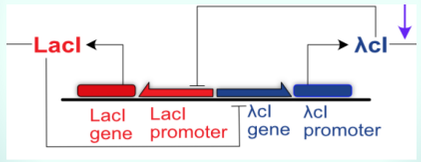
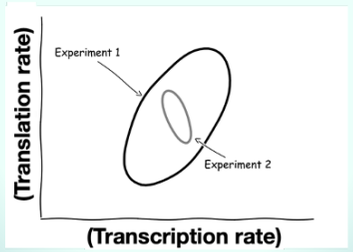
Creating, Saving, and Loading Reaction Models



Sequential Experimental Design



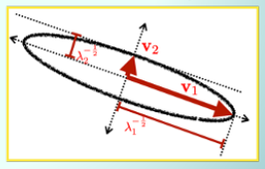
Solve Models

$$\frac{d}{dt}\mathbf{P} = \mathbf{AP}$$

Information Quantification

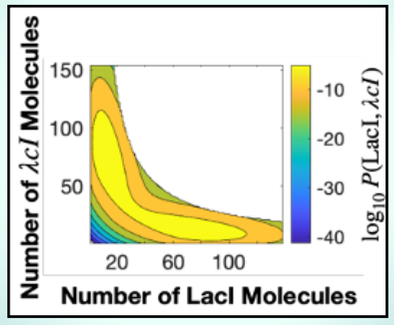
$$I_{ij}(\theta) = \mathbb{E}_{\mathbf{D}\in\mathscr{D}}\left\{\frac{d\,\log L(\mathbf{D})}{d\theta_i}\frac{d\,\log L(\mathbf{D})}{d\theta_j}\right\}$$

$$I_{ij}(\theta) = \sum_{\mathbf{x}\in\mathscr{D}}\frac{\mathbf{s}_{i\mathbf{x}}\mathbf{s}_{j\mathbf{x}}}{P_{\mathbf{x}}}$$



The
SSIT
Stochastic System Identification Toolkit

Data Processing



Sensitivity Analysis

$$\mathbf{s}_i(t) = \frac{\partial P(t)}{\partial \theta_i}$$

$$\frac{\partial}{\partial t}\begin{bmatrix}\mathbf{P}\\ \mathbf{s}_i\end{bmatrix} = \begin{bmatrix}\mathbf{A} & \mathbf{0}\\ \partial_{\theta_i}\mathbf{A} & \mathbf{A}\end{bmatrix}\begin{bmatrix}\mathbf{P}\\ \mathbf{s}_i\end{bmatrix}$$

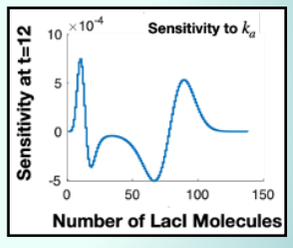
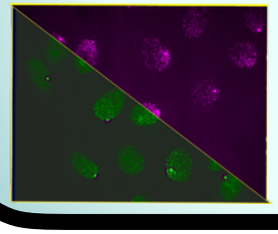
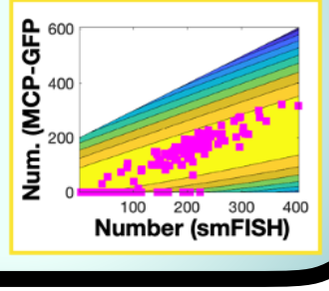


Image and Data Distortion Estimation

$$P^Y = C_{Y|X}P^X$$





Parameter Inference