

Aim:

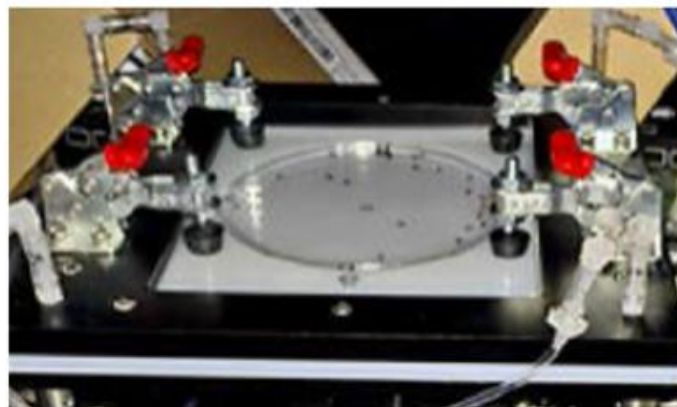
Automation of behavioural paradigms

Develop and build behavioural setups for projects within the sfb

Foster translational collaboration

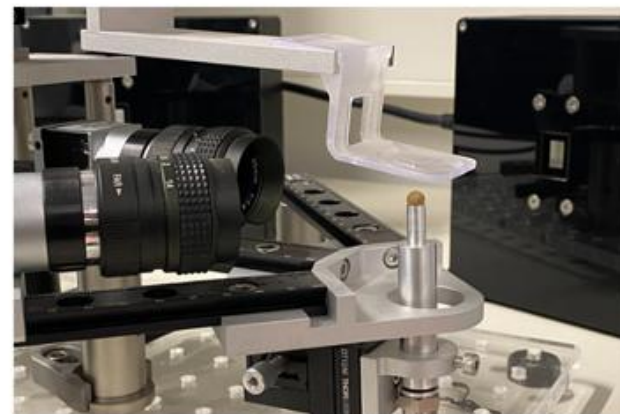
Drosophila:

4-way olfactometer arena



- Track behaviour of freely moving flies
- 4 sectors:
Odour stimulation
Crimson activation backlight

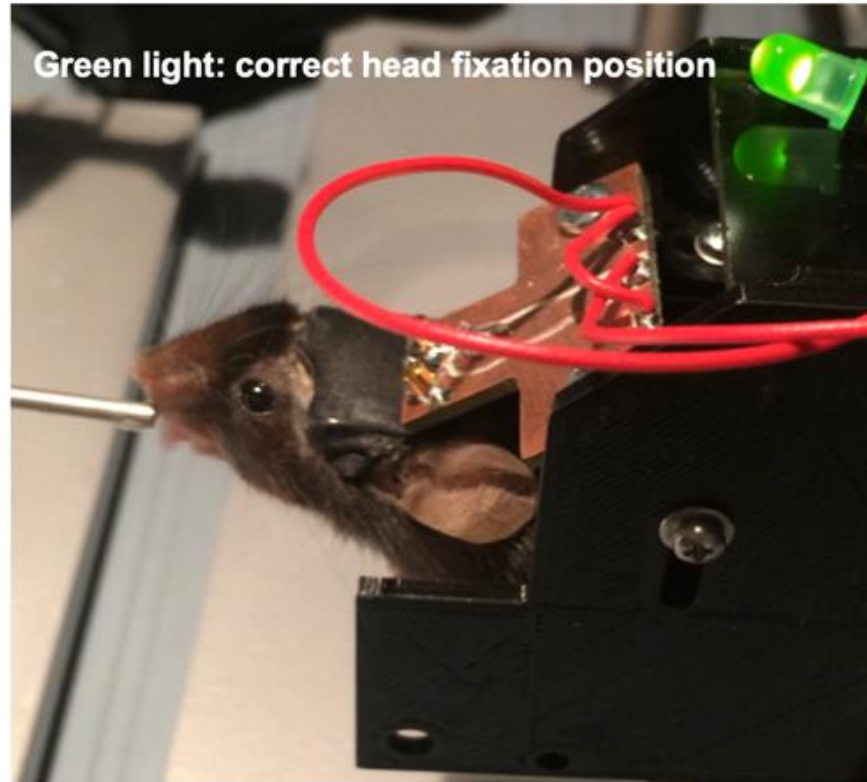
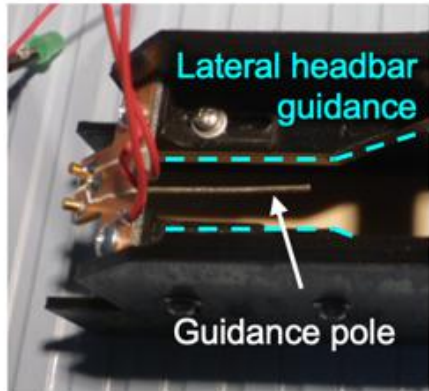
Fly ball



