Séminaire PMMH

Bureau d'Études, Bâtiment L, 2ème *étage*

Vendredi 25 septembre 2015, 11h00-12h00

Agnese Seminara

LPMC, Université de Nice

Olfactory navigation in mice

The ability to shift between multiple decision-making strategies during natural behavior allows animals to strike a balance between flexibility and efficiency. We investigated odor-guided navigation by mice to understand how decision making strategies are balanced during a complex natural behavior. Mice navigated to odor sources in an open arena using naturally fluctuating airborne odor cues as their positions were recorded precisely in real time. When mice had limited prior experience of source locations, their search behavior was consistent with a gradient descent algorithm that utilized directional cues in the plume to navigate to the odor source. With increased experience, mice shifted their strategy from this flexible, sensory-driven search behavior to a more efficient and stereotyped foraging approach that varied little in response to odor plumes. This study demonstrates that mice use prior knowledge to adaptively balance flexibility and efficiency during complex behavior guided by dynamic natural stimuli.

Prochain séminaire : vendredi 2 octobre,
Programme des séminaires : www.pmmh.espci.fr, onglet *Séminaires PMMH*
Contact : Ramiro Godoy-Diana, Étienne Reyssat, seminaires@pmmh.espci.fr