Research Interests

Roger Greenberg M.D., Ph.D.

The long term goal of studies in Dr. Greenberg's laboratory is to understand the mechanism by which viruses can induce the DNA damage response in human cells which has a direct link to development of human cancers. A number of human oncogenic viruses can induce aberrant chromosomal changes in the infected cells and manipulation of the DNA damage response will have consequences towards the repair of damage DNA and propagation of the damaged DNA in the daughter cells. He is investigating these changes at the level of the single cell and monitors activities on specific chromosomes. This provides insight to preferential regions activated in the infected cells due to the DNA damage response. His work with the BRCA1 E3 ligase is a critical component of his work and is probing its relationship with viral antigens including the Adenovirus E1A and T antigen and their contribution to the DNA repair and oncogenesis.

Interactions with other trainers: Dr. Greenberg closely interacts with Dr. Robertson, Lieberman, Tempera and Weitzman in training pre-doctoral and post-doctoral students. He regularly attends the meetings of the Tumor Virology Program and also interacts with Dr. You on the potential mechanisms by which HPV may induce the DNA damage response.