Longitudinal data analysis with *Mathematica* 9 using RLink

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The aim of the talk is to demonstrate the built in integration with R, which is a new feature of *Mathematica* 9. Although the capabilities of *Mathematica* in statistical computing improved markedly since version 7, it still cannot compete with statistical software like SAS, SPSS or R.

Mixed-effects models are often used to analyse change over time based on data with repeated measurements. We use the lme4 R package from *Mathematica* to fit the models. Then we build an interactive graph with Manipulate[ ] to visualize the results and the model parameters.

In summary, the talk gives an overview and an example how the statistical power of R and the visualization capabilities of *Mathematica* can be combined in one application.