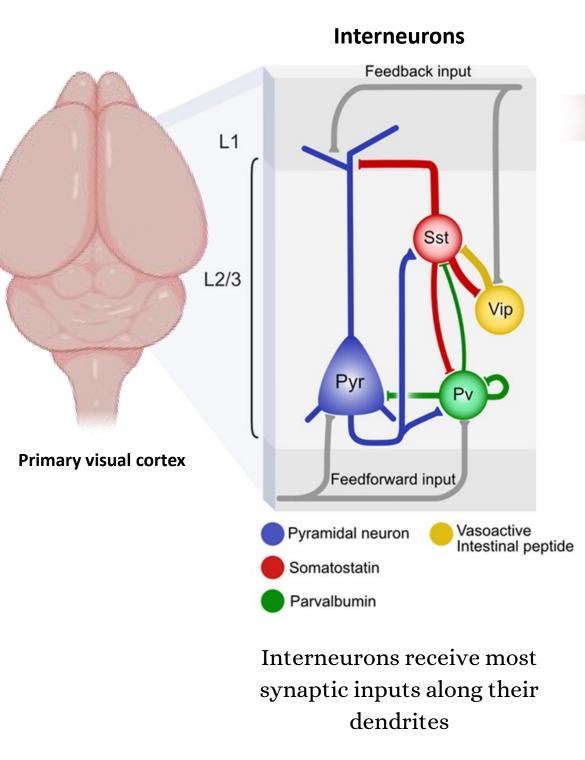
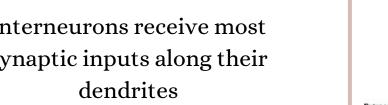


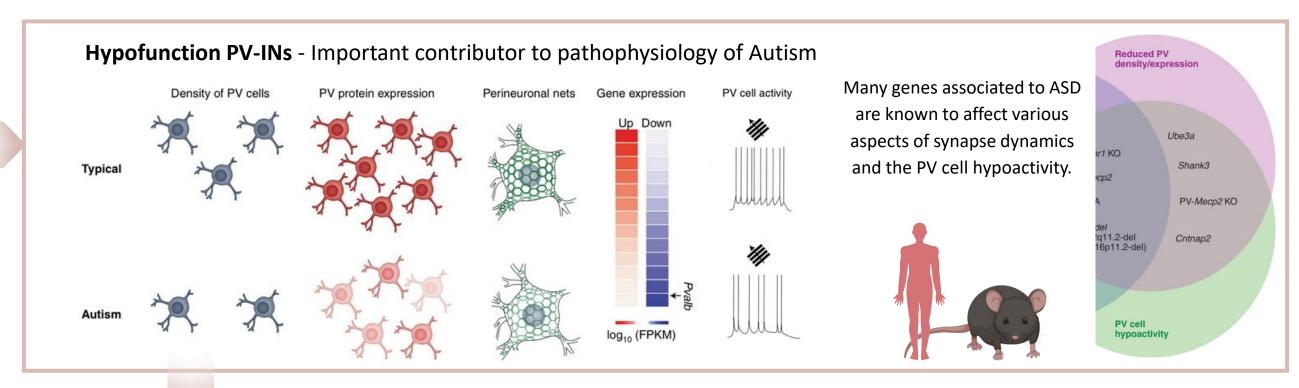
IN VIVO INVESTIGATION OF SYNAPTIC MECHANISMS CONTROLLING INTERNEURON **FUNCTION IN THE PRIMARY VISUAL CORTEX OF MICE**



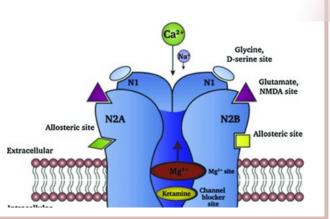
Team Cellular Mechanism and Sensory Processing - Supervisor: Nelson Rebola, PhD Cibele Martins Pinho - Biologist and Master in neuroscience, currently a 2ed year PhD student







Recent hypothesis suggest that hypofunction of PV-INs is due, at least in part, to reduced activity of NMDA receptors (NMDARs) at excitatory synapses.



Unpublished data from the host lab indicate that the density of synaptic NMDARs in cortical interneurons is heterogeneous and particularly low in PV-INs AMPA+NMDA

Open questions:

Do NMDARs control cortical PV-INs function in adult mice?

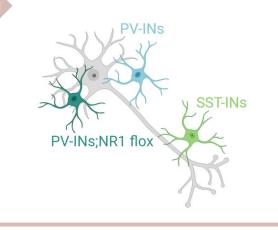
Is the NMDAR effect similar across interneuron populations?

Is the NMDAR effect in PV-INs function developmentally regulated?

How does dysfunction in NMDAR function contribute to modification of cortical operations?

Main goal: Investigate the synaptic mechanisms that control the in vivo function of cortical interneurons in V1 in adult as well as during development.

How does dysfunction of mechanisms such contribute to ASD?

