



# S.N. Bose Summer 2019

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GRACE GASPER



# Indian Institute of Science

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# Drosophila Melanogaster

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## Taxi

- Drosophila gene

*taxi (tx) encodes a transcription factor that affects cell adhesion by regulating the expression of mys. It is involved in the development of multiple organs and cell-types including tendon cells, chordotonal organs and the wing. (Flybase)*

## APOE

- Human gene

*The APOE gene provides instructions for making a protein called apolipoprotein E. This protein combines with fats (lipids) in the body to form molecules called lipoproteins. (NIH Genetics Home Reference)*

## SNCA

- Human gene

*The SNCA gene provides instructions for making a small protein called alpha-synuclein. Alpha-synuclein is abundant in the brain where is found mainly at the tips of nerve cells (neurons) in specialized structures called presynaptic terminals. (NIH Genetics Home Reference)*

# Crosses

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## GAL4 (DRIVER) LINES

- Elav
- GMR
- MB247
- Canton-S (control)

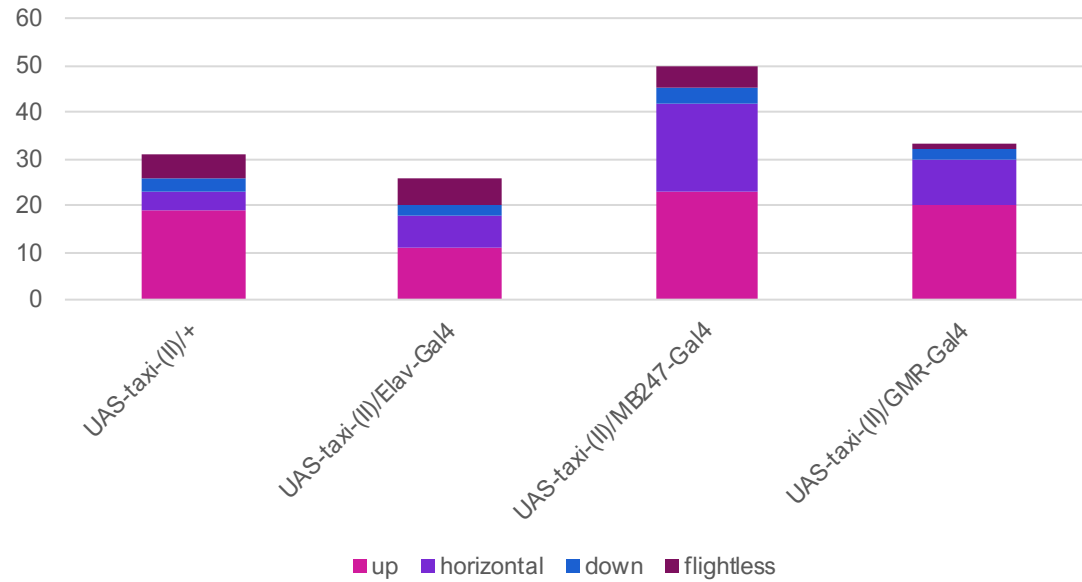
## UAS (RESPONDER) LINES

- taxi (II)
- taxi<sup>RNAi</sup>
- ApoE3
- ApoE4
- SncE4

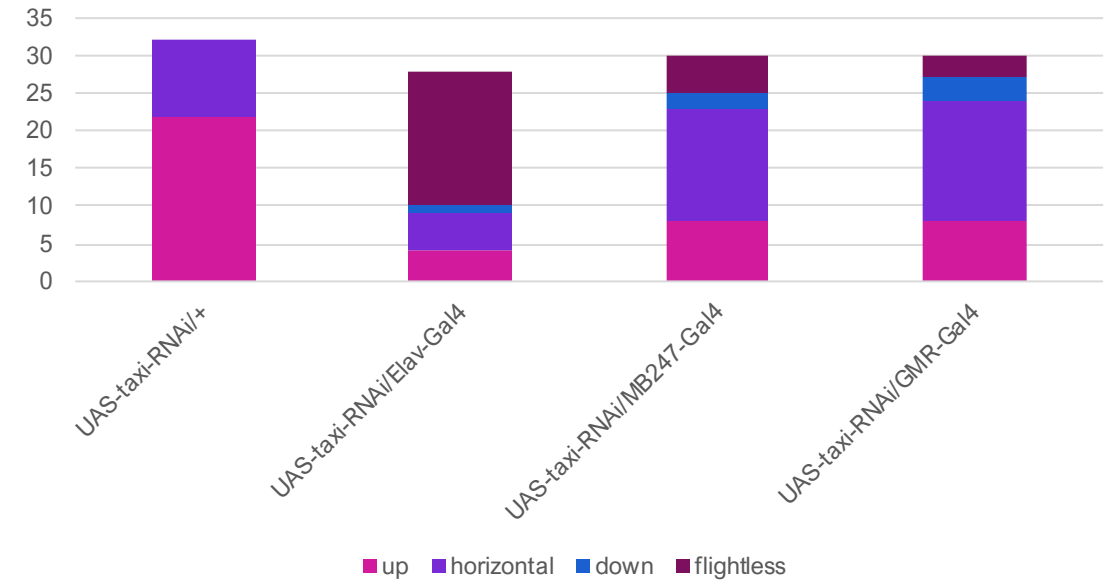


# Flight Test

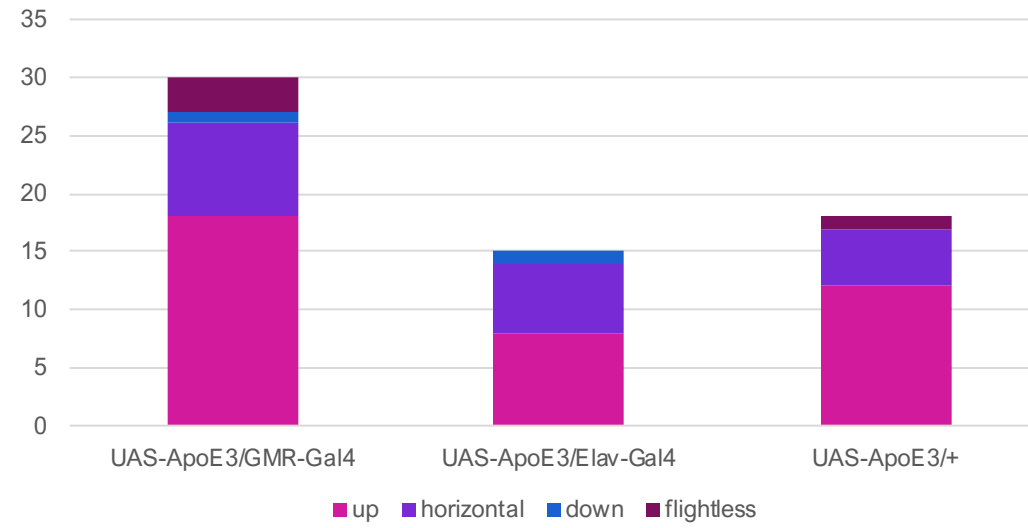
Taxi (II)



