Wiener Biometrische Sektion
der Internationalen Biometrischen Gesellschaft
Region Österreich – Schweiz
http://www.meduniwien.ac.at/wbs/

Einladung zum

Biometrischen Kolloquium

am **Montag, 10. Dezember 2012** um **13:00 Uhr** (s.t.)

in der Informatik-Bibliothek (Ebene 3, Raum 88.03.806) des Zentrums für Medizinische Statistik, Informatik und Intelligente Systeme (CeMSIIS) der Medizinischen Universität Wien
Spitalgasse 23, 1090 Wien
(Plan siehe http://www.muw.ac.at/cemsiis/allgemeines/anschrift/)

Vortragende:

Ronald Geskus
Amsterdam Health Service/Academic Medical Center

Inverse probability weighted estimators in a competing risks setting: analyses can be performed with standard software.

Wir freuen uns auf zahlreichen Besuch.

Gerhard Svolba
Präsident

Franz König
Sekretär

Inverse probability weighted estimators in a competing risks setting: analyses can be performed with standard software.

Ronald Geskus
Amsterdam Health Service/Academic Medical Center

Abstract:

The hazard has been the basis for non- and semiparametric estimation of survival with right censored and left truncated time-to-event data, as reflected in the dominant use of the Kaplan-Meier estimator and the Cox proportional hazards model. The Kaplan-Meier has an equivalent representation as an inverse probability weighted empirical cumulative distribution function (wECDF).

This wECDF form has an immediate extension to the competing risks setting as estimator of the cause-specific cumulative incidence function. The weights in the wECDF form suggest an estimator of the subdistribution hazard, which is the hazard that corresponds to the cause-specific cumulative incidence function. Based on this estimator, a weighted product-limit form (wPL) of the estimator of cause-specific cumulative incidence is derived. Both the wECDF and the wPL form are algebraically equivalent to the standard estimator.

The equivalence allows for an alternative approach to estimation in a competing risks setting with some pleasant characteristics. Standard software can be used, if the software allows for the inclusion of weights. For example, parameters in the Fine and Gray model (1999) can be estimated by fitting a weighted Cox model. Simulation studies show that, for smaller sample size, performance is even better than in the classical Fine and Gray approach.