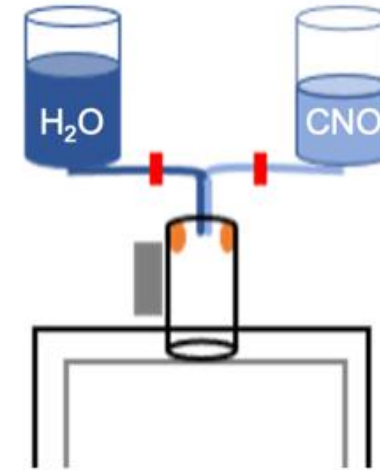
- Track behaviour of tethered fly in virtual reality

hhmi, janelia research campus

Voluntary, automated head fixation training



Automated, ID controlled substance administration



- Computer controlled valves
- Nose poke detector
- ID reader

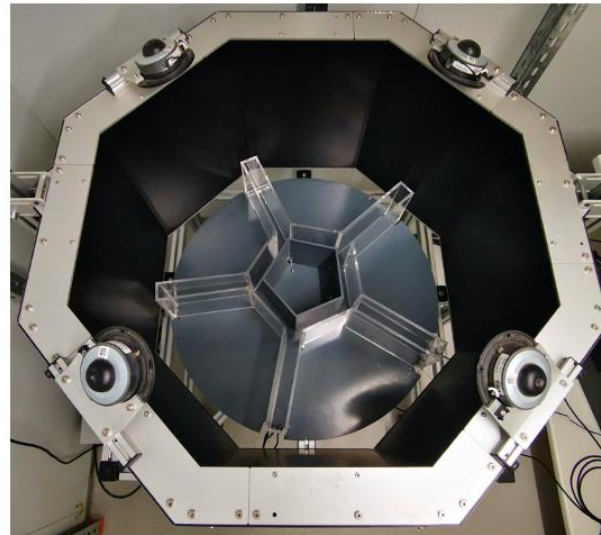
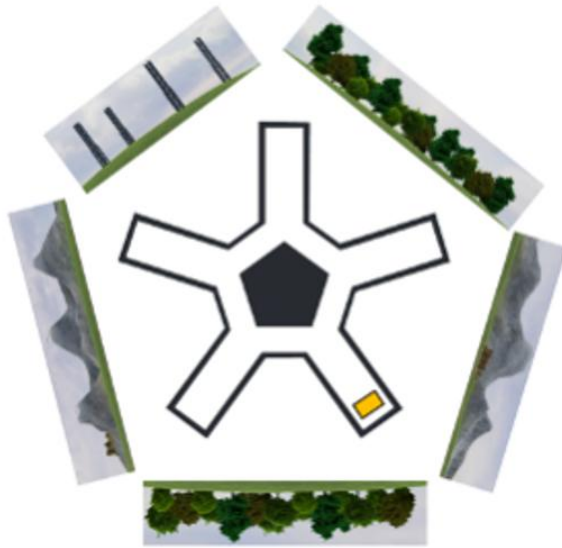
Multi-species approach: Starmaze

