PROJECT TITLE: **Assessment of Cavitation from Lantheus Echo Contrast Agents**

Physical Requirement: Must be able to work in person in the UC Cardiovascular Research Center

Project's Technical Skills Requirement: Matlab, instrument control, data acquisition skills, and enthusiasm for experimental research

Project's Available Positions: Student research assistant

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**Project Description**

In a project funded by Lantheus, a pharmaceutical company that provides innovative diagnostics and targeted therapeutics to empower clinicians to find, fight and follow disease, we will quantify bubble activity, or cavitation, nucleated by DEFINITY® and a prototype contrast agent with a smaller mean size distribution. The UC Co-op student will evaluate the amount of stable and inertial cavitation nucleated by Definity® and a prototype contrast agent infused through a Cragg-McNamara multi-sideport catheter and exposed to 1.5 MHz pulsed ultrasound in a physiological flow model of the human femoral vein. The number density and size distribution of the agents before and after infusion will be measured. Image guidance with B-mode ultrasound and passive cavitation imaging will be used for quantitative assessment of bubble cloud activity produced by a 1.5 MHz transducer array. Bubble activity will be monitored and quantified using passive cavitation imaging. Mentorship and training will be provided to the URCF student.