You are cordially invited to the 246th meeting as scheduled below.

Date: Jan 23, 2009 (Fri) 15:00 –
Place: RERF Auditorium

Speaker: Mohammad Dokhi
Ph.D. Candidate, Research Institute for Radiation Biology and Medicine, Hiroshima University

Title: 「A Cure Weibull-Gamma-Frailty Survival Model and Its Application to Exploring the Prognosis Factors of Neuroblastoma」

Abstract:

The log rank test and the Cox regression, or modifications thereof, emphasize the effect of covariates on survival rate parameter. In some cases, cured individuals, i.e., individuals who may not experience the event of interest may exist in the population of interest. In this situation, we may wish to examine the effect of covariates on both survival rate and cured fraction parameters. Motivated by the Japanese neuroblastoma dataset, we consider a cure model that accounted for the effect of covariates on both of the abovementioned parameters. To deal with heterogeneity that is not explained by covariates, as well as individual random heterogeneity, we perform a frailty variable. Moreover, some nested models are fitted to deal with the principle of parsimony. The effect of covariates was then evaluated by the best nested model. From a statistical point of view, we found that the model of analysis is flexible and adequate to describe the abovementioned dataset. From a medical point of view, we confirmed AGE and STAGE to be the most dominant prognosis factor of neuroblastoma. We also conclude that NMYC and FERRITIN are the others most important prognosis factors. The present model of analysis is also potentially extendable to facilitate other aspects of inferences.