

**Wiener Biometrische Sektion  
der Internationalen Biometrischen Gesellschaft  
Region Österreich – Schweiz**

<http://www.meduniwien.ac.at/wbs/>

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Einladung zum

**Biometrischen Kolloquium**

am Montag, 21. Mai 2012, 14:00 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 (Bauteil88/Ebene 03), 1090 Wien  
(Plan siehe <http://www.muw.ac.at/cemsiis/allgemeines/anschrift/>)

Vortragender:

**Janez Stare**

Department of Biostatistics and Medical Informatics, University of Ljubljana

**A Measure of Explained Variation for Event History Data**

Wir freuen uns auf zahlreichen Besuch.

Georg Heinze  
Präsident

Gerhard Svolba  
Sekretär

**Janez Stare**

## **A Measure of Explained Variation for Event History Data**

There is no shortage of proposed measures of prognostic value of survival models in the statistical literature. They come under different names, including explained variation, correlation, explained randomness, and information gain, but their goal is common: to define something analogous to the coefficient of determination  $R^2$  in linear regression. None however have been uniformly accepted, none have been extended to general event history data, including recurrent events, and many cannot incorporate time-varying effects or covariates. I will present a measure specifically tailored for use with general dynamic event history regression models. The measure is applicable and interpretable in discrete or continuous time; with tied data or otherwise; with time-varying, time-fixed, or dynamic covariates; with time-varying or time-constant effects; with single or multiple event times; with parametric or semiparametric models; and under general independent censoring/observation. For single-event survival data with neither censoring nor time dependency it reduces to the concordance index. I will give expressions for its population value and the variance of the estimator and show its use via simulations and application. I will end the talk with some thoughts on proper study of such measures.

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