Cancer Research at the University of Chicago Medicine

Prepared for Greg Pretsch – August 2017



Cancer Research at University of Chicago

The University of Chicago Medicine is a leader in cancer care and research. The Comprehensive Cancer Center is at the forefront of the battle against cancer, pioneering personalized medicine, immunotherapy, and big data approaches to accelerate discovery.

Cancer is by far our largest clinical and research initiative and includes prominent programs in breast, head and neck, gastrointestinal, hematological malignancies, and pediatric cancers. Notably, we are conducting leadingedge work in cellular immunotherapy, the principle for which was established at the University of Chicago in 1948.





A Partnership with Steel Guard Safety Products

Philanthropy is pivotal to cancer research in critical ways—in particular at times when government funding is scarce—by helping jump start high-risk, high-impact projects, funding invaluable young scientists, and even supporting vital lab equipment that often is not covered through traditional grants.

We invite you to consider designating your investment to cancer research in one of the following areas:

- Lucy Godley, MD: Understanding Hematological Malignancies (Rare malignant disorders)
- Justin Kline, MD & Hongtao Liu, MD, PhD: Acute Myeloid Leukema (AML) and Immunotherapy (Rare Cancer)
- Janet D. Rowley Discovery Fund



Hematological Malignancies – Cancers of the blood and lymph system



Hematological malignancies are far less frequent than the leading cancers in the U.S. (prostate, lung, breast, and colorectal cancer), collectively representing 10.2% of cancers.

Lucy Godley, MD, PhD leads the Cancer Center's efforts in understanding hematological malignancies and associated inherited genetic syndromes. With advanced genetic sequencing, Dr. Godley and her team aim to find a unique syndrome for every gene and protein found to be correlated with familial hematological malignancies.

Most recently, Dr. Godley, and mentee Jane Churpek, MD, have defined new familial predisposition syndromes characterized by germline mutations of ETV6 or DDX41 genes. With continued tissue collection, gene sequencing, and data analysis, Dr. Godley's research is positioned to continue advancing discovery.





Lucy Godley, MD, PhD



Jane Churpeck, MD

Acute Myeloid Leukemia (AML) & Immunotherapy



Currently, Acute Myeloid Leukemia (AML) treatment options are limited and survival rates have scarcely improved in decades—underscoring the need to find new therapies to fight this rare cancer. AML represents only 1.3% of all new cancer cases in the U.S.

At the University of Chicago Medicine Justin Kline, MD and Hongtao Liu, MD, PhD are working to develop new treatments, specifically examining patients whose disease reoccurs after a stem cell transplant. In some cases, a stem cell transplant from a matching donor (allogeneic) can stop the progression of AML and send patients into remission. In most cases, the disease reoccurs and survival rate after reoccurrence are very slim.

Dr. Klein and Dr. Liu are seeking to understand why the transplant works in some, but not for all. With more knowledge, their team will leverage their findings to understand how they can utilize the body's own immune system to enable better outcomes after a transplant—catalyzing their work with immunotherapies.





Justin Kline, MD



Hongtao Liu, MD, PhD

Janet D. Rowley Discovery Fund – High Risk-High Reward Research

Janet D. Rowley, MD, was a pioneer in science. She established that cancer is a genetic disease, having linked chromosomal abnormalities to certain types of leukemia. Dr. Rowley changed the way cancer is understood, opened the door to the development of new drugs, and created a model that drives cancer research today.

Many of today's most promising ideas in cancer research are never pursued.

Too often, the resources needed to move them forward aren't available. In her honor and spirit, the **Janet D. Rowley Discovery Fund** was established at the University of Chicago to support high priority, high impact, and potentially transformative research ideas, new recruitments to the University, or new technologies in cancer research. The Rowley Discovery Fund is a competitive grant for University of Chicago cancer investigators to apply—ultimately awarding the most promising research with funding.





Janet D. Rowley, MD 1925 - 2013



Investigators apply for awards from the Janet D. Rowley Discovery Fund to support bold ideas in cancer research. *Here are some of the recently funded projects:*

Xiaoyang Wu, PhD continues the work to label and track cancerous skin cells in a living organism using a specialized fluorescence microscope. Through this method, Dr. Wu is examining patterns in tumor cell migration to help understand the mechanisms that govern cell invasion and metastasis.



Xiaoyang Wu, PhD



Scott Eggener, MD, and Brandon Pierce,

PhD, are researching lifestyle choices and predictive biomarkers for prostate cancer in African American men, who face much worse incidence and mortality rates than Caucasian men with the same disease. Through their work, they hope to better understand the factors that make prostate cancer more likely and more dangerous, as well as illuminate potential lifestyle interventions that can reduce prostate cancer disparities.



Scott Eggener, MD and Brandon Pierce, PhD

Yu-Ying He, PhD, is collaborating with Chuan He, PhD, to study a naturally occurring enzyme called FTO, which is involved in RNA methylization—a standard step in many essential processes involving DNA. Problems with RNA methylzation and raised levels of FTO are both associated with melanoma, but we don't yet know why. Drs. He and He will study the role of FTO and RNA methylization in melanoma development and progression in order to better understand these operations and search for mechanisms that can be promising targets for future drugs.



Yu-Ying He, PhD and Chuan He, PhD

You can support cancer research by investing:

- In one specific project per year
 like Dr. Godley's hematological malignancies research or Drs. Klein and Liu's investigation of immunotherapy as related to acute myeloid leukemia (AML).
- Or, through supporting the Janet D. Rowley Discovery Fund—each year impacting efforts of the most promising investigations in cancer research at the University. This provides the unique ability to touch many different initiatives, including rare and orphan cancers, and share such with customers.

Thank you for your consideration to support The University of Chicago Cancer Research

