PROJECT TITLE: **A multifunctional nanocarrier for targeted drug delivery**

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**Project Description**

Since 2011, my WISE students and I have been working on the basic science of a model drug delivery system. We have identified the factors that affect drug carrier size, stability, ability to protect the drug, and ability to release the drug. The goal of the current project is to use this knowledge in the design and preparation of a therapeutic drug delivery system. This summer’s WISE student will prepare vesicles based on tetra-n-butylammonium 10-undecenoate and characterize their performance in the solubilization, protection, and pH-mediated release of two therapeutic agents, curcumin (a hydrophobic agent) and chlorophyllin (a hydrophilic agent). The lab techniques employed will include gel permeation chromatography, uv/visible and fluorescence spectroscopy.