Mixed Effects Models - Day 1

Introduction to Course

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Course Aims

- ▶ Refreshing your statistic basics
- ▶ Making you familiar with the philosophy and practice of Linear Mixed Effects Models (LMM) and Generalised Mixed Effects Models (GLMM)
- ▶ Giving you the basics for building, validating, analysing, and interpreting your own LMMs and GLMMs in R
- ▶ Excite you about the Bayesian approach
- ▶ Preparing the ground that will allow you to go further from here: there is **much** more!

Time Table

- Wednesday, 14th of October 2024 to Wednesday, 5th of February 2025
- From 08:15 - ca. 12:00 (see Syllabus)
- From 08:15 - 10:00 Presence-only Lectures and demonstrations, **unless noted otherwise**
- From 10:15 - 12:00 Exercises and discussions + tutorials
- **Written exam in presence on the 5th of February 2025**

Course Content and Schedule

- **Week 1**: What are Mixed Effects Models, why and when should you use them, and what can you do with them
- **Week 2**: Refreshing Linear Models I
- **Week 3**: Refreshing Linear Models II
- **Week 4**: Generalised Least Squares Models (GLS)
- **Week 5**: Theory of Mixed Effects Models

Course Content and Schedule - Week 2

- **Week 6**: Practice and Fitting of Mixed Effects Models
- **Week 7**: Diagnostics of Mixed Effects Models
- **Week 8**: Inference in Mixed Effects Models
- **Week 9**: Refreshing GLMs
- **Week 10**: Generalised Linear Mixed Models (GLMM)

Course Content and Schedule - Week 3

- **Week 11**: Introduction to Bayesian Statistics
- **Week 12**: Bayesian Mixed Effects Models
- **Week 13**: Recapitulation / question time / old exam
- **Week 14**: Free
- **Week 15**: Written exam in presence !!!

Exam Details

- Wednesday, 5th of February 2025 at 8:00 (s.t.) - 11:30 in CIP Pool 2 of the Herder Building
- You will get a data set which you will have to analyse in a meaningful way and draw valid conclusions from this analysis.
- The analysis and conclusions have to be submitted as a html file via ILIAS until 12:30 of the exam day.

Register for the exam latest on ...