Fitting and evaluating mixed models using lme4

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Mixed-effects models or, more simply, mixed models are statistical models that incorporate both fixed-effects parameters, which apply to an entire population or to well-defined subsets of a population, and random effects, which apply to specific experimental or observational units in the study. The tutorial will introduce mixed-effects models and the **lme4** package for fitting, analyzing and displaying linear mixed-effects models, generalized linear mixed models and nonlinear mixed models with scalar or vector-valued random effects in nested, crossed or partially crossed configurations. We will use recently developed capabilities in lme4 that allow for hypothesis testing on and interval estimation of the model parameters using profiled likelihood.

References

[1] Bates, D., M. Mächler, and B. Bolker (2011). **lme4**: Linear mixed-effects models using s4 classes. http://cran.R-project.org/package=lme4. R package version 0.999375-42.