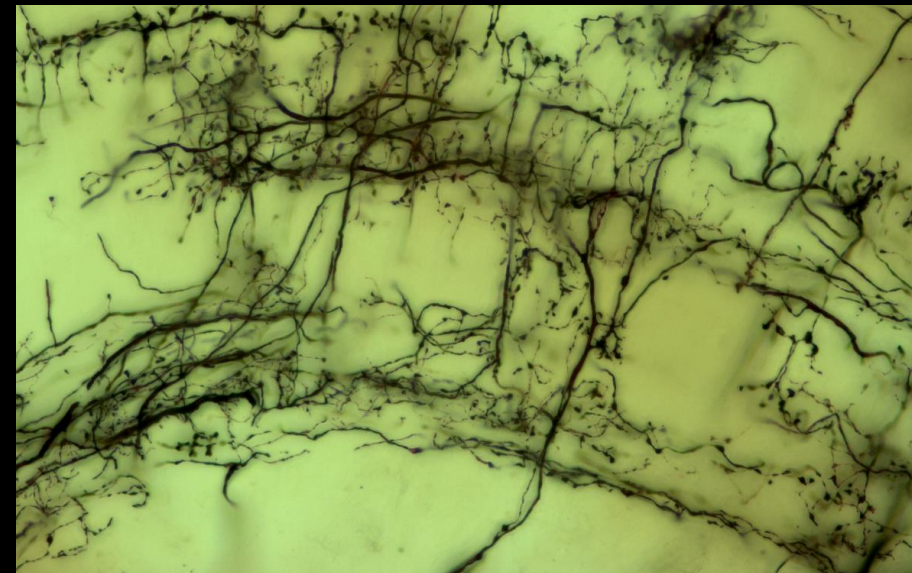


Insights from a formidable companion, the mudcrab *Neohelice granulata*

Julieta Sztarker

Universidad de Buenos Aires

IFIBYNE-CONICET

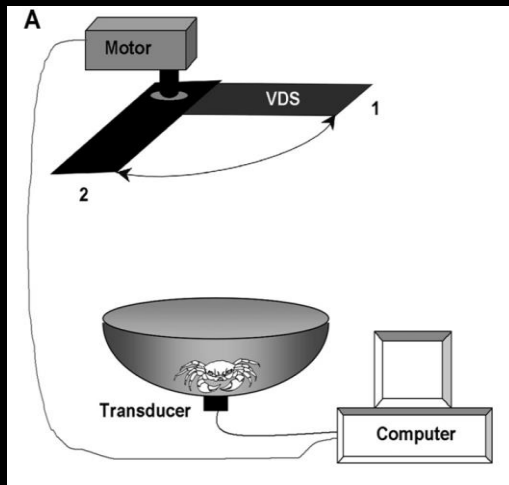


Understanding from the entire animal to its minimal components

- Behavior (as prey, predator, optomotor reflexes)
- Organization of the brain centers (neuroanatomy: Bodian, Golgi, Dextran injections, intracellular)
- Identification of areas (lesion) / neurons (electrophysiology) in the brain responsible for integrating visual stimuli and commanding specific behaviors (escape, optomotor, tracking)
- Neuronal ultrastructure (synaptic organization)



