Departamento de Estadística e Investigación Operativa

Instituto de Matemática Interdisciplinar

## SEMINARIO DE ESTADÍSTICA E INVESTIGACIÓN OPERATIVA


# Laurent BORDES, IPRA - LMAP


# Semi-parametric inference for the proportional excess hazards model


Survival probability of cancer patients has been used for many years as one of the main tools for evaluation of therapeutic advances. With improved treatments and prognosis, studies often now have long follow-up times and it is common to have a substantial proportion of deaths from causes other than the cancer under study. In the usual situation, the cause of death is unavailable or unreliable. Hence the field of relative survival has developed in which observed deaths are compared with those expected from general population life tables. Relative survival analysis assumes that the hazard function of the lifetime of interest is the sum of the general population hazard function (known) and of the excess hazard (unknown improper risk function), both depending on covariates. In this talk we consider that the excess hazard functions satisfy the proportional hazards assumption and we discuss the problem of semi-parametric estimation of the unknown parameters under right censoring as well as their large sample size behavior. Our results are illustrated through a Monte-Carlo study and their extension to alternative semi-parametric models is discussed.


**Organizado por Departamento de Estadística e Investigación Operativa y el IMI**

**Fecha: Jueves 16 de Junio de 2016 a las 12h.**
**Lugar: Seminario Sixto Ríos (Aula 215)**
**Facultad de CC Matemáticas, UCM**