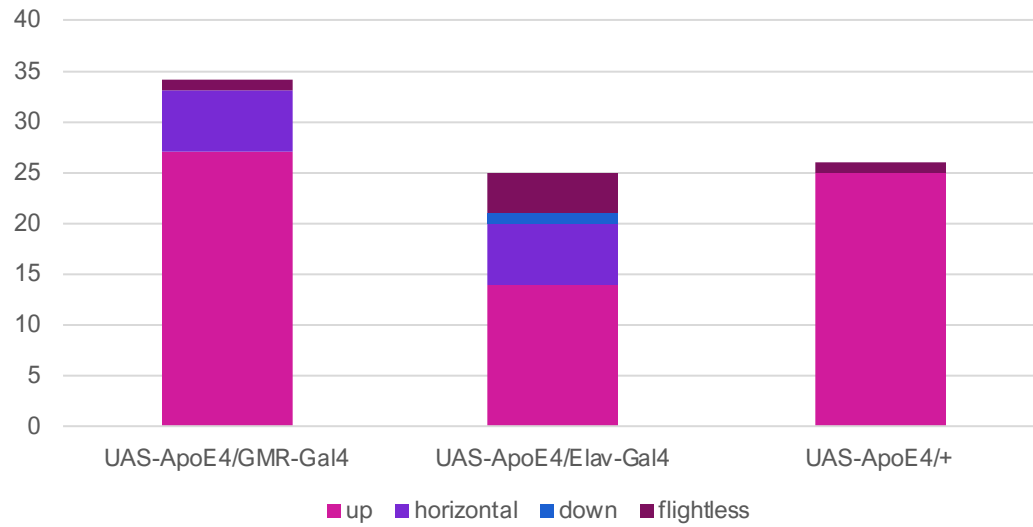
Taxi-RNAi



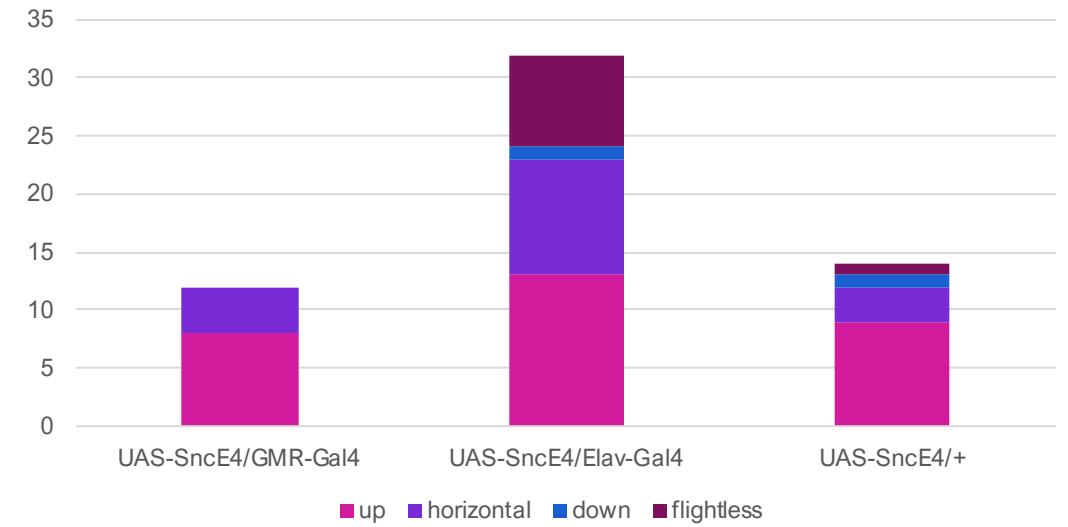
## ApoE3



## ApoE4



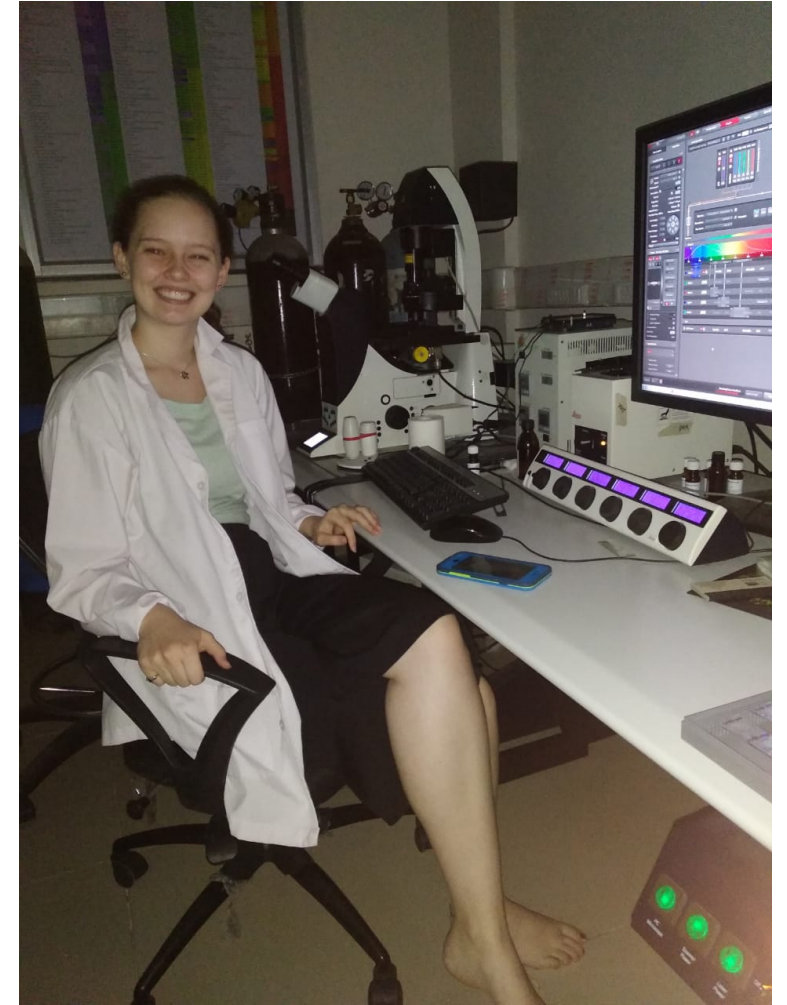
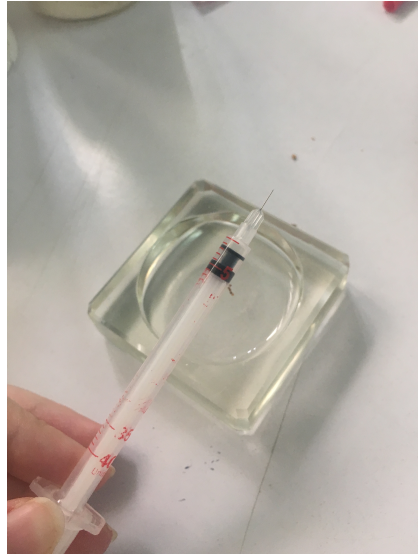
