

$$\frac{df(x|t)}{dt} = 2l_s\mu \sum_{y=0}^{l_s^{cutoff}} (M(x|y) - I(x|y))f(y|t) + 2\rho \sum_{y=0}^{l_s^{cutoff}} (P(x|y, \theta, \delta_{TE}, l_s) - I(x|y))f(y|t) \quad (1)$$

$$\sum_{x=0}^{l_s^{cutoff}} g_{XY}(x) = L_{seg} \quad (\text{Condition})$$

$$\prod_x [f_{\mu, \rho, \theta, \delta_{TE}}(x|t)]^{g_{XY}(x)} \quad (2)$$

$$S(X_1, \dots, X_n | \mu, \rho, \theta, \delta_{TE}, T) = \sum_{\text{all } (X_a, X_b) \text{ pairs}} \log \left\{ \prod_x [f_{\mu, \rho, \theta, \delta_{TE}}(x|t_T(X_a, X_b))]^{g_{X_a X_b}} \right\} \quad (3)$$