

**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.

Forensic entomologists utilize insects (particularly flies) to establish the time interval between death and body discovery. This important piece of information may answer questions as to the circumstances of the individual's death and insects are now routinely utilized and recognized as being important forensic indicators. Of extreme importance is the correct identification of the fly species associated with the body, as misidentifications will cause inaccurate time of death estimates. Traditional fly identification methods rely on recognizing distinct physical traits each fly species may possess; however, this has given way to molecular techniques (i.e. DNA sequences) that are quicker and more reliable. Unfortunately no DNA sequence information exists on the forensically important fly species in the western U.S. although a molecular database has been advocated by a number of forensic entomologists. This laboratory experience will allow students to develop general molecular based skills they will need later in their careers while simultaneously contributing data that will be used to create a molecular database containing DNA sequences for forensically important California flies.