

EXECUTIVE SUMMARY [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. This should NOT be a duplicate of the Technical Abstract above.

Fluorescent objects have a higher than expected brightness of the color than normal objects. Thus the signal can be easily detected due to its bright color. A fluorometer is an instrument that can read the color of a fluorescent object and measure the brightness of the fluorescence. It can help us to measure the relative trace amount of the substance. It has been applied by the biotech industry to solve significant problems in health diagnostics, the environment, the pharmaceutical, and food industry.

This instrument will have a significant impact on laboratory courses taken by our pre-health professional, biology, chemistry, and biochemistry majors (including biology and other majors). It will provide resources for engaging students in techniques at the forefront of biotechnology and for training students in instrumentation techniques currently being used in biotechnology industry. It is important to emphasize that the training provided with this instrument will meet the program goals to enhance the knowledge and the teaching infrastructure in the natural and applied sciences. This new fluorometer can be easily operated by students and can measure large numbers of samples with small volume in a short period of time. Thus, it can be used in relatively large class settings.