

**EXECUTIVE SUMMARY [NON-CONFIDENTIAL, NON-TECHNICAL ABSTRACT FOR PUBLIC INFORMATION OR PROGRAM PROMOTION]:** State 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.

DNA microarray technology is a revolutionary new laboratory tool that is capable of generating large quantities of data regarding the activity of thousands of genes simultaneously. The activity of these genes can be monitored on a single microarray slide (DNA chip). The technology has already made a significant impact in many fields, such as cancer diagnosis and treatment, and pharmacogenomics. The power of this technology to reveal complex and detailed biological information opens the door to a new era of scientific understanding and discovery. To assist our students in understanding and participating in this new technology, we propose to develop and implement a laboratory unit focused on DNA microarrays that can be integrated into a variety of undergraduate level courses throughout the CSU system. Faculty from three CSU campuses and one faculty member from Davidson College (North Carolina) will work collaboratively on this project. Each CSU campus will integrate the microarray lab unit into 1-2 existing courses in their department. The written manual for the laboratory exercise will be available for use by any other interested faculty in the CSU system. The exposure we provide our students to this new technology will help produce a better trained workforce for the biotechnology industry of our state, and a better informed public regarding the applications and implications of this technology.