***eLife’s* transparent reporting form**

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* You should state whether an appropriate sample size was computed when the study was being designed
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We use mathematical analysis and computer simulations to derive our results. No sample-size estimation was necessary.

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* You should report how often each experiment was performed
* You should include a definition of biological versus technical replication
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The computer simulations performed were stochastic simulations of neuronal activity. The number of realizations is given in the captions of the figures as well as in the section “Methods and Materials”.

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* Statistical analysis methods should be described and justified
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We will make all code and simulation data (for Figures 2 through 5) available when the manuscript published.