**The Wilson-Cowan model of neocortical dynamics is a population firing rate model.**

$$\frac{dE}{dt} = -E + \sigma\left(w_{EE}E - w_{EI}I + h_E\right) \quad \text{and} \quad \frac{dI}{dt} = -I + \sigma\left(w_{IE}E - w_{II}I + h_I\right) \quad \text{where} \quad w_{EE}, w_{EI}, w_{IE}, w_{II} \geq 0$$

where the $\sigma(h)$ is an increasing sigmoidal function. The dependent variables $E$ and $I$ represent the population firing rates of excitatory and inhibitory neurons, respectively, in a cortical column of secondary visual cortex (V2).