

Course on:

Longitudinal Data Analysis

Lecturers:

**Prof. Geert Molenberghs
Prof. Geert Verbeke**

Título del Curso:
Longitudinal Data Analysis

Profesores:
Geert Molenberghs
Geert Verbeke

Nº de horas:
30 horas

Lugar de Impartición:
Facultad de Matemáticas –Universidad de Santiago de Compostela
Campus Sur
15782-Santiago de Compostela

Horario

MAYO 2006		
29 Mayo	16:30-18:30 19:00-21:00	Aula Informática
30 Mayo	16:30-18:30 19:00-21:00	Aula Informática
31 Mayo	16:30-18:30 19:00-21:00	Aula Informática
JUNIO 2006		
1 Junio	16:30-18:30 19:00-21:00	Aula Informática
2 Junio	16:30-18:30 19:00-21:00	Aula Informática

* Los 3 créditos del curso se completan con 10 horas de docencia no presencial.

Organiza:

Carmen María Cadarso Suárez y Xosé Luis Otero Cepeda.
Directores del Máster de Bioestadística (Código M543, USC)
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Contents of the course

- Linear mixed models for continuous data.
- Marginal models for discrete data.
- Generalized linear mixed models for discrete data.
- Non-linear mixed models.
- Missing data.

Aims

- As a result of the course, participants should be able to perform a basic analysis for a particular longitudinal data set at hand.
- Based on a selection of exploratory tools, the nature of the data, and the research questions to be answered in the analyses, they should be able to construct an appropriate statistical model, to fit the model within the SAS framework, and to interpret the obtained results.
- Participants should be aware not only of the possibilities and strengths of a particular selected approach, but also of its drawbacks in comparison to other methods.

Applications:

Applications in Medicine (Epidemiology and Clinical Trials) and Biology.

Prof. Geert Molenberghs

Short CV

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Positions and Professional Experience

- Full Professor of Biostatistics.
- Director of Censtat.
- Director of the Msc in Biostatistics (Censtat).
- President of the International Biometric Society.
- The Harvard School of Public Health has named Geert Molenberghs, Ph.D., Professor, Biostatistics, Center for Statistics, Limburgs Universitair Centrum, Belgium, as the 2004 Myrto Lefkopoulou Distinguished Lecturer.

Research interests:

Clustered Data, Longitudinal Data, Missing Data, Multivariate Data, Clinical Trials, Epidemiology

Publications:

- Molenberghs G., [Beunckens C.](#), [Jansen I.](#), [Thijs H.](#), [van Steen K.](#), [Verbeke G.](#), Kenward M.G.- The analysis of incomplete data.- In: Pharmaceutical statistics with SAS / Chuang-Stein C. [edit.], e.a., Cary, N.C., SAS, 2005
- [Vangeneugden Tony](#), [Laenen Annouschka](#), [Geys Helena](#), [Renard Didier](#), Molenberghs Geert.- Applying concepts of generalizability theory on clinical trial data to investigate sources of variation and their impact on reliability.- In: Biometrics, 61:1(2005), p. 295-304
- Molenberghs Geert.- Biometry, biometrics, biostatistics, bioinformatics, ..., bio-X.- In: Biometrics, 61:1(2005), p. 1-9
- [Serroyen Jan](#), Molenberghs Geert, Verhoye Marleen, van Meir Vincent, van der Linden Annemie.- Dynamic manganese-enhanced MRI signal intensity processing based on nonlinear mixed modeling to study changes in neuronal activity.- In: Journal of agricultural, biological, and environmental statistics, 10:2(2005), p. 1-14
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- [Faes Christel](#), [Aerts Marc](#), [Geys Helena](#), Molenberghs Geert, [Declerck Lieven](#).- Bayesian testing for trend in a power model for clustered binary data.- In: Environmental and ecological statistics, 11:3(2004), p. 305-322
- Mallinckrodt Craig H., Watkin John G., Molenberghs Geert, Carroll Raymond J..- Choice of the primary analysis in longitudinal clinical trials.- In: Pharmaceutical statistics, 3:3(2004), p. 161-169
- [Cortiñas Abrahantes José](#), Molenberghs Geert, [Burzykowski Tomasz](#), [Shkedy Ziv](#), [Alonso Abad Ariel](#), [Renard Didier](#).- Choice of units of analysis and modeling strategies in multilevel hierarchical model.- In: Computational statistics and data analysis, 47:3(2004), p. 537-563
- Decin L., [Shkedy Z.](#), Molenberghs G., Aerts C., [Aerts M.](#).- Estimating stellar parameters from spectra: 1: goodness-of-fit parameters and lack-of-fit test.- In: Astronomy and astrophysics, 421(2004), p. 281-294
- Tuerlinckx F., Rijmen F., Molenberghs G., [Verbeke G.](#), Briggs D., van den Noortgate W., de Boeck P..- Estimation and software.- In: Explanatory item response models: a generalized linear and nonlinear approach / de Boeck P. [edit.], e.a., New York, Springer, 2004, p. 343-373
- [van Steen Kristel](#), Tahri Nadia, Molenberghs Geert.- Introducing the multivariate Dale model in population-based genetic association studies.- In: Biometrische Zeitschrift = Biometrical journal, 46:2(2004), p. 187-202
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- [Aerts M.](#), [Hens N.](#), Molenberghs G..- Model selection for regression analysis with missing data.- In: Proceedings of the 19th International Workshop on Statistical Modelling Firenze, Italy / Biggeri A. [edit.], e.a., s.l., , 2004, p. 43-47
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- [Renard Didier](#), Molenberghs Geert, [Geys Helena](#).- A pairwise likelihood approach to estimation in multilevel probit models.- In: Computational statistics and data analysis, 44:4(2004), p. 649-667
- Molenberghs G., [Thijs H.](#), [Michiels B.](#), [Verbeke G.](#), Kenward M.G..- Pattern-mixture models.- In: Journal de la Société française de statistique, 145(2004), p. 49-77
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