Rutgers Linguistics Workshop on Mixed Effects Models
— Overview —

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… with Florian's permission

What is this course about?

- introduction to Generalized Linear Models (GLMs) and Generalized Linear Mixed Models (GLMMs)
  - mathematical background
  - intuition / conceptualization
  - geometric interpretation
  - common issues & solutions for GLM/GLMMs
  - relation to ANOVA
- we'll learn how to
  - conduct, interpret, and report GLM/GLMM analyses in R
  - visualize data in R

Part lecture, part learning by doing, part asking questions!

What kind of data can you analyze with GLMs?

- continuous (nominal)
  response/reading times, slider ratings, speech onset times,…
- categorical (binary)
  truth value judgments, any binary choice prediction…
- ordered discrete (ordinal)
  Likert scale ratings…
- unordered discrete
  any choice between more than two options

……linear regression

……logistic regression

……ordinal regression

…..multinomial regression

Overview

Today

10:30 - 12	**R basics & linear regression**
12 - 1	Lunch
1 - 3	**Mixed effects linear regression**
3 - 5:30	Individual meetings / bring your own data!
5:30 - 8	Dinner

Tomorrow

9:30 - 10	Breakfast
10 - 11	**Coding schemes and model comparison**
11 - 12	**Mixed effects logistic regression**
12 - 1	Lunch
1 - 2	**Visualizing your data with ggplot2**
2 - 3	**Mixed effects ordinal regression**