

EXECUTIVE SUMMARY [NON-CONFIDENTIAL, NON-TECHNICAL ABSTRACT FOR PUBLIC INFORMATION OR PROGRAM PROMOTION]: State **in layman's terms** the application's broad, long-term objectives and specific aims, making reference to the potential public benefits of the project relevant to California. Do not include proprietary or confidential information. This may be distributed before the funding decision has been finalized.

In the U.S. alone more than 650,000 people die each year of heart attacks related to coronary artery disease. Some coronary artery disease (e.g., stable lesions) is detectable by X-ray angiography and often exhibits symptoms such as chest pain; others (e.g., unstable coronary lesions) are not detectable by existing technologies and the first symptom is often sudden death. Results of post-mortem analyses indicate that rupture, fissuring or ulceration of lesions hidden in the walls of the coronary arteries are the main mechanisms that trigger sudden death.

FoxHollow Technologies, a California based company, recently launched the SilverHawk Plaque Excision System that can remove the plaque that commonly blocks arteries and interrupts blood flow. However, it currently uses X-ray imaging and can not detect hidden plaque in the walls of the arteries. To extend the system's capability, we propose to integrate the OCT imaging technology into the current system. The CSUPERB funding will be used to purchase necessary equipment, to teach students at San Jose State how to design a biomedical device, to collaborate with a biomedical company on biological research, and to enhance the FoxHollow project. The benefits to biotechnology education, research, academia-industry collaboration, and the community are immeasurable.