

*Department of Medical Statistics,
Informatics and Health Economics
Innsbruck Medical University*

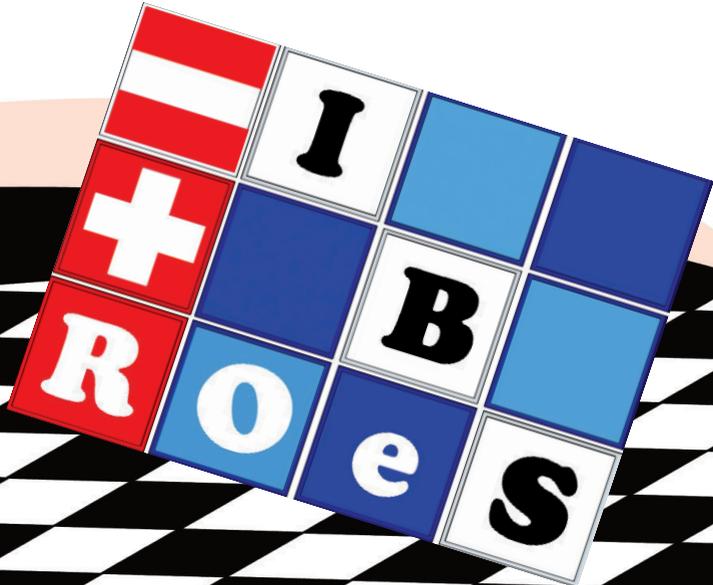


**Sabrina B. Neururer
Hanno Ulmer
(editors)**

ROeS 2013

9th - 12th September 2013. Dornbirn, Austria

Conference Program Conference Proceedings



Sabrina Barbara Neururer
Hanno Ulmer
(editors)

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Conference Program

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organized by

*Department of Medical Statistics,
Informatics and Health Economics*

Innsbruck Medical University

Dear Participant,

It is our great pleasure to welcome you to Dornbirn for this conference organized by the Department of Medical Statistics, Informatics and Health Economics of Innsbruck Medical University. The conference has brought together leading scientists from academia and industry across the disciplines of biostatistics, mathematical statistics, epidemiology, as well as clinical trials and promises to be a highly interactive event.

This conference features an exceptional program that includes the latest developments. It offers excellent networking and collaboration opportunities for scientists from a variety of research fields.

The conference venue, Dornbirn, the largest town in the Austrian state of Vorarlberg, benefits from its favorable location in a diverse cultural and natural setting, close to Liechtenstein, Switzerland, and Germany. It is a friendly, lively small city which has been able to keep its cozy traditional rustic character. This location comprises a perfect combination of a picturesque town in an impressive landscape.

On behalf of all of who contributed to the organization of this conference we would like to thank all our speakers, financial supporters, reviewers, and attendees, and extend a warm welcome to you in Dornbirn.

We hope you will enjoy your stay.

With best wishes,



Sabrina B. Neururer
Conference Director



Hanno Ulmer
ROeS President

MODELING REPEATED OBSERVATIONS IN LONGITUDINAL STUDIES WITH MIXED-EFFECTS MODELS AND SURVIVAL ANALYSIS

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Mixed-effects models applied on data with repeated observations allow a correction of measurement error. They can also be used to model time courses and to detect age-dependent patterns, for example in vital signs or laboratory parameters. Furthermore, mixed-effects models can yield subject-specific random effects to estimate the underlying time-trend for each subject. These random effects can be used as input in other statistical models, like survival analysis via Cox regression. In doing so, the Cox regression model can be extended in that way that not only the impact of a predictor variable at a single time-point, but also the trend of this predictor over time is accounted for in the analysis of survival. An application of this approach to data of the Vorarlberg Health Monitoring and Promotion Programme (VHM&PP) will be presented.