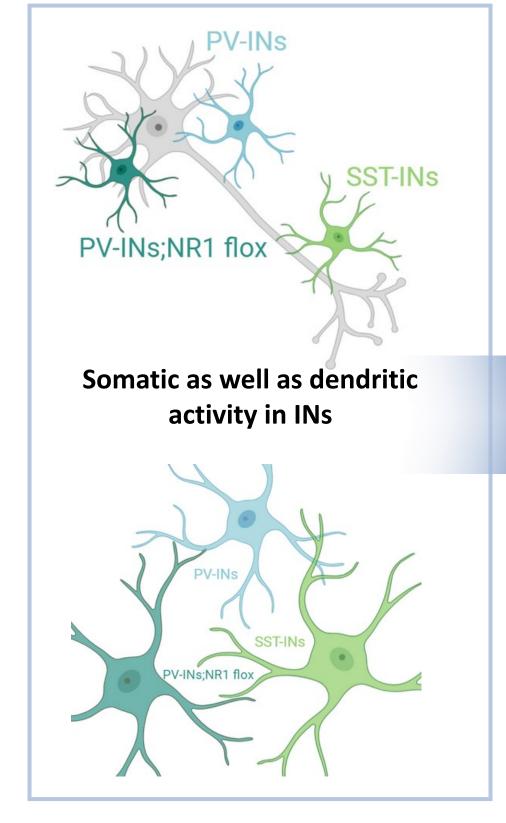


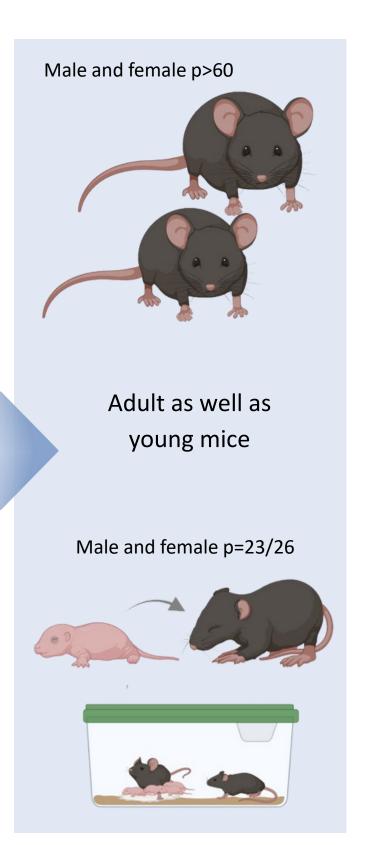


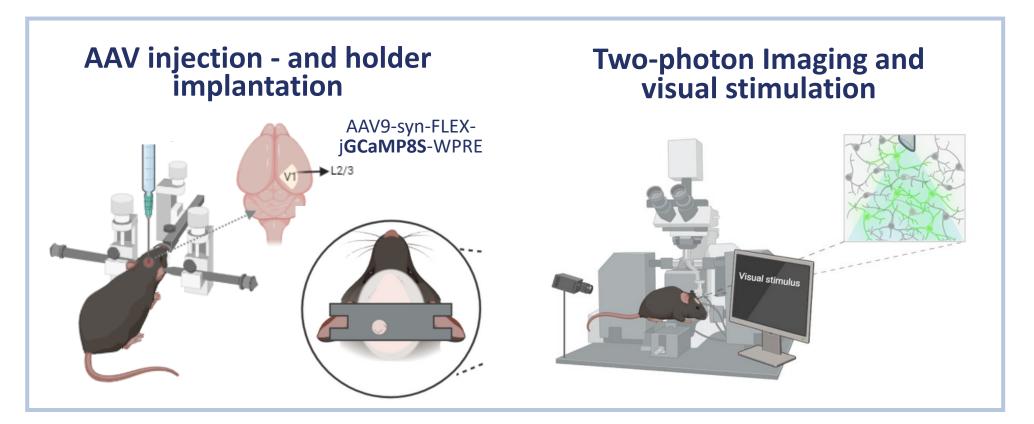
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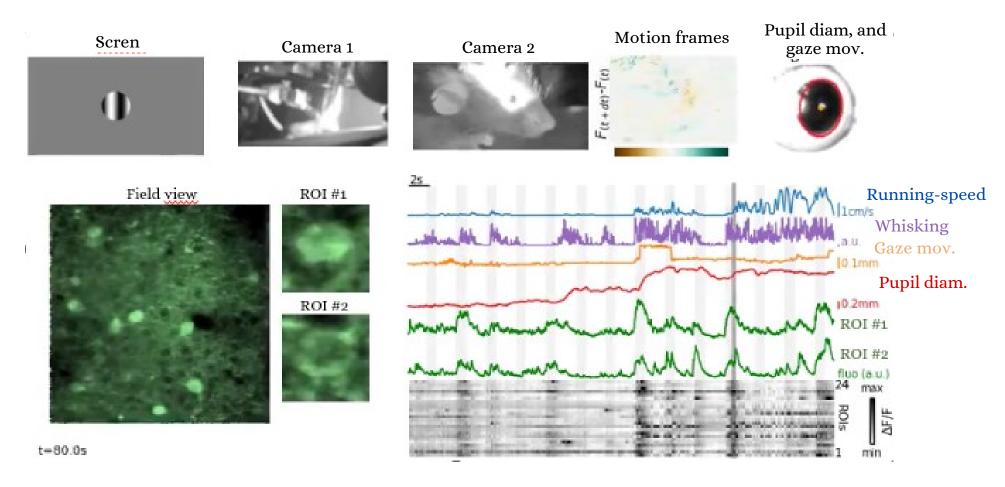


