



**Figure 5: The graphical model for CNSL, where the solid arrows indicate the variational approximation  $q_{\phi_1}(z_s|x_s, G_s)$  and  $q_{\phi_2}(z_{fs}|x_s, f_s, G_s)$  to the intractable posterior  $p(Z|x_s, f_s, G_s)$ . Dashed arrows denote the generative process that decodes  $x_s$  from  $p_{\theta}(x_s|Z)$  and predicts the information diffusion  $p_{\psi}(y_t|x_s, \mathcal{G})$ .**