

Inherent Coupling of Perceptual Judgments to Actions in the Mouse Cortex

It's unclear where in the brain perceptual judgments are made and whether this process is independent of any resulting actions. We designed a vibrotactile detection task in which mice flexibly switched between contingencies to dissociate between perception and action. A cortex-wide optogenetic screen revealed that the premotor cortex is important for perception rather than the ability to lick, while an imaging screen found correlates of the current contingency but no action-independent correlates of perception. Based on these findings, we propose a model in which vibrotactile perceptual judgments are formed in an inherently but flexibly action-coupled manner.

Primary author: SOKOLETSKY, Michael (Department of Neurobiology, Weizmann Institute of Science, Rehovot, Israel)

Presenter: SOKOLETSKY, Michael (Department of Neurobiology, Weizmann Institute of Science, Rehovot, Israel)

Session Classification: Guest Talk