CANCER PREVENTION & RESEARCH INSTITUTE OF TEXAS

Award ID:
RP150596

Project Title:
Bioinformatics Core Facility at UT Southwestern Medical Center

Award Mechanism:
Core Facility Support Awards

Principal Investigator:
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Entity:
The University of Texas Southwestern Medical Center

Lay Summary:

The goal of this proposal is to reorganize the bioinformatics research and services at UT Southwestern Medical Center (UTSW) to more effectively address the rapidly increasing challenges in information processing for our cancer patients. Cancer is a multi-faceted disease in which genetic and environmental factors elicit a complex and difficult to predict biological behavior of cells and tissues. Given the multi-faceted nature of the disease, clinicians and researchers alike try to probe every possible parameter of cancers with ever more sophisticated diagnostic tools. The tools reach from screens for cancer-driving genes to images of tumors and individual cancer cells to medical records that document the health history of a patient. The intention of the cancer research community at large and UTSW in particular is to integrate this information in a picture that will define the state of disease progression and predict the optimal treatment. Bioinformatics is the discipline concerned with processing and integrating biomedical data. As important as a coordinated effort in cancer data analysis would be, mostly for historical reasons the bioinformatics research at UTSW is scattered among many entities and for many cancer researchers it is even difficult to get access to the expertise necessary to process their data. The center piece of the proposal is the establishment of a Bioinformatics Core Facility. The facility will be directed by experts in computational biology and biostatistics, and it will provide support as well as hardware and software infrastructure to clinical and basic cancer researchers. Funding of this facility will greatly improve the return on investment of dollars into cancer research at UTSW as it warrants that collected clinical and experimental data will be competently, synergistically, and comprehensively translated into an enhanced understanding of cancer and ultimately serve to guide the detection, diagnosis, treatment and prevention of cancer.