

Optimal Experiment Design for Biochemical Processes

Laboratory experiments are time- and labor-intensive. Accurate models are therefore necessary to simulate processes *in vitro*. However, it is often nontrivial to choose experimental conditions such that the models are identifiable.

Optimal experiment design is the process of planning experimental conditions such that the work in the laboratory is as informative as possible and the gathered information is useful.

The goal of this project is to develop **statistical methods** for system identification, parameter estimation, and experiment design for biochemical processes (enzymes, bacteria, etc.)

- development of model identification algorithms
- simulation of algorithms using biochemical process models
- validation via real laboratory measurements

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