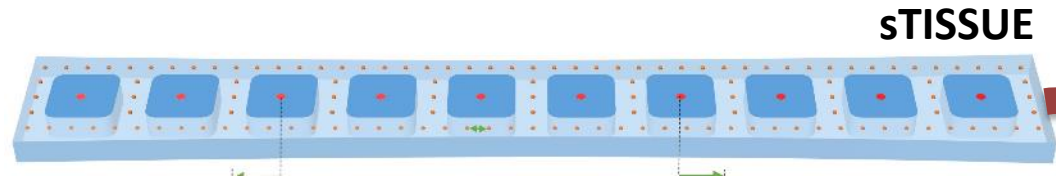




## **CPS: TTP Option: Medium: Synthetic, Distributed Sensing, Soft and Modular Tissue (sTISSUE)**

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# Description



Synthetic tissue (sTISSUE) that senses and reacts to stimulus is needed to advance bionic interfaces and medical simulators.

## Goals of This Project:

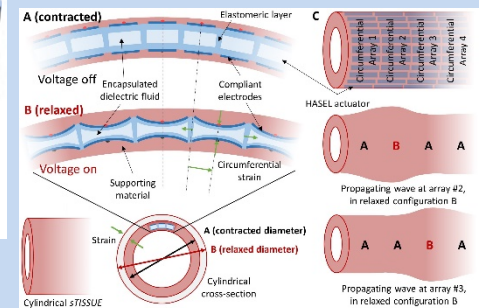
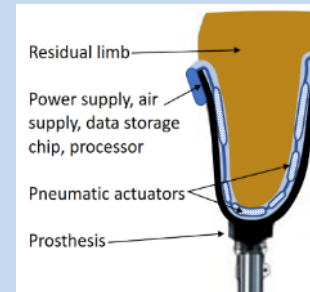
- Create scalable/modular integrated actuation and sensing in sTISSUE
- Enable global, bio-inspired, dynamic shape control
- Integrated distributed control laws from global control specifications



## Current Practices



## Future Advances



# Findings

- Established a modular and scalable approach to fabricate sTISSUE modules.
- A novel control approach was established for local controller design of Hydraulically Amplified Self-healing Electrostatic (HASEL) actuators.
- A 1D and 2D sTISSUE platform is preliminarily established.

