$$\frac{\partial u}{\partial t} = D\frac{\partial^2 u}{\partial x^2} - u(u-a)(1-u) + \omega$$

$$\frac{u(x,t+\Delta t) - u(x,t)}{\Delta t} = D\left[\frac{u(x+\Delta x,t) - 2u(x,t) + u(x-\Delta x,t)}{\Delta x^2}\right]$$

$$-u(u-a)(1-u) + \omega$$

$$u(x_i, t_l) = u_i^l$$

$$\frac{u_i^{l+1} - u_i^l}{\Delta t} = D\left[\frac{u_{i+1}^l - 2u_i^l + u_{i-1}^l}{\Delta x^2}\right] - u_{i-1}^l(u_{i-1}^l - a)(1-\omega_{j-1}^l)$$

$$u_i^{l+1} = \lambda[u_{i+1}^l - 2u_i^l + u_{i-1}^l] - u_{i-1}^l(u_{i-1}^l - a)(1-\omega_{j-1}^l)\Delta t + u_i^l$$

$$\lambda = \frac{D\Delta t}{\Delta x^2}$$

$$\frac{\partial \omega}{\partial t} = \varepsilon(u - b\omega)$$

$$\frac{\omega_j^{l+1} - \omega_j^l}{\Delta t} = \varepsilon(u_{i-1}^l - b\omega_{j-1}^l)$$

$$\omega_j^{l+1} = \underbrace{\Delta t\,\varepsilon}_{\mu}(u_{i-1}^l - b\omega_{j-1}^l) + \omega_j^l$$