$$f_{tun}(x) = a * exp\left(-\frac{(x-\mu)^2}{b}\right) + c \tag{1}$$

$$p(k|x) = \frac{(g_{fr} * f_{tun}(x))^k * exp(-g_{fr} * f_{tun}(x))}{k!} \tag{2}$$

$$C * \frac{dV}{dt} = g_{leak}(V(t) - V_{rmp}) + g_{epsc}I(t) + g_{shared}\eta + g_{iid}\zeta + g_{signed}\epsilon \tag{3}$$

$$I(t) = \delta(t - \tau) \tag{4}$$

$$\eta \sim p(V_{shared}) = \frac{1}{\sqrt{2\pi}} exp\left(-\frac{V^2}{2\pi}\right) \tag{5}$$

$$\zeta \sim p(V_{iid}) = \frac{1}{\sqrt{2\pi}} exp\left(-\frac{V^2}{2\pi}\right) \tag{6}$$

$$\epsilon \sim p(V_{signed}) = sgn(p = 0.5) * \frac{e^V}{V!} \tag{7}$$