Two-photon imaging





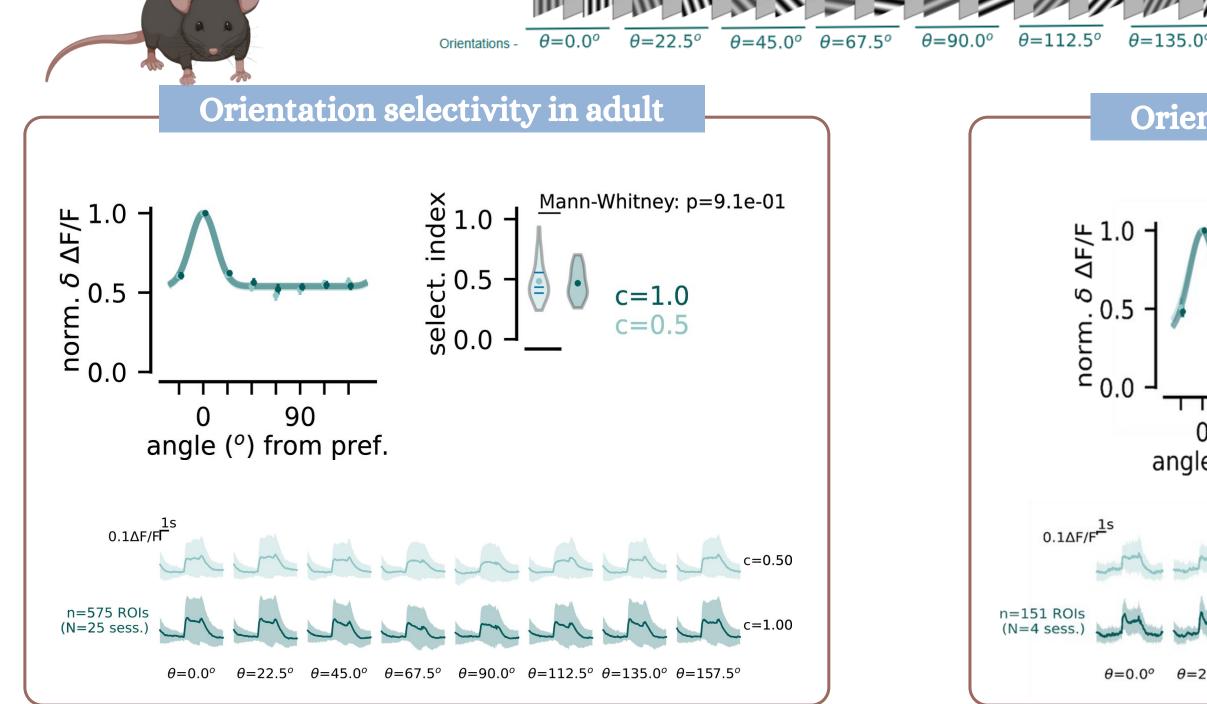






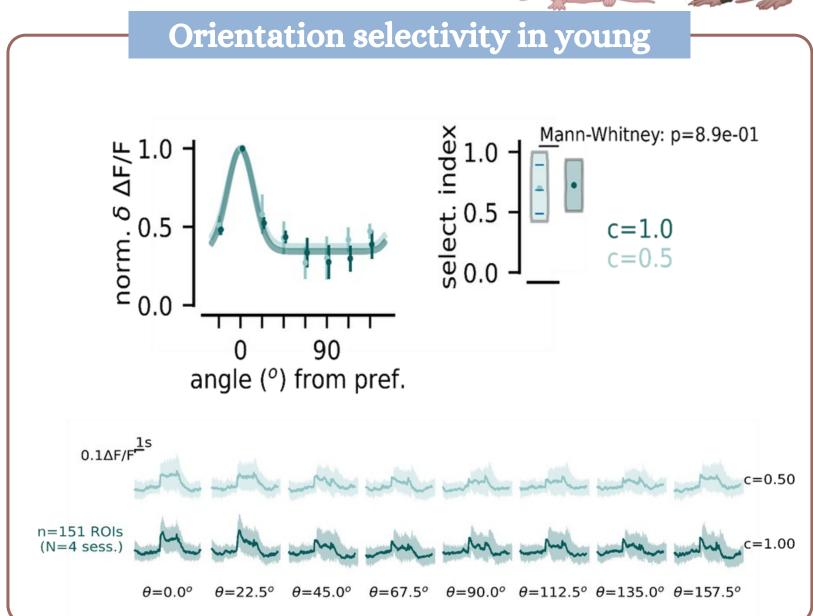
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Stimulations

Orientation selectivity in PV-INs is independent of contrast level.



Data suggest orientation tuning of PV-INs is developmentally regulated.



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