based on simulation back to the case of non-measurement error situation. It enables us to consider applying a functional approach despite the difficulty in analytical derivation of error structures due to the cross-classification in the LSS data analysis. Because it does not need the assumption on the true dose distribution, it might be considered as a sensitivity analysis on the results obtained by regression calibration. In this talk, the results of SIMEX application will be discussed, along with results of numerical studies.