



**2018 Project Summary for Placer Breast Cancer Foundation Fundraising Goal
UC Davis Health
UC Davis Comprehensive Cancer Center**

Project:

The 3-D Structure of the Tumor Suppressor Protein BRCA2

UC Davis Researchers:

Jie Liu, PhD

Professor

Department of Physiology and Membrane Biology, College of Biological Sciences

Wolf-Dietrich Heyer, PhD

Professor and Chair

Department of Microbiology & Molecular Genetics

UC Davis Comprehensive Cancer Center

Project Lay Summary

BRCA2 is a tumor suppressor gene. Mutations in this gene greatly increase the life-time risk for harmful breast cancer and other women's cancers. UC Davis has been on the forefront in being able to isolate and purify the BRCA2 protein molecule, and create images using high-resolution electron microscopy. The next step is to refine imaging of the molecule and construct a detailed 3-D model of this particularly enormous structure. The model will enable researchers to develop new, more effective drugs that will target BRCA2 specifically. Even though the number of women who carry the BRCA gene mutations is rare, this research will also help lead to breakthroughs in understanding how familial breast cancer works and the development of innovative options for the treatment of this and other women's cancers.

Project Cost:

\$100,000 over three years to provide salary support for a post-doctoral researcher.

Goal:

The Placer Breast Cancer Foundation is raising \$100,000 to fund early research on a gene that has been found to increase the risk of developing breast cancer. This research will allow doctors to better understand how breast cancer develops-and potentially develop new therapies that will work to prevent and treat breast cancer.