

BIOBAYES: BAYESIAN INFERENCE FOR SYSTEMS BIOLOGY

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There are several levels of uncertainty involved in modelling biochemical systems. For example, the experimental data usually contains considerable amount of observation errors, and there may be alternative hypotheses about the processes involved in studied phenomena. The methods of Bayesian inference provide a consistent framework for modelling and predicting in uncertain conditions. We present a software package for applying Bayesian inferential methodology to problems in Systems Biology.

This software package is named BioBayes, and it provides a framework for parameter estimation and evidential hypotheses testing over models of biochemical systems defined using ordinary differential equations.

The package is available from <http://www.dcs.gla.ac.uk/BioBayes/>. The software is based on modular architecture and allows plugging-in third party methods and extensions.