$$[\boldsymbol{\lambda}, \alpha, \beta | \mathbf{y}] \propto \prod_{i=1}^{n} \text{Poisson}(y_i | \lambda_i) \text{gamma}(\lambda_i | \alpha, \beta) \text{gamma}(\beta | .001, .001) \text{gamma}(\alpha | .001, .001)$$

## Writing the full-conditional distribution for $\alpha$ :

$$[\alpha \mid \cdot] \propto \prod_{i=1}^{n} \operatorname{gamma}(\lambda_i \mid \alpha, \beta) \operatorname{gamma}(\alpha \mid .001, .001)$$

