CANCER PREVENTION & RESEARCH INSTITUTE OF TEXAS

Award ID:
RP170593

Project Title:
Computational Cancer Biology Training Program

Award Mechanism:
Research Training

Principal Investigator:
Pettitt, B. Montgomery

Entity:
The University of Texas Medical Branch at Galveston

Lay Summary:

The complex interplay among often disparate clinical, laboratory, and computational science applications impacting cancer medicine and biology demands innovative and interdisciplinary methods of cancer research. Cancer biologists and clinicians must collaborate with leading researchers in mathematics, computational science and engineering to more effectively study cancer and develop cutting edge tools that will lead to creative solutions. This training program in Computational Cancer Biology (CCBTP) will bring together principles of computational and physical science with basic and clinical cancer biology to develop an emerging generation of computational cancer biologists with a unified computational/quantitative outlook on the problems presented in fundamental cancer research.

This inter-institutional program will utilize the considerable resources and distinguished faculty of the eight institutions of the Gulf Coast Consortia/Keck Center. These institutions have a long-standing history of working together in undergraduate, graduate, and postdoctoral training programs, and each brings a unique research strength necessary for the success of this CCBTP. The medical institutions bring essential central cancer perspective and expertise. The research universities bring mathematics, computer science and engineering not available in the medical institutions.

We will draw postdocs from the computational disciplines to train in cancer biology and from the biological sciences to train in computational approaches. Each trainee will have a primary and secondary mentor from complementary areas, and will work on challenging problems requiring expertise from both mentors. By developing proficiency in a second technical area, trainees will acquire first-hand experience in unique scientific areas with distinct languages and cultures related to the toughest problems in cancer research. Thus, our CCBTP trainees will also develop the skills to manage research at new interfaces.