

Multilevel Modeling: Analysis of Clustered Data

Description

Real data are often clustered such as repeated measurements on the same subject or measurements in grouped subjects (e.g. family or school studies). Failure to allow for clustering results in erroneous standard errors and confidence intervals. The aim of the course is to provide participants with an understanding of the basic concepts and general techniques in the analysis of clustered data. Valid analysis methods appropriate for clustered data will be introduced. The course software will be Stata. Main concepts to be covered include: clustering, random intercept, random slope, linear and logistic random-effects models (multilevel models, mixed models, hierarchical models), robust standard errors, generalized estimating equations (GEE), modelling strategy, model diagnostics.

Objectives

By the end of the course participants will be able to define the appropriate analysis method for a clustered data set. Participants will be able to perform and evaluate own analyses of clustered data.

Dates

Wed 14 – Fri 16 May 2014

Eligibility

The course is aimed at clinicians, researchers, public health specialists and other health care professionals who want to perform analyses of data with clustered structures. This is an advanced statistical course. Participants should know the principals of linear and logistic regression modelling. Practical experience with linear regression analysis is required.

Course Structure

This is a statistical methods course. We will follow a nonmathematical approach and focus on the practical application of the techniques on datasets from epidemiology and prevention research. The course consists of interactive lectures and computer practicals. The course room will be equipped with computers. It is also possible to bring the own laptop to the course (Stata has to be installed.) We will conclude with a question and answer session and an exam.

Assessment

Written exam

PhD Program Management:

Academic Lead Prof. Charlotte Braun-Fahrländer
Program Coordination Dr. Sina Henrichs

Contact:

Address Swiss Tropical and Public Health Institute
Socinstrasse 57, CH-4002 Basel
Telephone +41 61 284 83 08
Email phdph@ssphplus.ch
Website www.ispm-unibas.ch/ssphplus

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|--------------------------|---|--------------------|-----|--------------------------|-------|--------------------|-------|--------|--------|
| Credits | <p>1 ECTS</p> <p>Preparation Work: 4 h, Contact: 24 h, Follow Up: 2 h</p> <p>1 ECTS corresponds to appr. 30 hours workload</p> | | | | | | | | |
| Facilitators | <p>Professor Martin Rösli (Head of the Unit for Environmental Health Risk Assessment, Swiss Tropical and Public Health Institute, CH-Basel)</p> | | | | | | | | |
| Location | <p>Basel, details will be announced</p> | | | | | | | | |
| Course Fees | <table border="0"> <tr> <td>SSPH+ PhD Students</td> <td style="text-align: right;">0.—</td> </tr> <tr> <td>External MD/PhD Students</td> <td style="text-align: right;">300.—</td> </tr> <tr> <td>External Academics</td> <td style="text-align: right;">850.—</td> </tr> <tr> <td>Others</td> <td style="text-align: right;">1250.—</td> </tr> </table> <p>(The cost scheme depends on the Number of ECTS. Per ECTS participants are asked to pay 300,- CHF, 850,- CHF or 1250,-CHF, respectively)</p> | SSPH+ PhD Students | 0.— | External MD/PhD Students | 300.— | External Academics | 850.— | Others | 1250.— |
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| External MD/PhD Students | 300.— | | | | | | | | |
| External Academics | 850.— | | | | | | | | |
| Others | 1250.— | | | | | | | | |
| Registration | <p><u>Please register online on our homepage</u></p> <p>Or send an Email to phdph@ssphplus.ch</p> | | | | | | | | |
| Deadline | <p>14 April 2014</p> | | | | | | | | |
| Max. Attendance | <p>20</p> <p>(preference is given to SSPH+ PhD Students)</p> | | | | | | | | |



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