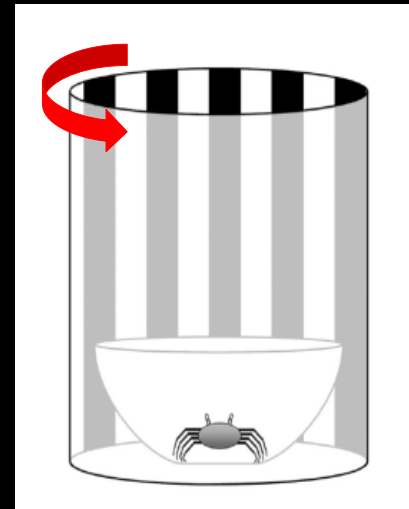
Escape responses



Attack responses



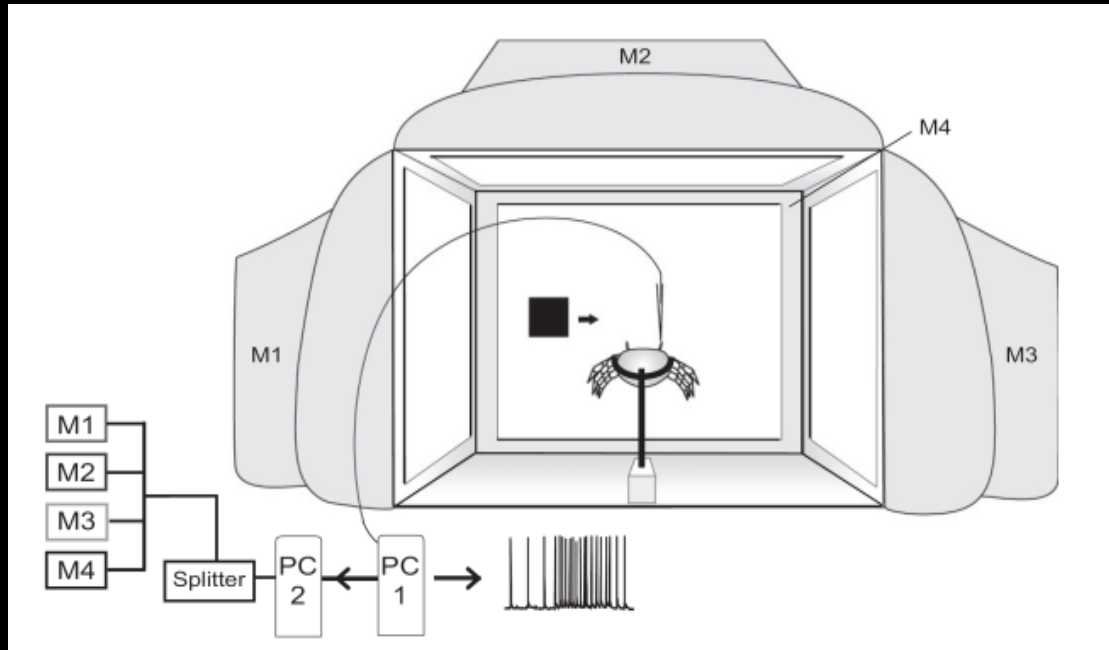
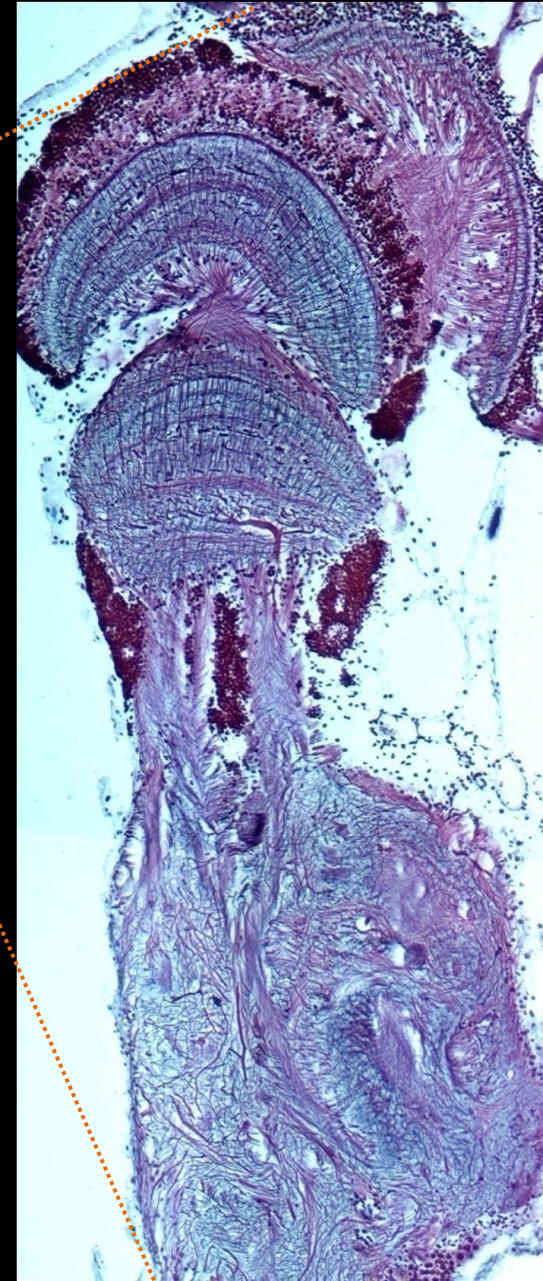
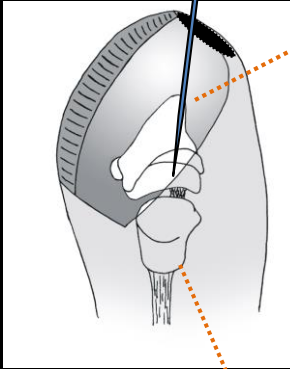
Optomotor responses



