

$$\dot{x}_i = \frac{-x_i + u_i + \sum_{j=1}^J w_{ij}\, b_j r_j}{\tau_d}$$

$$r_i=\phi\Bigg(x_i-a_{0_i}-c\sum_{k=1}^Ka_{ik}\Bigg)$$

$$\dot{a}_{ik}=\frac{-a_{ik}+r_i}{\tau_k}$$

$$\dot{b}_i=\frac{1-b_i}{\tau_{rec}}-\frac{b_i\,r_i}{\tau_{rel}}$$

$$1\\$$