

# CHOP Research Institute Summer Scholars Program



**Kai Tan, Ph.D.**  
Oncology

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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)

## Gene Regulation in Blood Stem Cells and Pediatric Cancers

My laboratory is interested in understanding gene regulation during normal development of blood stem cells and cancer development. We tackle these problems using a multi-disciplinary approach, combining experimental genomics, molecular and cell biology, and computational biology.

- **Potential summer research project:**
  - (1) Develop molecular signatures for pediatric cancer subtypes for diagnosis and prognosis;
  - (2) Use genome-editing technology to evaluate novel cancer drug targets; and
  - (3) Understand regulatory DNA sequences in blood stem cell development.
- **Students will learn one or more of the following techniques:**
  - (1) Computational skills in genomic sequence analysis and gene expression data analysis;
  - (2) Genome-editing technology; and
  - (3) Molecular cloning and cell culture.

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