

What our lab does:

- We develop hydrogels that are designed to better recapitulate human tissues to model and regenerate tissues
- Our hydrogel platform is designed to be adaptable to a range of tissues and therapeutic targets

How we do this:

- We design gels that are responsive to biomolecules secreted by cells
- We identify sequences that are specifically cleaved by individual cell types
- We have developed techniques to quantify cell-material interactions to enable improved biomaterials design

Why we are investigating this area:

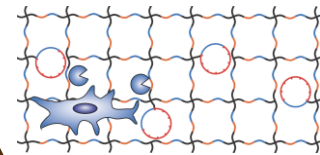
- The *inability to recreate biological tissues in the lab is a huge impediment* to model diseases in the lab
- Cell-responsive biomaterials are promising injectable biomaterials for **treating traumatic injury**.

Biomaterials for in vitro models and in vivo therapies

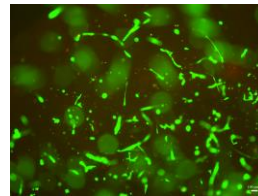
- Controlled cell-material interactions
- Cell-specific biomaterials
- Multiple cell types to mimic tissues

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Cell-responsive biomaterials



Hydrogels for regenerative medicine



Quantifying cell- material interactions

