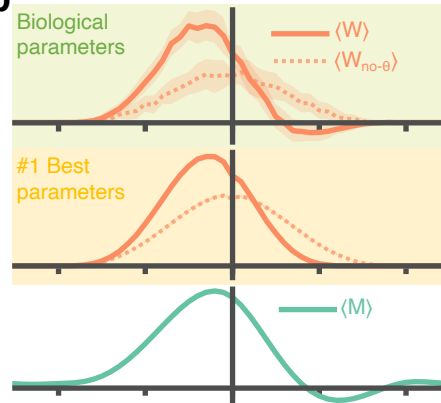


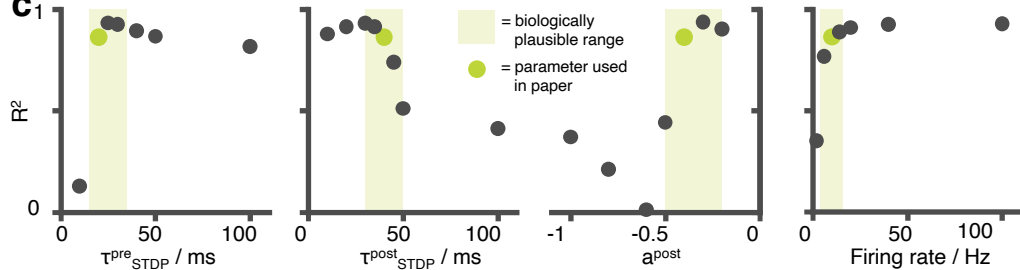
a

			Sweep range	Best parameters*:			Biological parameters [†]
				#1	#2	#3	
Simulation parameters	STPD	τ^{pre} / ms	[10→100]	20	10	40	20 [‡]
		τ^{post} / ms	[10→100]	45	40	100	40 [‡]
		a^{post}	[-0.1→-1.0]	-0.3	-0.2	-0.3	-0.4 [‡]
		firing rate / Hz	[1→50]	50	50	50	5 [§]
	θ	precess fraction, f	no sweep			0.5	
		κ	no sweep			1	
		θ -frequency, ν_{θ} / Hz	no sweep			10	
	TD	Learning rate, η_{STDP}	no sweep			0.05	
		τ_{TD} / s	no sweep			4	
		Learning rate, η_{TD}	no sweep			0.01	
		L2 regularisation, λ	no sweep			0.01	
	Performance metrics	R^2 (M,W)	-	0.97 (0.76)	0.97 (0.77)	0.97 (0.82)	0.86 (0.65)
		SNR(W)	-	66.7 (53.0)	47.7 (26.3)	61.8 (54.6)	7.3 (3.7)
θ (No- θ)	$x_{\text{max}} \langle W \rangle$ vs. $x_{\text{max}} \langle M \rangle = -0.15$	-	-0.25 (-0.05)	-0.15 (-0.05)	-0.25 (-0.05)	-0.25 (-0.05)	

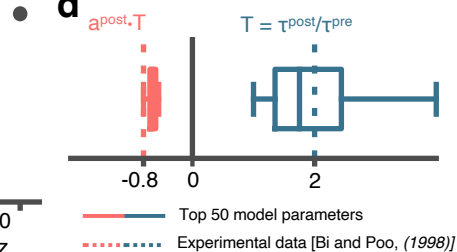
b



c



d

*as determined by R^2 (M, W_{θ})[†] as used in paper, determined from literature...[‡] Bush et al. (2010)[§] Skaggs et al. (1996)^{||} Fitted to Fig. 5a from Jeewajee and Barry (2014)^{||} Jeewajee and Barry (2014)