Adipose tissue engineering for regenerative applications and disease modelling

PRESENTED BY
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SCHEDULE
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There is a critical need for developing physiologically relevant, sustainable, human adipose tissues in vitro to gain new insights into metabolic diseases and for regenerative applications. In Professor Abbott’s lab, human adipose microenvironments are being developed and tested for responsiveness to stimuli hypothesized to alter disease mechanisms (i.e. the transition of obese tissues to insulin resistant type II diabetic tissues), metabolic behavior, and therapeutic potential. The lab focuses on integrating biomaterials with tissue engineering techniques and perfusion bioreactors. Specifically, silk is used as a natural biomaterial to support long term culture of adipose micro-environments in vitro. The ultimate goal is to use these adipose tissue systems to inform preventative and therapeutic measures for patients.