$$
\begin{aligned}
y_i &\sim Poisson(\lambda_i) \\
ln(\lambda_i) &= a + \boldsymbol{x}_i\boldsymbol{\beta} + f_{c[i],g[i]} + \boldsymbol{z}_i\boldsymbol{\gamma} + \tilde{f}_{c[i],p[i],g[i]} \\
\\
a &\sim Unif(-\infty, \infty) \\
\beta_k &\sim StudentT(3, 0, 1) \\
\\
\boldsymbol{\gamma} &\sim \mathcal{N}(\mathbf{0}, diag(\boldsymbol{\sigma})\, \boldsymbol{\Omega}\, diag(\boldsymbol{\sigma})) \\
\boldsymbol{\Omega} &\sim LKJ(1) \\
\sigma_m &\sim StudentT(3, 0, 2.5) \\
\\
\boldsymbol{f}_{c[i]} &\sim GP(\mathbf{0}, \boldsymbol{K}_{\boldsymbol{\rho},\boldsymbol{\alpha}}) \\
\rho &\sim InvGamma(10, 500) \\
\alpha &\sim \mathcal{N}(0, 1) \\
\\
\tilde{\boldsymbol{f}}_{c[i],p[i]} &\sim GP(\mathbf{0}, \boldsymbol{K}_{\tilde{\boldsymbol{\rho}},\tilde{\boldsymbol{\alpha}}}) \\
\tilde{\rho} &\sim InvGamma(20, 600) \\
\tilde{\alpha} &\sim \mathcal{N}(0, 1)
\end{aligned}
$$