Einladung zum

Biometrischen Kolloquium

am Donnerstag, dem 24. Jänner 2002, 16:00 Uhr

im Seminarraum des
Instituts für Medizinische Computerwissenschaften
Ebene 5C (Eingangsebene Gürtel)
Währinger Gürtel 18-20, 1090 Wien

Es spricht Herr Prof. Patrick Royston, MRC Clinical Trials Unit, 222 Euston Road, London NW1 2DA, UK zum Thema:

Flexible parametric models for censored survival data, with application to prognostic modelling and estimation of treatment effects

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Präsidentin   Sekretär

Abstract:

Modelling of censored survival data is usually done by Cox proportional-hazards regression. However, use of parametric models for such data certainly has some advantages, as indicated by a noticeable increase in interest in the topic in recent talks and publications. For example, non-proportional hazards, a potential difficulty with Cox models, may often be handled in a simple way, visualisation of the hazard function is facilitated, and interval censoring and time-varying covariates are easily implemented. I shall describe extensions of the Weibull and log-logistic models in which natural cubic splines are used to smooth the baseline log cumulative hazard or log cumulative odds of failure functions. A model-building strategy based on the elimination of uninfluential variables and on the use of fractional polynomials (Royston & Altman 1994) to accommodate non-linear covariate effects will be outlined. Extensions of the parametric models to interactions between covariates and time are described. In Cox regression, "stratification" by covariates is just one such extension. The models are applied to several real datasets in cancer. The results throw interesting light on the time-related behaviour of both the hazard function and the hazard ratio for a therapeutic effect.

Royston P, Altman DG (1994) Regression using fractional polynomials of continuous covariates: parsimonious parametric modelling (with Discussion). *Applied Statistics* **43**: 429-467.