



Exploring the mechanisms of visual place learning in the fruit fly

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Argument for *Drosophila*

We want to understand the sensory and motor features underlying place learning in insects.

Why use the fruit fly as a model for our purposes?

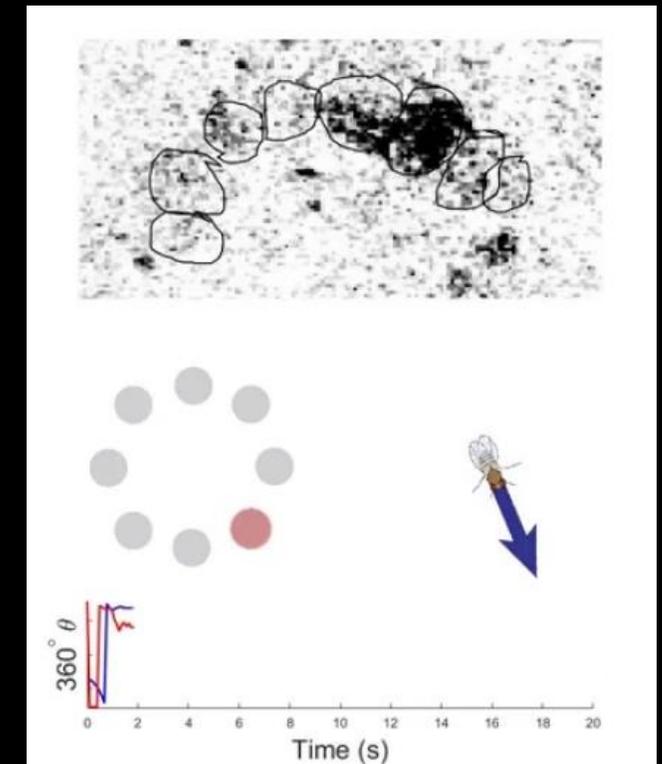
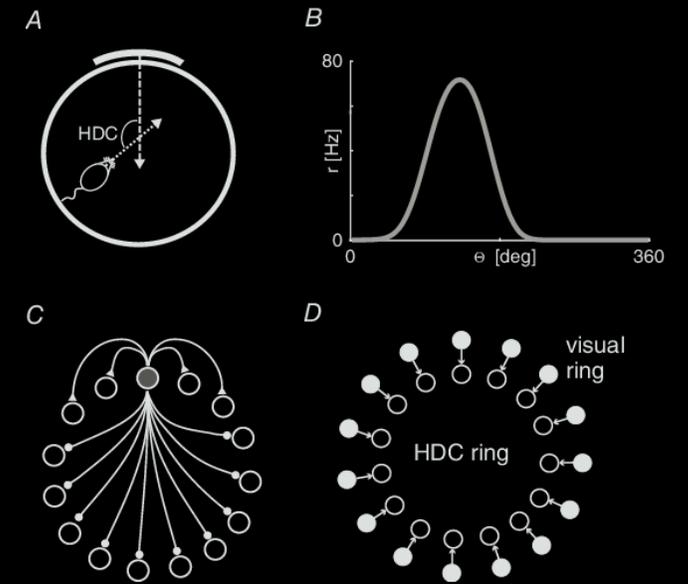
- Complex and quantifiable navigational behavior
 - Replicable in artificial settings
 - Many experimental advantages:
 - Short life cycle
 - High fecundity
 - Small size
 - Low cost
- Great statistics
Short time



Argument of significance

Why study insect navigation?

- Low neuron counts -> tractable circuits
- Analogous functions & conservation across species
- Applications for neuroscience and bio-inspired robotics



Conclusion

- Future goal – build a navigational system for a robot
- Understand the mechanisms of place learning in insects
- Build an experimental paradigm for path integration in fruit flies