Life Sciences Seminar

A causal link between reward, aversion learning and dopamine neurons

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Host:

Excitation of midbrain dopamine (DA) neurons are known to be positively reinforcing. Suchreinforcing signals are arising in the form of phasic bursts and both phasic and tonic firingsupports eliciting and strengthening the learning relevant signals. While DA network isunified in eliciting reward, various heterogenous elements withinthe larger network reads the ongoing task relevant details and underlies the acquisition ofaction learning even under aversive conditioning. In this talk, I will summarise,our work over the last several years utilising optogenetic techniques in self-stimulation,place preference, signaled active avoidance learning and blocking procedures.Briefly, similar role of substantia nigra (SNc) and ventral tegmental area (VTA) in elicitingreward and aversion, impact of silencing VTA DA during prediction and post diction of cuesignaledavoidance are presented as well. I will also emphasize various analysis strategieswhen reading the behavioral measurements coupled with temporally precise optogeneticperturbations.

Tuesday, January 21, 2020 10:30am - 11:00am
Seminar Room, Lab Building East

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