Effects of propofol on encoding and early consolidation of ego- and allocentric spatial memory

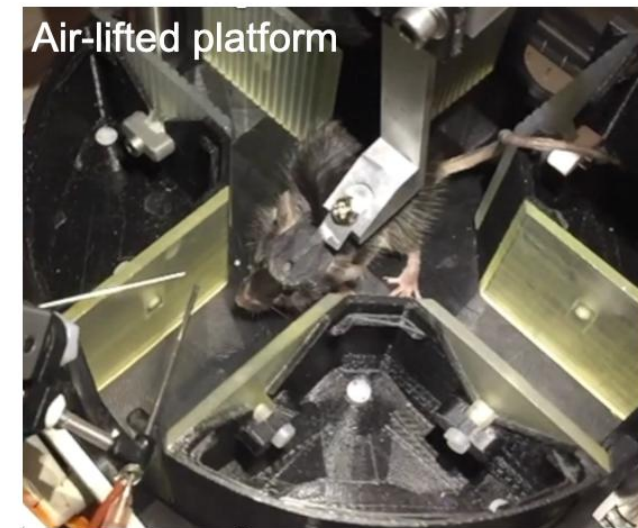
Potential drosophila version based on Fly ball setup.

Human project: B05, Ploner/Finke

Mouse version:
Freely moving



Head fixed



Nashaat et al. 2016

Multi-species approach: Paired association task

Human project:
B04, Buß/Kaindl/Shing

Ontogenesis of memory

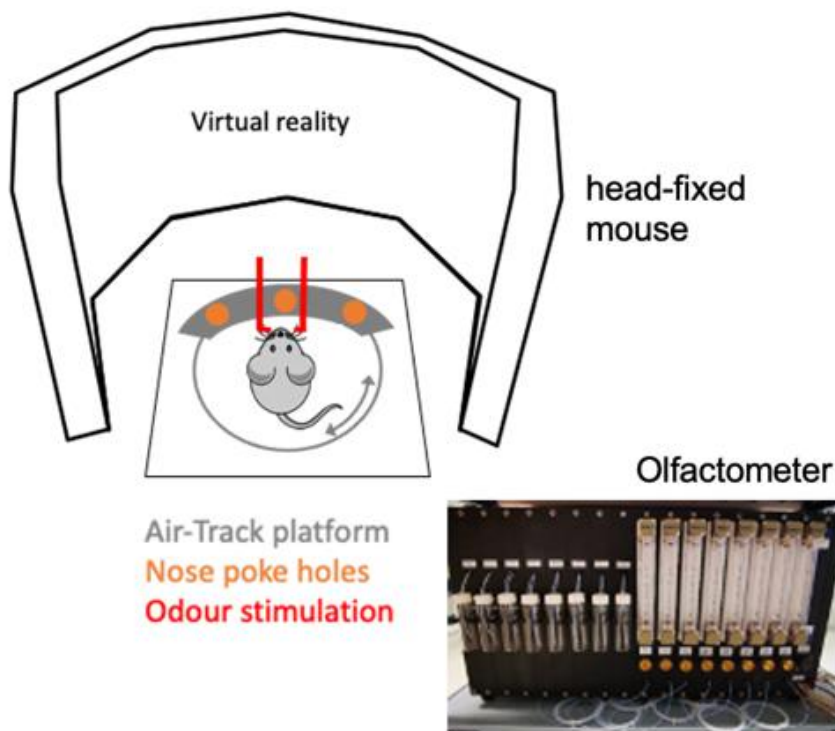
Encoding



Retrieval



Mouse version:
Odor-location paired association task



Take-home messages:

Automation can increase animal welfare and reduce experimental labour

Translational behavioural technology is essential to benefit from cross-species memory research

Get in touch for more collaboration