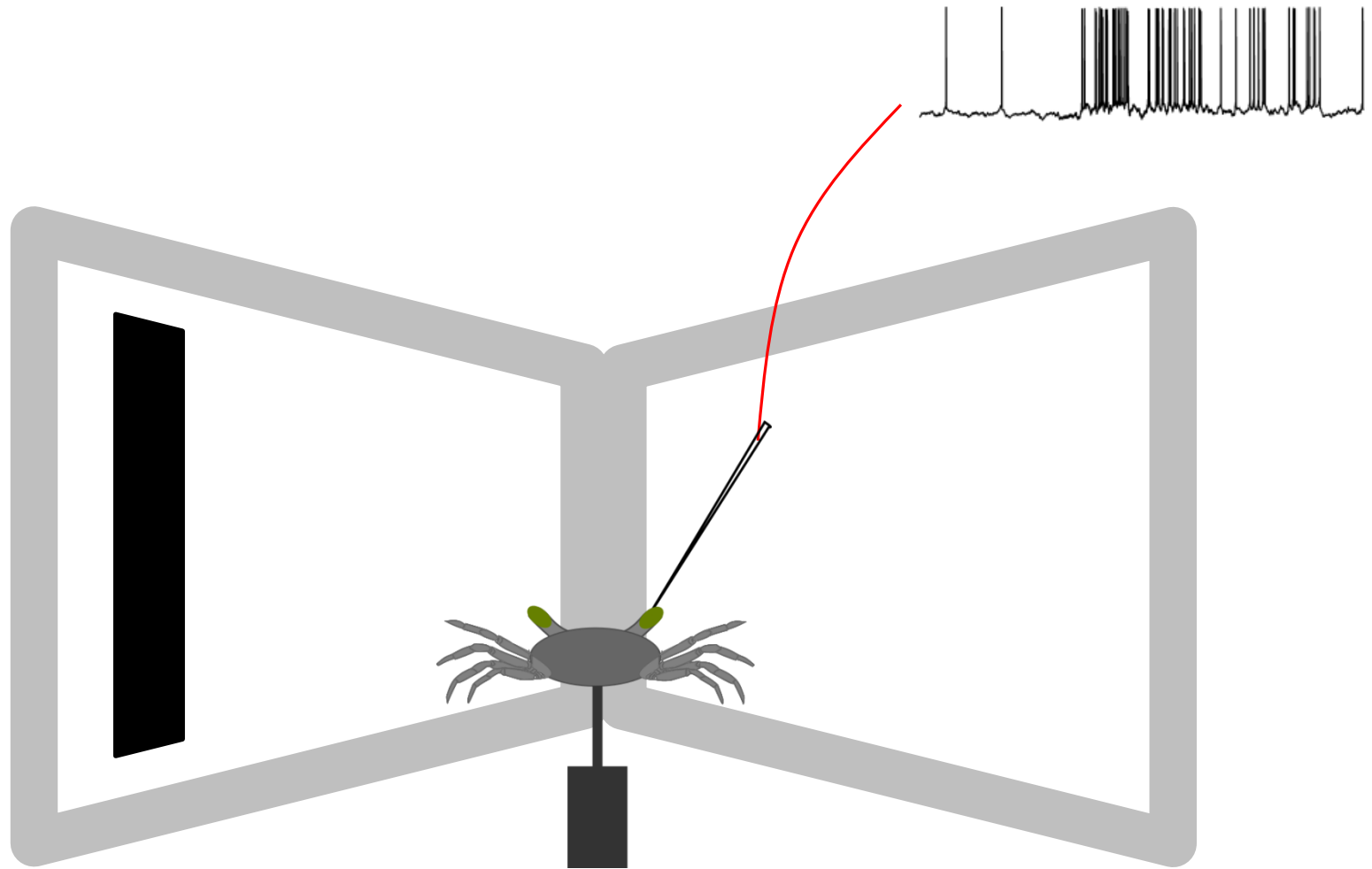
Understanding from the entire animal to its minimal components

