

## **Kolloquium „Statistische Methoden in der empirischen Forschung“**

Wann: 17. Januar 2017, 17:00 – 18:30 Uhr

Wo: Robert Koch-Institut | Nordufer 20 | 13353 Berlin (Wedding),  
S41, S42, U9 Westhafen | U9, Bus 142 Amrumer Str

### **Jennifer Rogers (University of Oxford)**

#### **Analysis of recurrent events in the presence of informative censoring**

Heart failure is characterised by recurrent hospitalisations and yet often only the first is considered in clinical trial reports. In chronic diseases, such as heart failure, analysing all such hospitalisations gives a more complete picture of treatment benefit.

An increase in heart failure hospitalisations is associated with a worsening condition meaning that a comparison of heart failure hospitalisation rates, between treatment groups, can be confounded by the competing risk of death. Any analyses of recurrent events must take into consideration informative censoring that may be present. The Ghosh and Lin (2002) non-parametric analysis of heart failure hospitalisations takes mortality into account whilst also adjusting for different follow-up times and multiple hospitalisations per patient. Another option is to treat the incidence of cardiovascular death as an additional event in the recurrent event process and then adopt the usual analysis strategies. An alternative approach is the use of joint modelling techniques to obtain estimates of treatment effects on heart failure hospitalisation rates, whilst allowing for informative censoring.

This talk shall outline the different methods available for analysing recurrent events in the presence of dependent censoring and the relative merits of each method shall be discussed.