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            Modeling Biological Systems with Dynamical Systems Theory

The goal of the Alpha Project research is to make quantitative predictions about yeast response
to pheromone and defined experimental perturbations. The pheromone pathway is well-studied by
biologists. It is qualitatively understood, i.e. scientists agree on the components (proteins, genes,
etc) of the pathway and how they interact. However, quantitative information about the rates of
reactions and numbers of molecules is lacking due to experimental and measurement limitations. I
introduce some ideas on how to use methods from dynamical systems theory to model this complex
biological system.