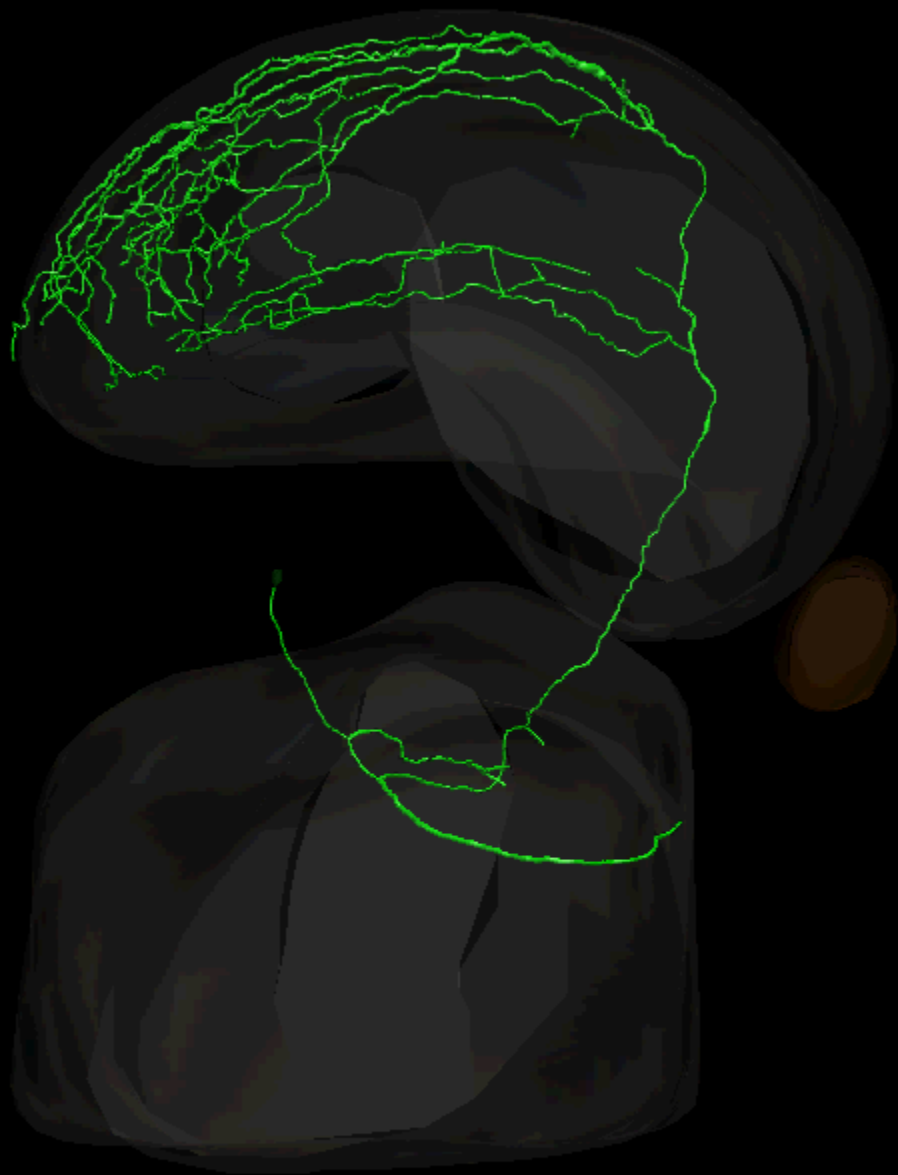
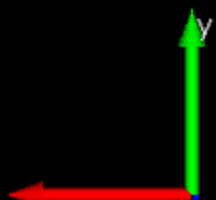
