

Bankhead-Coley Cancer Research Program

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*2010 Program
Team Science Project
(3-year project)*

Project Title: Integrated Biomarker Profiling for Individualized Prostate Cancer Therapy

Project Summary: Men who are diagnosed with prostate cancer face difficult decisions regarding when and how to be treated. Current methods for determining a patient's need for treatment and the aggressiveness of the treatment needed remain problematic. Our goal is to better define key decision points in men who have different stages of the disease by investigating biomarkers from tissue and blood. The study's clinical trials have been designed to address key questions and gain insight into the potential applications of biomarkers when considered across patient groups. To our knowledge this approach has not been used previously, and the technologies we use to obtain and analyze prostate tissue and blood cancer cells are unique. The clinical trials involve men with distinct options who 1) have early prostate cancer and are candidates for no treatment (active surveillance), 2) have intermediate to high-risk localized prostate cancer and are candidates for radiotherapy, 3) have experienced a rising PSA after surgical removal of the prostate and are candidates to receive salvage radiotherapy to the surgical area, and 4) have had spread of the cancer and have become resistant to hormone and chemotherapy. The projects are highly integrated and novel because of the application of new imaging technology to better direct prostate biopsies and analyze blood products, and the plan to investigate this in patients with different stages of prostate cancer.