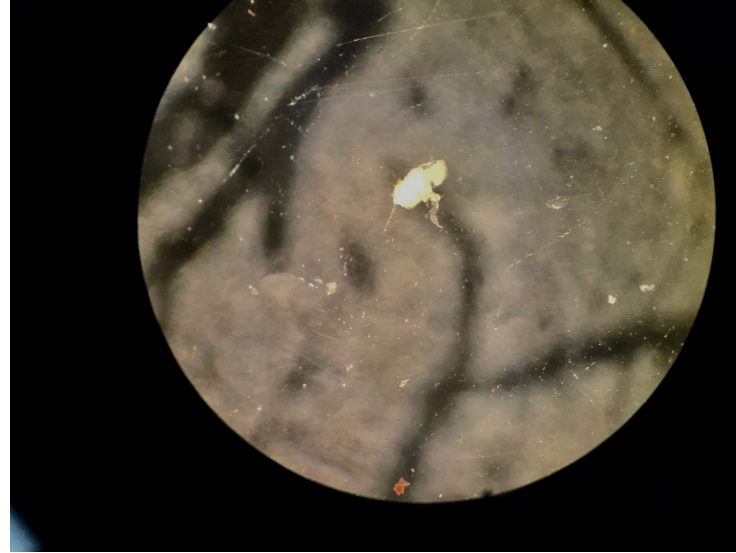
## SncE4



# ADDITIONAL TESTS

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- RNA ISOLATION
- Primer design
- IMMUNOHISTOCHEMISTRY (IHC)





# TRAVELS