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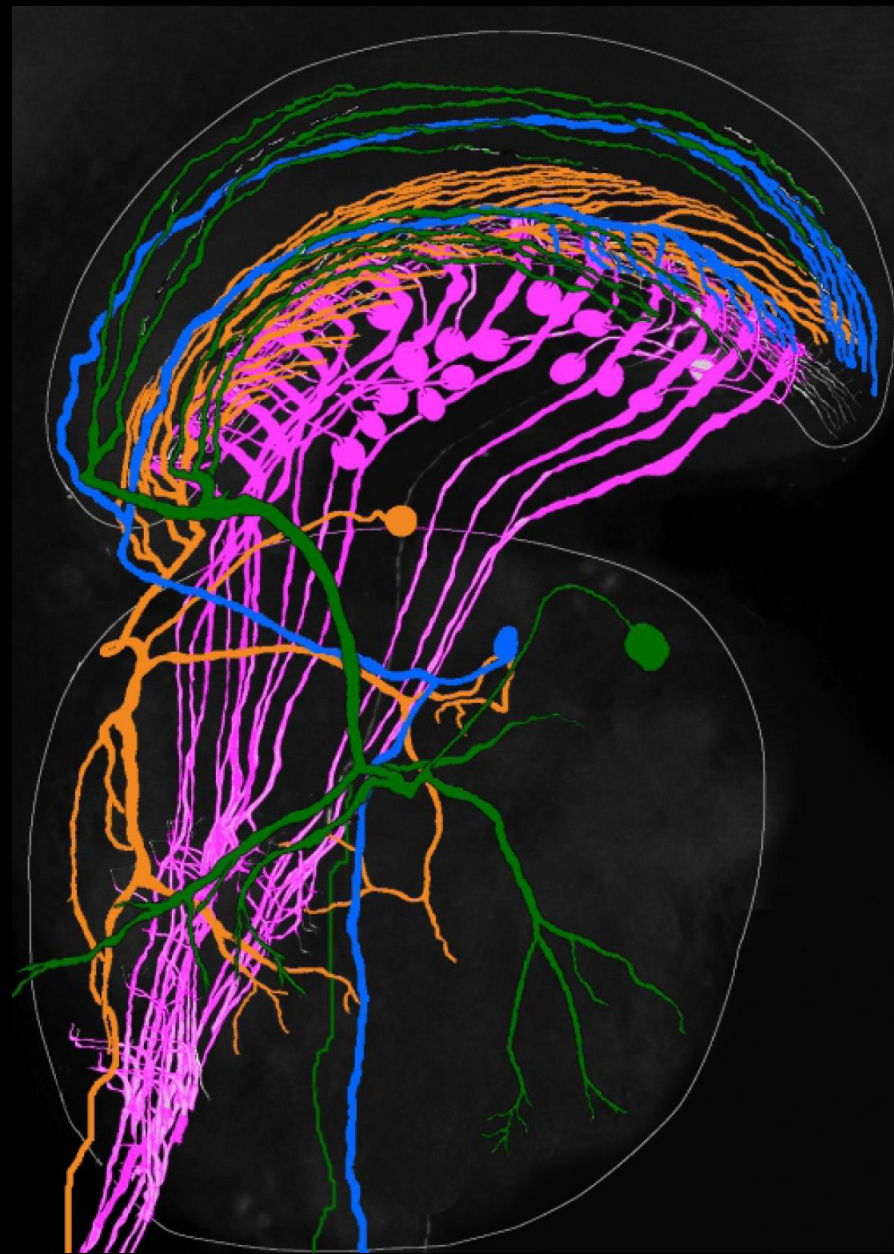
In vivo intracellular recordings



