

James & Esther King Biomedical Research Program

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*2009 Program
Shared Instrument Grant
(1-year project)*

Project Title: 4-D Live Cell Imaging System

Project Summary: Rapid development of safer and more effective drugs for cancers and other tobacco-related diseases requires better detection methods and hence the application of the newest technology. Disease cells are not static. They grow and change with time and often migrate to other organs. One of the ways researchers study these cells is through the use of special imaging systems combining a sophisticated microscope, ultrasensitive camera, and dedicated computer software. This system allows scientists to look inside the cells and see which proteins and enzymes are being made. Also, the extreme sensitivity of the detector means that diseased cells may be detectable at a much earlier stage so that treatment can begin when the chances of survival are greatest. USF College of Medicine has invested recently in establishing a microscopy core and founding a Nanomedicine Research Center to advance translational medicine. However, it lacks a state-of-the-art live cell imaging system. This shared instrument will help a number of researchers at the College of Medicine advance their projects more quickly and acquire data for publication, thus increasing the chances of federal research funding.