

# CHOP Research Institute Summer Scholars Program



**Matthew D. Weitzman, Ph.D.**  
Pathology and Laboratory Medicine

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**Basic Research:** Research most often conducted in a laboratory setting that is designed to enhance our scientific knowledge base (does not involve human subjects)

## Virus-Host Interactions and Cancer

Our lab aims to understand cellular host responses to virus infection and how viruses manipulate cellular pathways. We study numerous barriers encountered by viruses during their quest to exploit cellular functions. Our work on genome stability during virus infection is relevant to understanding viral pathogenesis, cancer and gene therapy.

- **Potential summer research project:**  
We study multiple viruses using biochemistry, molecular biology, genetics and cell biology. Host cells have a diverse array of defenses that are designed to block multiple stages of infection. The project will examine different ways that viruses overcome these intrinsic host defenses by studying cellular proteins that they inactivate. The project will also look at how viruses impact the human genome to cause cancer.
- **Students will learn the following techniques:**  
(1) Gene cloning and manipulation; and (2) Protein detection by antibodies and virus infections.

Please click [here](#) to learn more about Dr. Weitzman