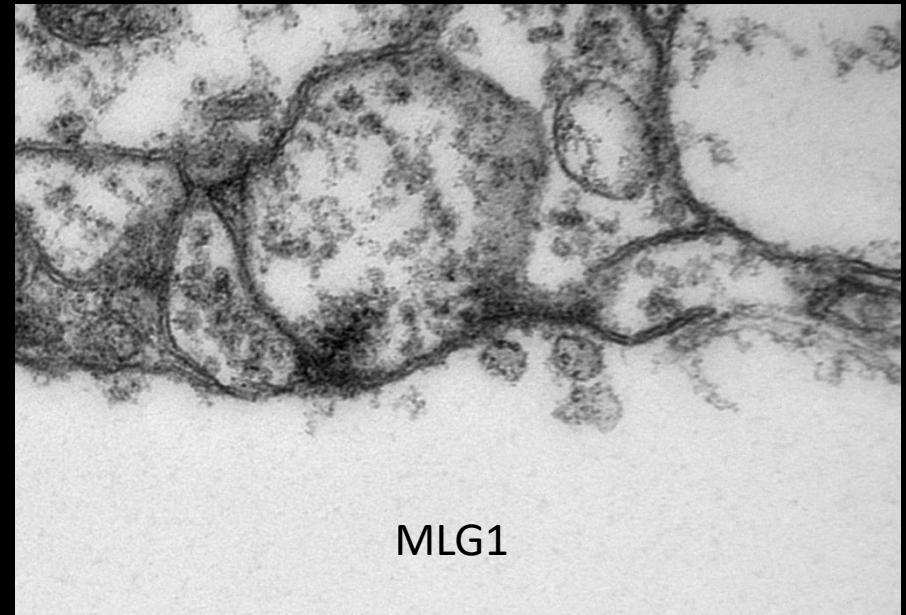
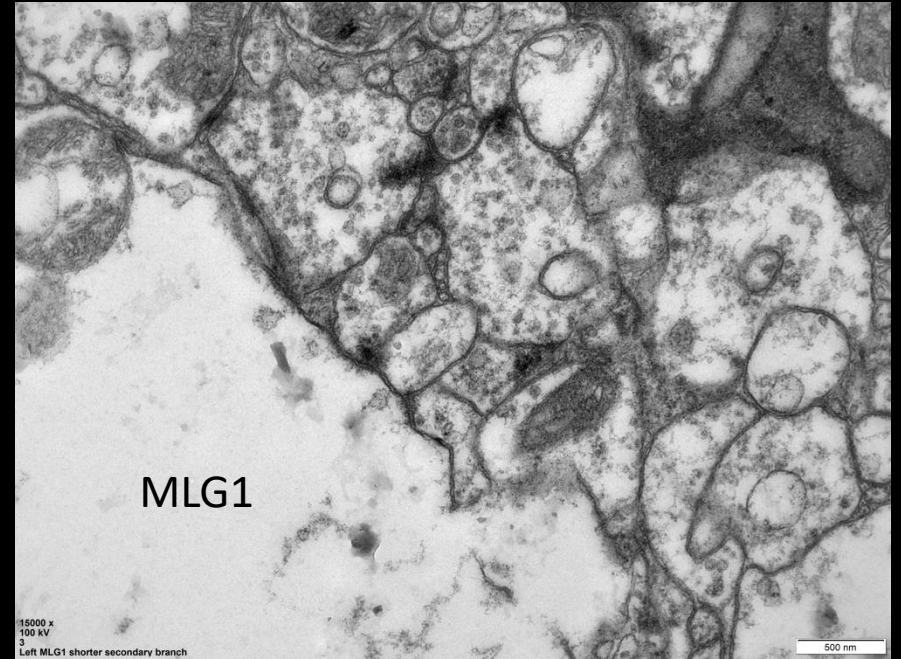
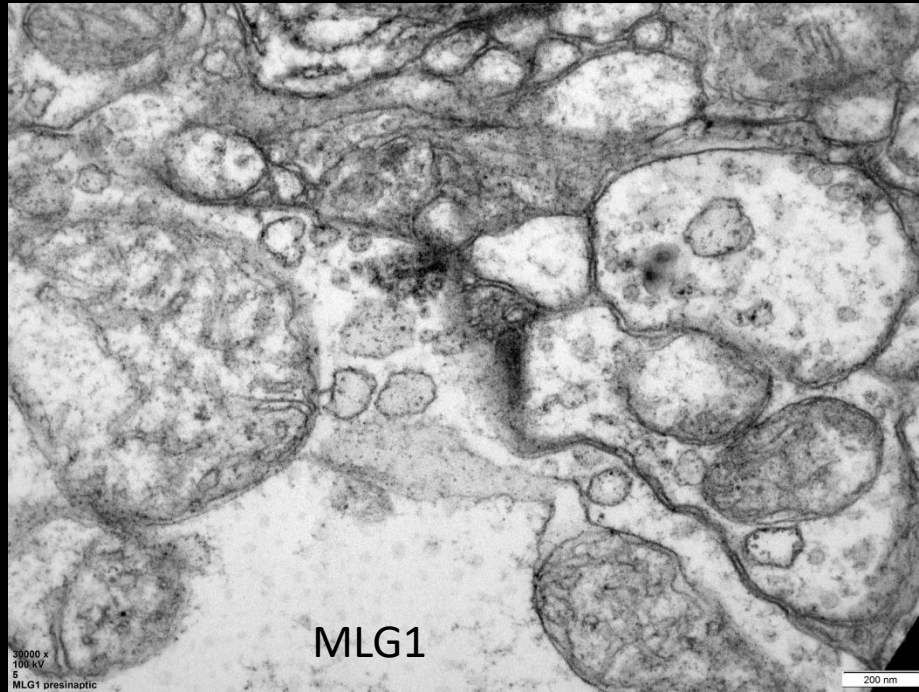
Movement detector neurons (LG), intracellular recording and staining





