$$\tau_e \frac{de}{dt} = -e + f(C_{ij} \times e + w_{ee}e + w_{ei}i) + n(t) + stim(t) \tag{1}$$

$$\tau_i \frac{di}{dt} = -i + f(w_{ie}e) + stim(t) \tag{2}$$

$$f(x) = [s \times erf(\frac{x - \theta}{s})]_+ \tag{3}$$