# Einladung zum Biometrischen Kolloquium

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MUW, Spitalgasse 23, 1090 Wien, Bauteil 88, Raum 88.03.512
http://www.muw.ac.at/cemsiis/allgemeines/anschrift/

## A DESIGN CRITERION FOR SYMMETRIC MODEL DISCRIMINATION BASED ON NOMINAL CONFIDENCE SETS

**ABSTRACT:**

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Experimental design applications for discriminating between models have been hampered by the assumption to know beforehand which model is the true one, which is counter to the very aim of the experiment. Previous approaches to alleviate this requirement were either symmetrizations of asymmetric techniques, or Bayesian, minimax and sequential approaches.
Here we present a genuinely symmetric criterion based on a linearized distance between mean-value surfaces and the newly introduced notion of nominal confidence sets. The computation of the proposed criterion leads to a specific convex optimization problem which results in a substantial increase of computational speed compared with the standard approaches. This permits direct computation of optimal exact designs, instead of the usual approximate designs. Moreover, the nominal confidence sets add flexibility to the construction of discrimination designs, allowing the experimenters to incorporate their degree of certainty about nominal values of the model parameters.
We provide a Monte-Carlo evaluation of the methods discrimination performance on the basis of the likelihood ratio. An application for a pair of competing models in enzyme kinetics is given as well.