Introduction into multilevel modelling of clustered data

Facilitator	**Prof. Martin Röösli** Swiss TPH, University of Basel
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 under-standing 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, although R may also be used. 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	**30 June – 02 July 2021**
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 and practical experience with linear regression analysis is required. Basic knowledge of Stata is needed.
Course	This is a statistical methods course. We will follow a nonmathematical

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Structure	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. You have to bring the own laptop to the course (Stata has to be installed.) We will conclude with a workshop discussing your own data.
Assessment	Written exam
Credits	**1 ECTS** Preparation Work: 4 h, Contact: 24 h, Follow Up: 2 h (1 ECTS corresponds to appr. 25-30 hours workload)
Location	University of Basel, details will be announced

Course Fees

SSPH+ PhD Students	30.- CHF (processing fee)
PPHS PhD Students	30.- CHF (processing fee)
External MD/PhD Students	300.- CHF
External Academics	850.- CHF
Other Participants	1250.- CHF

(The cost scheme depends on the Number of ECTS. Per ECTS participants are asked to pay 300,- CHF, 850,- CHF or 1250,-CHF, respectively)

Registration	[Please register online on our website](#)
Registration date	**30 May 2021**

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