REGISTRATION

Registration deadline:

February 14th, 2018
(**limited number of places available**)

Registration fee:

Standard rate: 290€

Student rate: 150€ (**limited places**)

More information: www. icbusc.com

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LOCATION

Faculty of Medicine
University of Santiago de Compostela

Rúa de San Francisco, s/n
15782 Santiago de Compostela

TARGET AUDIENCE

Statisticians and researchers in biomedicine, biology, economics and other disciplines working with follow-up studies, longitudinal data and survival analysis.

COMMITTEES

Scientific Committee:

Carmen Cadarso Suárez (Unit of Biostatistics, University of Santiago de Compostela)
Dimitris Rizopoulos (Erasmus University Medical Center)
Francisco Gude Sampedro (Unit of Clinical Epidemiology, University Clinical Hospital of Santiago de Compostela)
Geert Molenberghs (Interuniversity Institute for Biostatistics and statistical Bioinformatics)

Organizing Committee:

Ana Bouzas Lorenzo (Unit of Biostatistics, University of Santiago de Compostela)
Carla Díaz Louzao (Unit of Biostatistics, University of Santiago de Compostela, Spain)
Ipek Guler (Unit of Biostatistics, University of Santiago de Compostela, Spain)
Vicente Lustres Pérez (Biostatech, S.L.)

This course is aimed at applied researchers and graduate students, and will provide a comprehensive introduction into this modeling framework. We will explain when these models should be used in practice, which are the key assumptions behind them, and how they can be utilized to extract relevant information from the data. Emphasis is given on applications, and after the end of the course participants will be able to define appropriate joint models to answer their questions of interest.

An Introduction to the Joint Modeling of Longitudinal and Survival Data, with Applications in R

**University of Santiago de Compostela (Spain)
Faculty of Medicine
February 19-21, 2018**
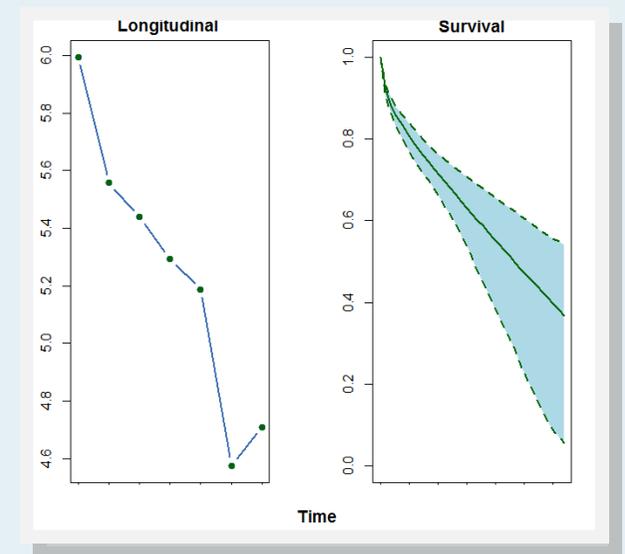
An Introduction to the Joint Modeling of Longitudinal and Survival Data, with Applications in R

COURSE DESCRIPTION

Abstract

In follow-up studies different types of outcomes are typically collected for each subject. These include longitudinally measured responses (e.g., biomarkers), and the time until an event of interest occurs (e.g., death, dropout). Often these outcomes are separately analyzed, but in many occasions it is of scientific interest to study their association. This type of research question has given rise in the class of joint models for longitudinal and time-to-event data. These models constitute an attractive paradigm for the analysis of follow-up data that is mainly applicable in two settings: First, when focus is on a survival outcome and we wish to account for the effect of endogenous time-dependents covariates measured with error, and second, when focus is on the longitudinal outcome and we wish to correct for non-random dropout.

Requirements

This course assumes knowledge of basic statistical concepts, such as standard statistical inference using maximum likelihood, and regression models. In addition, basic knowledge of R would be beneficial but is not required. Participants are required to bring their own laptop with the battery fully charged. Before the course instructions will be sent for installing the required software.

Software:

The methodology will be illustrated with practical dataset exercises.

Statistical software:

JM,JMBayes packages

TIMETABLE

Monday, February 19th

09:15-09:45 Registration

09:45-10:00 Opening

10:00-12:00 Type of research questions in follow-up studies

12:00-12:30 Coffee break

12:30-14:30 Review of mixed effects models + Practical exercises using R

14:30-16:00 Lunch

16:00-18:30 Review of relative risk models + Practical exercises using R

Tuesday, February 20th

10:00-12:00 The basic joint model

12:00-12:30 Coffee break

12:30-14:30 Practical exercises using R

14:30-16:00 Lunch

16:30-18:30 Extensions of joint models: Paramerizations + Practical exercises using R

Wednesday, February 21th

10:00-12:00 Extensions of joint models: multivariate joint models

12:00-12:30 Coffee break

12:30-13:30 Dynamic predictions - definitions + Practical exercises using R

13:30-14:30 Assessing the quality of dynamic predictions

INSTRUCTOR

Dimitris Rizopoulos

Dimitris Rizopoulos is an Associate Professor in Biostatistics at the Erasmus University Medical Center. He received a M.Sc. in statistics (2003) from the Athens University of Economics and Business, and a Ph.D. in biostatistics (2008) from the Katholieke Universiteit Leuven. Dr. Rizopoulos wrote his dissertation, as well as a number of methodological and applied articles on various aspects on models for survival and longitudinal data analysis, and he is the author of a recent book on the topic of joint models for longitudinal and time-to-event data. He has also written two freely available packages to fit this type of models in R under maximum likelihood (i.e., package JM) and the Bayesian approach (i.e., package JMbayes). He currently serves as co-Editor for Biostatistics.