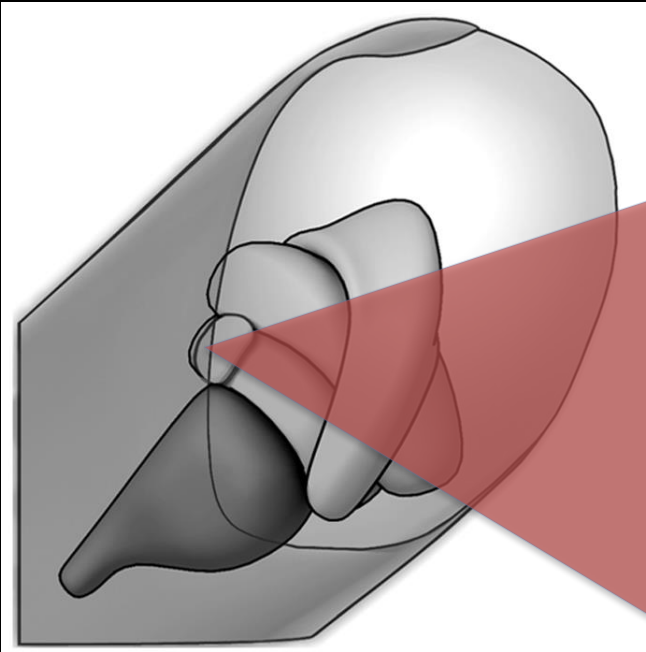


EM analysis of connectivity of collision detector neurons:

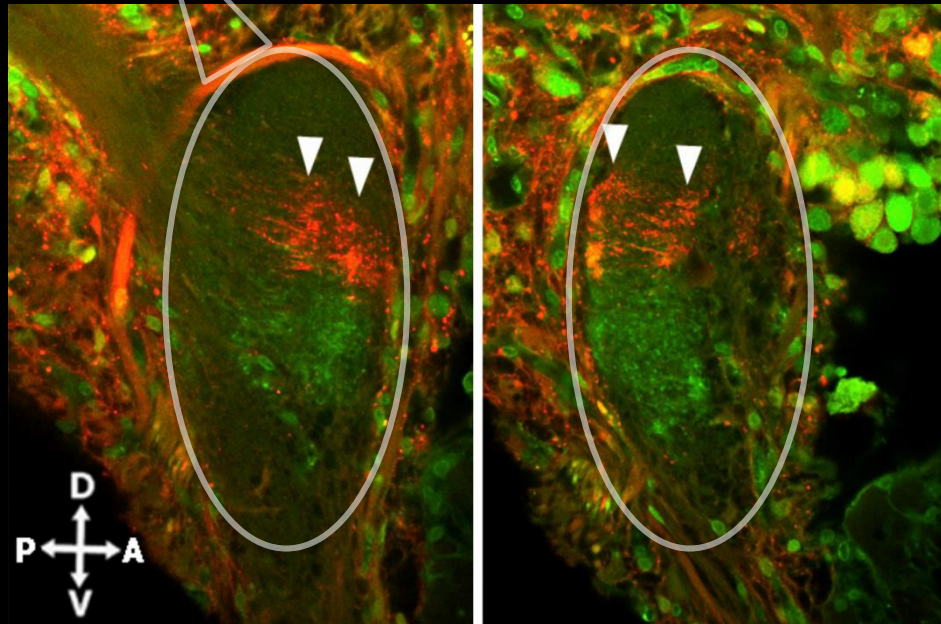
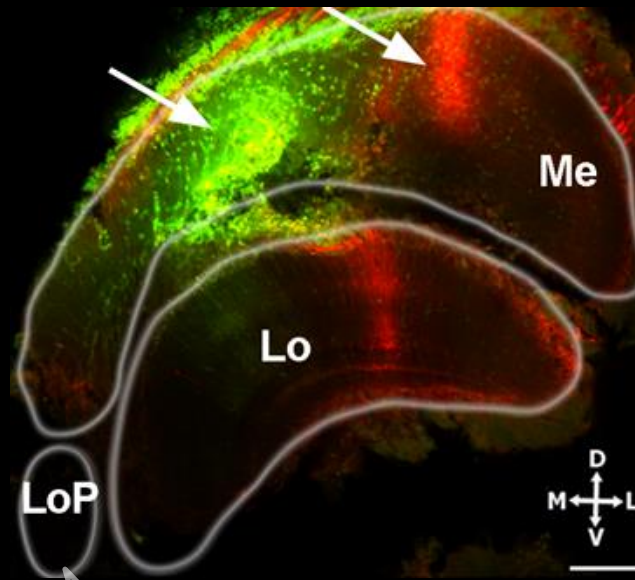


