



$$H_{ij} \sim \text{Binomial}(\theta_{ij}^H, s)$$

$$Fa_{ij} \sim \text{Binomial}(\theta_{ij}^F, s)$$

$$\theta_{ij}^H \leftarrow \phi\left(\frac{1}{2}D_{ij} - C_i\right)$$

$$\theta_{ij}^F \leftarrow \phi\left(-\frac{1}{2}D_{ij} - C_i\right)$$

$$D_{ij} \sim \text{Gaussian}(\mu_j^D, \lambda_j^D)$$

$$C_i \sim \text{Gaussian}(0, 1)$$

$$\mu_j^D \sim \text{Gaussian}(0, 0.001)$$

$$\lambda_j^D \sim \text{Gamma}(.001, .001)$$

$$\delta \leftarrow \mu_1^D - \mu_2^D$$