

**SPR 15TH ANNUAL MEETING
PRECONFERENCE WORKSHOP #3
May 29, 2007
8:30 AM – 5:00 PM**

Title **APPLICATION OF MIXED MODELS FOR LONGITUDINAL AND CLUSTERED DATA USING SUPERMIX**

Presenters Dr. Donald Hedeker, University of Illinois at Chicago
 Dr. Robert Gibbons, University of Illinois at Chicago
 Dr. Stephen du Toit, Scientific Software International, Inc.

Description

SuperMix combines the functionality of four mixed-effects programs, MIXREG, MIXOR, MIXNO, and MIXPREG, developed by Donald Hedeker and Robert Gibbons into a single application to provide estimates for mixed-effects regression models.

Mixed-effects models are also known as multilevel, hierarchical, or random-effects models. These models can be used for the analysis of longitudinal data, where each individual may be measured at a different number of occasions. They can also be used for clustered data, such as for patients within clinics.

SuperMix is under development by SSI under an SBIR Phase II contract N44MH32056, and is planned for release in May 2007. SuperMix will fit models with continuous, count, ordinal, nominal, and survival outcome variables with nested data, allowing for up to three levels of nesting. Key features are listed below.

- Easy to use graphical user interface: import data into the SuperMix spreadsheet, then build new models using menus and dialog boxes.
- Mixed-effects models for continuous outcome variables with auto-correlated residuals.
- Mixed-effects models for ordinal regression analysis, including non-proportional odds models and scaling effects.
- Mixed-effects models for Poisson regression analysis.
- Mixed-effects models for nominal logistic regression analysis.
- Mixed-effects models for grouped-time survival analysis.
- Two- and three-level models allowing for nested designs.
- Presentation quality graphics.

Schedule

8:30 - 9:30	I. Mixed models for continuous outcomes (clustered and longitudinal)
9:30 - 10:15	SUPERMIX computer demonstration of I.
10:15 - 10:30	beverage break
10:30 - 11:30	II. Mixed models for dichotomous outcomes (clustered and longitudinal)
11:30 - 12:15	SUPERMIX computer demonstration of II.
1:30 - 2:30	III. Mixed models for counts
2:30 - 3:15	SUPERMIX computer demonstration of III.
3:15 - 3:30	beverage break

3:30 - 4:30 IV. Mixed models for ordinal
4:30 - 5:00 SUPERMIX computer demonstration of IV.

Career Level & Prerequisites

General familiarity with linear and logistic regression would be helpful. Some knowledge or at least interest in longitudinal and/or multilevel data would make it worthwhile for the attendee.

Materials

Participants will receive CDs containing the SuperMix installation. These CD's will contain the most updated documentation in the form of PDF files. A subset of this and additional documentation will be produced as hard copies and made available to participants.