Collaboration with Dr Rind
Newcastle University. EU RISE

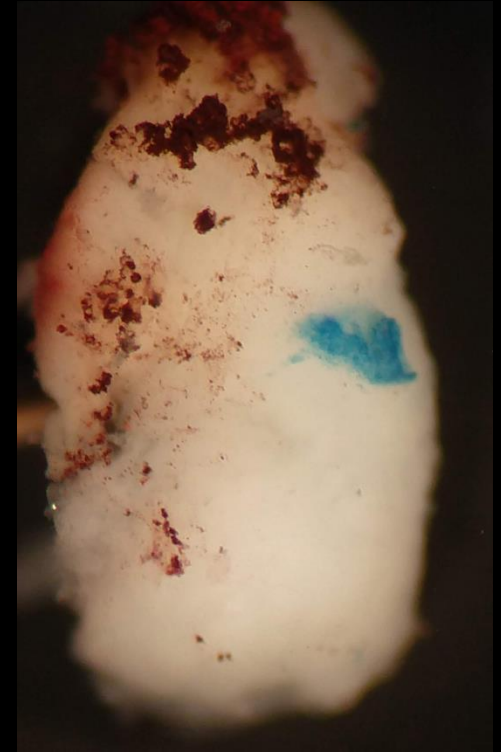
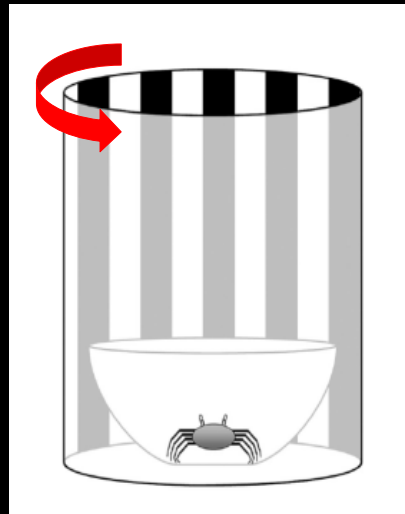
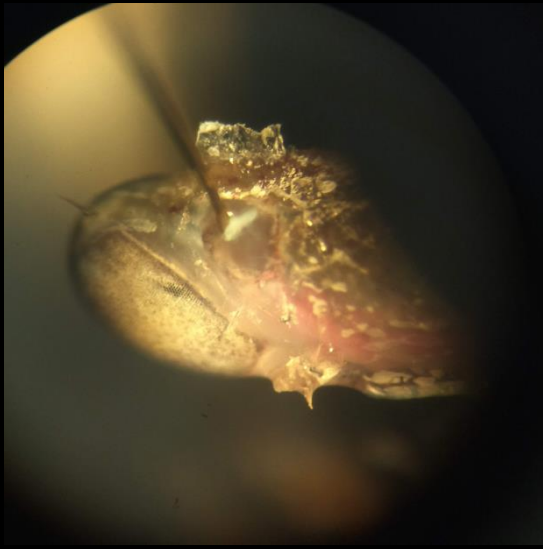
We have recently described a candidate region for optic flow analysis (lobula plate):



Retinotopic connections



Electrolytic lesions:



Lesion



Behavior



Confirmation

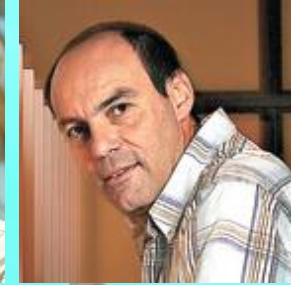
Techniques:

- Behavior analysis
- Intracellular recordings in vivo
- Electrolytic lesions
- Histology (Bodian, Golgi, Dextran impregnations, 3D reconstructions Neurolucida)
- Electron microscopy

Yair Barnatan
Florencia Scarano
Mercedes Bengochea
María Grazia Lepore
Francisco Maza



Martín Berón de Astrada
Alejandro Delorenzi
Daniel Tomsic
Claire Rind



Grants:
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