

# Development of BioElectric Scaffold for Hybrid Brain Tissue

Zainab Olushoga, Diamond Mensah, Enrique Rodriguez

With Guidance From:

Dr. Brian Timko, Dr. David Kaplan, Marilyn Kelley, Ye Lim Kim

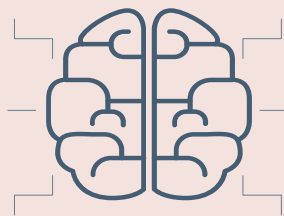
The Brain is Like a Computer...



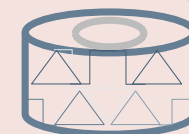
They run using electricity to save memories, monitor our surroundings, and they can even learn new things!

... They are both Complex

And Are Very Hard to Study



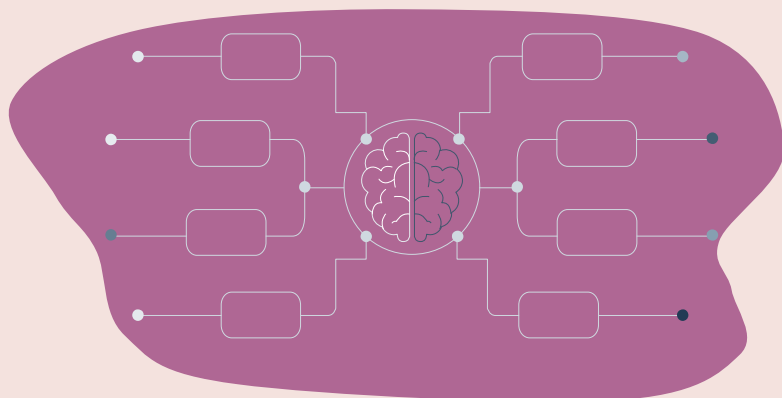
So, Scientist Make Models to Study Hard Organs



This One Looks Like a Donut!

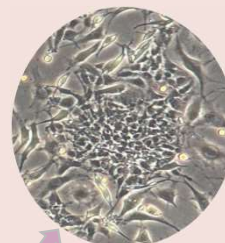
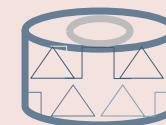
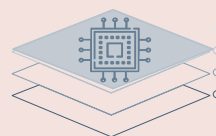
We fill these models with brain cells, so it acts like the real thing~

But sometimes it's hard to track how electricity in the brain changes ...



Especially when it is hurt/sick and this makes understanding the brain hard

We want to make a tiny device that we combine with the brain model



These are Neurons!



And track brain behavior & electricity changes in real time!