

CARNEGIE MELLON UNIVERSITY

BME 2021 SUMMER SEMINAR SERIES

Designing tools and materials to modulate macrophage polarization



PRESENTED BY

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SCHEDULE

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Most modern drug formulations are encapsulated within nanoparticles, biomaterials, or protein conjugations. Macrophages are among the first cells to interact with these therapeutic materials making them prime candidates for observation. It was largely believed that this was an obstacle, that macrophages phagocytose these therapies and inhibit the overall efficacy. However, newly available information, suggests that macrophages can act as slow release reservoirs for nucleic acids in a polarization dependent manner. The precise manner in which macrophages respond to these signals is important to decipher because they yield insight into the processing of nano-formulated drugs which affect disease progression. This talk will discuss new strategies for engineering macrophages to control drug delivery and monitor disease progression.

