Synthetic, Distributed Sensing, Soft and Modular Tissue (sTISSUE)

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https://www.colorado.edu/lab/amtl/research/stissue

Challenge:

Integrating actuation, sensing, and control into a soft modular, scalable synthetic tissue.

Scientific Impact:

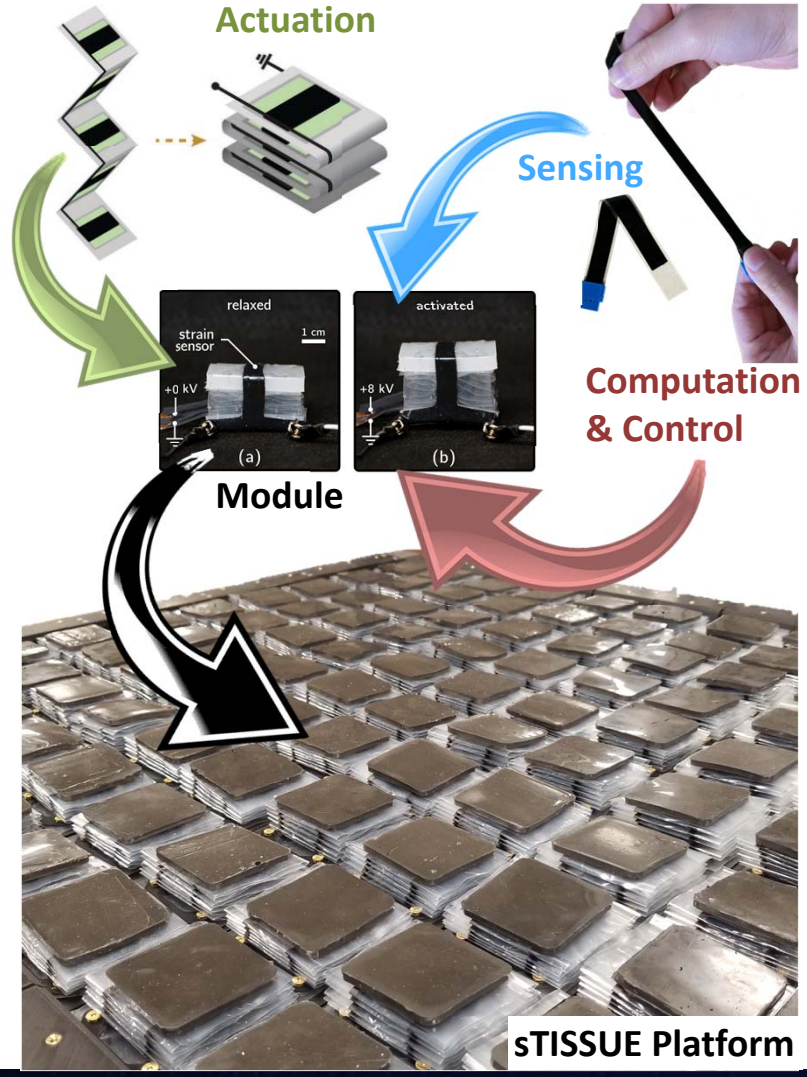
Repeatable modular fabrication, and high-voltage hardware architecture designed for simultaneously driving multiple channels of HASEL actuators.

Solution:

Use of HASEL actuator and sensor modules, with local control, built into a modular platform under global shape control.

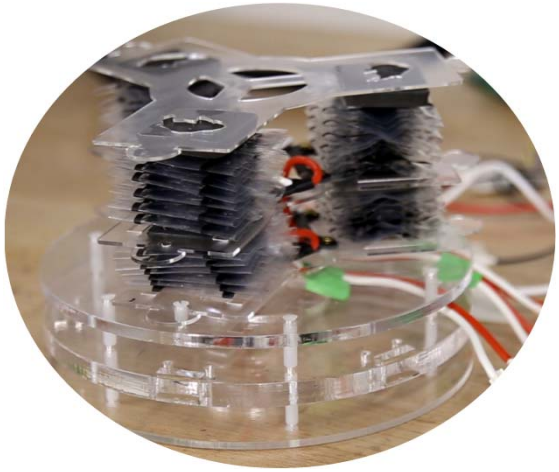
Broader Impact:

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



Latest Developments:

- Magnetic skin sensing
- 3D sTISSUE wheel configuration



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