

## A. Design

Existing theory, scientific objectives, intuition

Write deterministic model of process.

Design / choose observations.



## B. Model specification

Diagram relationship between observed and unobserved.

Write out posterior and joint distributions using general probability notation.

Choose appropriate probability distributions.



## C. Model implementation

Write full conditional distributions.  
Write MCMC sampling algorithm.

Or  
Write code for MCMC software.

Implement MCMC on simulated data.

Implement MCMC on real data.



## D. Model evaluation and inference

Posterior predictive checks

Probabilistic inference from single model

Model selection, model averaging