Poster Snapshot

Model Identifiability for Bivariate Failure Time Data with Competing Risk: Non-parametric Cause-specific Hazards and Gamma Frailty

Biswadeep Ghosh (ISI)

As in the literature, frailty variables have been used to model the dependency in bivariate failure time data with competing risks (Gorfine and Hsu, 2011). In addition, cause-specific hazard functions have been used to capture the effect of time on failure of an individual due to a particular cause. We have shown that the model with non-parametric cause-specific baseline hazards and non-parametric frailty is not identifiable. Therefore, we have restricted to models with non-parametric cause-specific baseline hazard functions and Gamma frailty. We have considered four Gamma frailty distributions each capturing a different type of dependency. For each such frailty, we have investigated identifiability of the models in terms of the corresponding joint sub-distribution function.

This work is a joint work with Prof. Anup Dewanji and Dr. Sudipta Das.