

*Partially observed stochastic models in neuroscience*

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Abstract:

When constructing a mathematical model for a given system under study, decisions about characteristics and levels of detail of the model have to be taken. Which choices are appropriate depend on the questions, one wants to answer. It should also depend on available data, such that the model can exploit the information that can be extracted and not suffer too much by what cannot. I will present some examples where a simple model extracted from more biophysical based models can answer specific questions of interest, as long as the simple model is interpreted and used in a suitable way.