Table S1. Parameters used in the simulations

Parameters	Symbol	Value	Units
Total concentration of CaMKII	K_{tot}	20	μM
Total concentration of phosphatase	P_{tot}	20	μM
Normalized total concentration of AMPAR	A_{tot}	1	-
Basal concentration of active CaMKII	K_0	0.5	μM
Basal concentration of active phosphatase	P_0	0.5	μM
Rate constant for autophosphorylation	k_1	2	s^{-1}
Rate constant for dephosphorylation by P	k_2	15	s^{-1}
Rate constant for basal activity of K	k_3	1	s^{-1}
Rate constant for Ca^{2+}-dependent phosphorylation	k_4	120	s^{-1}
Rate constant for autodephosphorylation	k_{11}	2	s^{-1}
Rate constant for phosphorylation by K	k_{12}	15	s^{-1}
Rate constant for basal activity of P	k_{13}	1	s^{-1}
Rate constant for Ca^{2+}-dependent dephosphorylation	k_{14}	80	s^{-1}
Dissociation constant for Ca^{2+}	K_m	4	μM
Michealis-Menten constant for autophosphorylation	K_{m1}	10	μM
Michealis-Menten constant for dephosphorylation	K_{m2}	0.3	μM
Michealis-Menten constant for autodephosphorylation	K_{m11}	10	μM
Michealis-Menten constant for phosphorylation	K_{m12}	1	μM
Scaling factor	c_1	1	-
Scaling factor	c_2	1	-
Rate constant independent from K activity	c_3	6	s^{-1}
Rate constant independent from P activity	c_4	8	s^{-1}