



**Wolfson Department of Chemical Engineering Seminar
Lecture Hall 6, Wolfson Department of Chemical Engineering,
Wednesday November 1st at 1:30pm**

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**Collagenase encapsulated liposomes disassemble fibrotic tissue in pancreatic cancer
and improve the therapeutic effect in mice**

Blades are common surgical tools. However, in order for a blade to reach the target site it must cross overlaying bone and healthy tissue, thus creating local damage, lengthening recovery and increasing pain.

Enzymes are the biological mean for cleaving tissue in a molecularly-specific manner.

In this research we combined proteolytic enzymes with a nanoscale drug delivery system to improve therapeutic activity and to perform localized therapeutic procedures; namely, to degrade diseased tissue and deliver drugs inside the human body.

The disease model in which we want to show efficacy is pancreatic cancer. Pancreatic cancer is a lethal, unsolved, health problem that claims 30,000 lives every year in the USA alone. Conventional treatments – surgery, radiation, chemotherapy and the combination of both have little impact on the disease.

During the disease stages, in which drug efficacy is curbed due to poor drug penetration in the disease site; specifically, a tight collagen matrix that forms around and inside the solid tumor and prevents the penetration of nanomedicines to the tumor. We believe that enhancing the tissue penetration capacity of drug-loaded nanoparticles will improve their activity and ultimately address unmet clinical challenges – such as the treatment for pancreatic cancer.

Refreshments will be served at 1:15pm