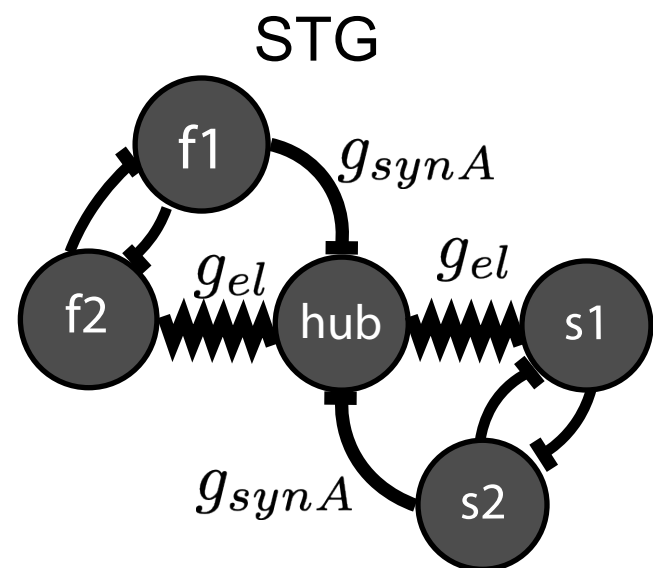
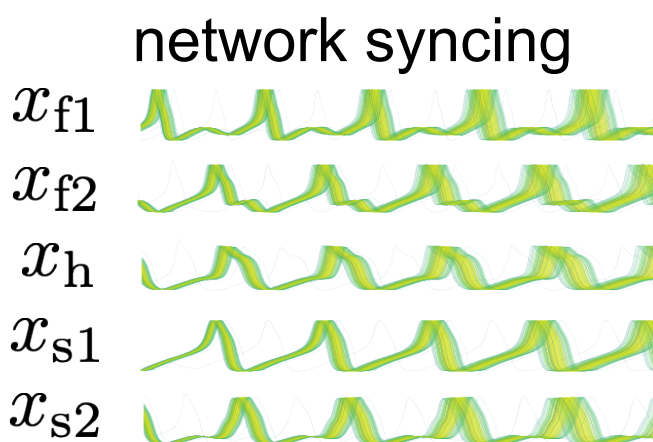
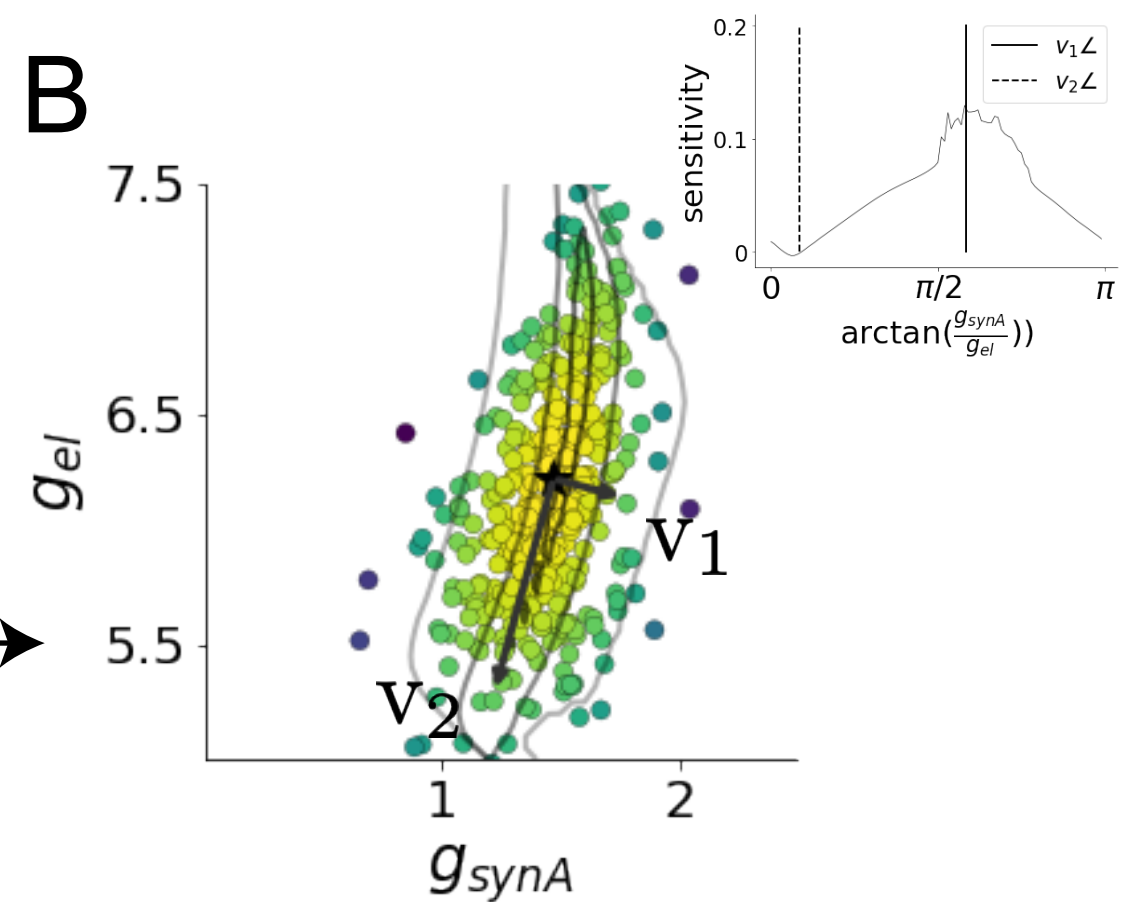


