

# **Development of Bioelectronic Scaffolds for Hybrid Brain Tissue**

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# Presentation Outline

01

Background

02

Where are we now?

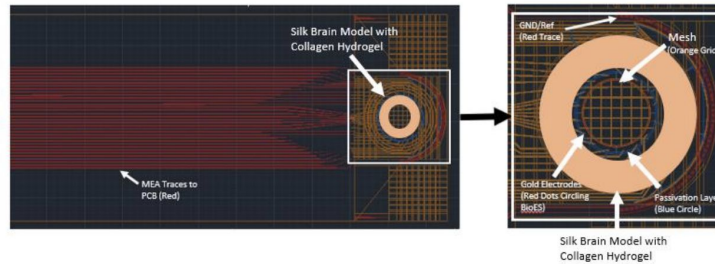
03

Our Future

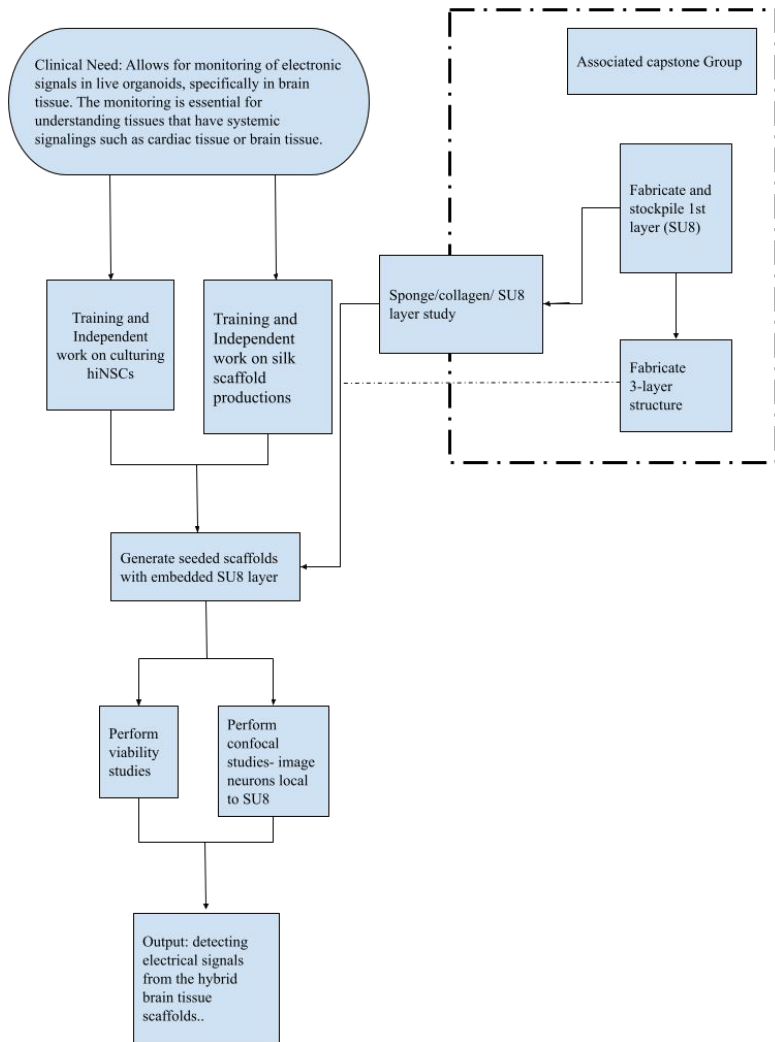


# Background

- Flexible Bioelectronics that have been shown to successfully measure electrophysiology of live tissues.
- 3D brain model using silk fibroin seeded with iNSCs, functional model of brain tissue.
- Combining these two, components into one results in novel hybrid brain tissues that are able to provide stable longterm readouts of neuronal/tissue function.



Schematic detailing Hybrid Tissue set up (Cote, 2022)



- Calcium AM (Viability - F4)
- **Beta Tubulin 3 assay (network density + visibility)**
- Live-Dead (T.F.)

## **Where are we now?**

- Imaging mature scaffolds for evaluate network density and visualization
- Training in Clean Room + BioES Fabrication
- Rebuilding cell culture and scaffold stock after initial loss



# Questions ?

**Visit Our Website:**

<https://sites.tufts.edu/hybridbraintissue/>