# Problems. Visit poster №1 to learn more...

- **GLMM** are addressed for inference and prediction in a wide range of different applications providing a powerful scientific tool for the researchers and analysts from different fields.
- **More and more sources of data** are becoming available introducing **a variety of hypothetical explanatory variables** for these models to be considered
- **Selection of an optimal combination of these variables** is crucial.
- **Posterior model probabilities** is one of the relevant measures to estimate quality of the models.
- **Number of models** to select from is **exponential** in the number of candidate variables.
- **Search space** in this context has **numerous local extrema** (potentially sparsely located).
- **Efficient search algorithms** have to be adopted for evaluating the posterior distribution within a reasonable amount of time.

Results. Visit poster №1 to learn more...

- **MJMCMC** approach for estimating posterior model probabilities and **Bayesian model averaging and selection** is suggested.
- It incorporates the ideas of MCMC with possibility of **large jumps combined with local optimizers** to generate proposals in the discrete space of models.
- **R-package** *EMJMCMC* is developed.
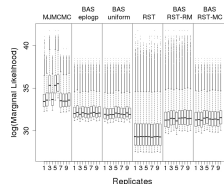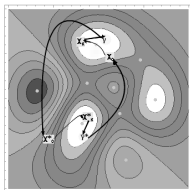
- **Extensive parallel computing** for **MJMCMC** is available within it.
- **Results show** that **MJMCMC** is a **competitiv**e algorithm that both **performs well** in terms of the search quality and **addresses a wider class** of statistical **models** than the competing approaches.