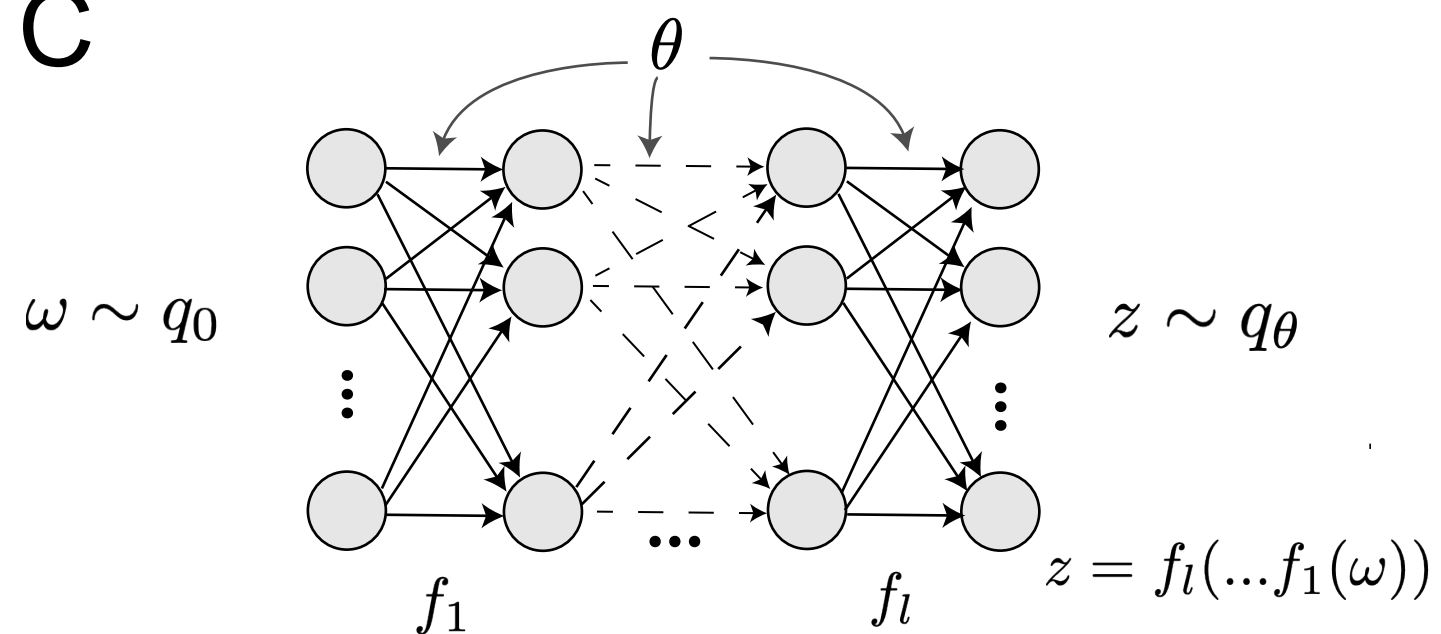
A

biological
modelemergent
propertyEmergent property
inference (EPI)

B



C



D

$$\operatorname{argmax}_{q_\theta \in \mathcal{Q}} H(q_\theta(z))$$

$$\text{s.t. } \underbrace{E_{z \sim q_\theta}}_{\text{model parameter samples}} \left[\underbrace{E_{x \sim p(x|z)}}_{\text{model simulations}} \left[\underbrace{T(x)}_{\text{emergent property statistics}} \right] \right] = \underbrace{\mu}_{\text{emergent property constraints}}$$