Mubarak Syed: Neurobiology

("Fly on the Wall")

Miranda Chun

Research into Normal Brain Development

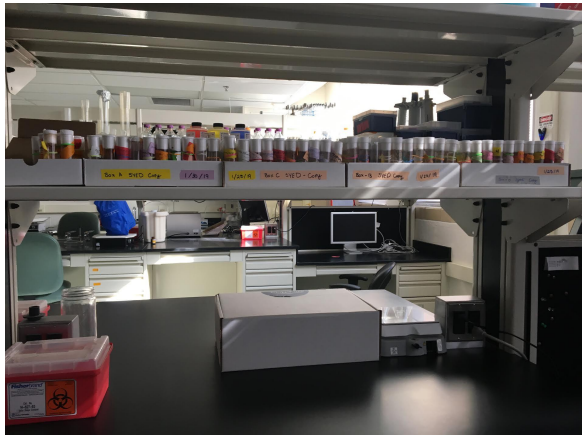
- Drosophila as an analog for studying the human brain
- Dissection and analysis of fly behavior and neurobiological systems
- Neural imaging performed upon Drosophila

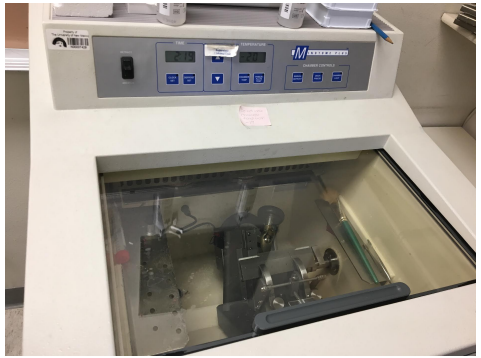
Theoretical Foundations

- Ultimate similarity between fly and human neurological systems/structures
- Analysis of mitosis and gene expression within brains of Drosophila, comparison with those of humans
- Attempts to understand process of neural development, relayed across species (Drosophila a simplistic species via which to study human developmental biology)

Facilities

Equipment

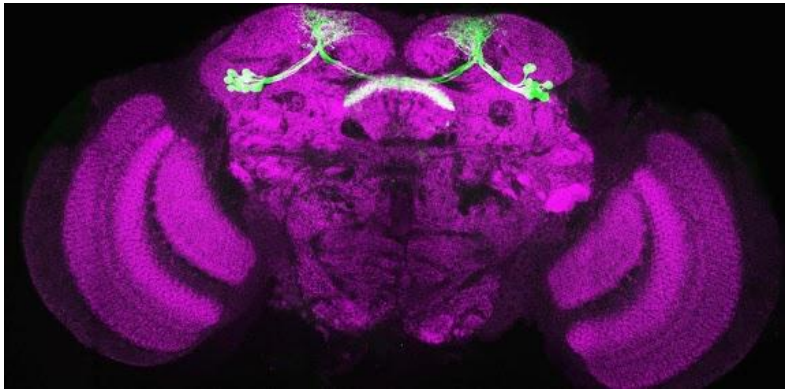


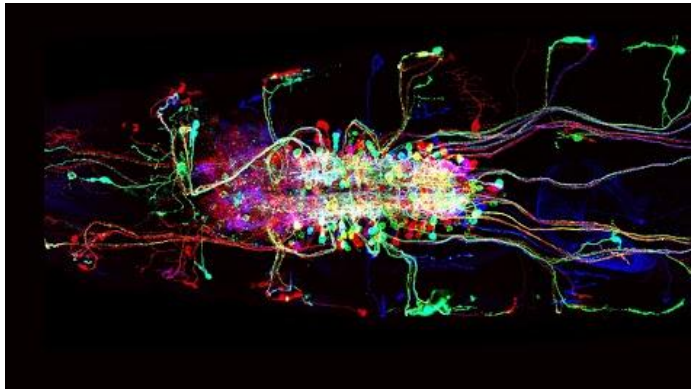


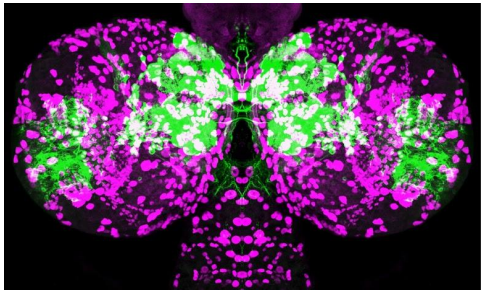
Methodology

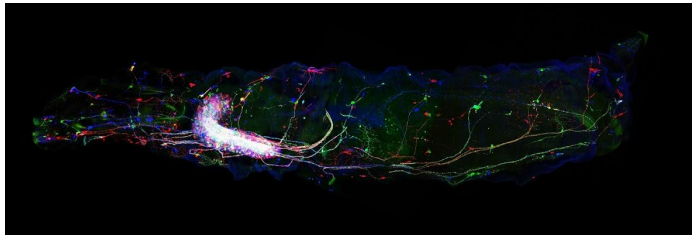
- Microscopic examination of Drosophila brain activity
- Induced to sleep with carbon dioxide
- Dissected and subjected to neural imaging technology
- “Brainbow” - individual neurons in the brain distinguished from neighboring neurons using fluorescent proteins

Imagery Produced









Thank you!