The Lustgarten Foundation awards over $6M to investigate early events in pancreatic cancer; grant recipients are Alison Kein, Ph.D., M.H.S., Co-Leader, Cancer Prevention and Control Program (CPC) Professor of Oncology at Johns Hopkins University School of Medicine and Laura Wood, M.D., Ph.D., Associate Professor of Pathology at Johns Hopkins University School of Medicine.

WOODBURY, N.Y., Dec 06, 2022 -- The Lustgarten Foundation announced the awarding of grants to Alison Klein, Ph.D., M.H.S., Co-Leader, Cancer Prevention and Control Program (CPC) Professor of Oncology at Johns Hopkins University School of Medicine for her study Identifying high-risk pancreatic cancer genes using Long Read Sequencing and Laura Wood, M.D., Ph.D., Associate Professor of Pathology at Johns Hopkins University School of Medicine for her study 3D Analysis of Human Pancreatic Tissue to Improve Early Detection of Pancreatic Cancer. The processes and events that drive pancreatic cancer risk and early development of tumors are not well understood. These projects will use cutting-edge approaches to better understand the genetics of pancreatic cancer risk and the earliest events controlling the transition from a benign lesion to a tumor. If successful, this work could help to improve detection methodologies and identify approaches to stop pancreatic cancer at the earliest stages of the disease.

“Pancreatic cancer is the 3rd leading cancer killer in the United States, with only 11% of patients surviving five years or more after diagnosis. Up to 10% of newly diagnosed pancreatic cancer patients have another close relative who has been diagnosed with pancreatic cancer. However, in most families, we do not know which genes are responsible for the increased risk of pancreatic cancer.” said Alison Klein, Ph.D., M.H.S. “The Lustgarten Foundation’s generosity allows us to use cutting-edge DNA sequencing technology to look at parts of the genome that until today have been inaccessible. If we can better understand which genes contribute to risk, we can better identify who is at risk and ultimately unlock what drives pancreatic cancer development and devise approaches to stop it.”

Klein’s study will apply new DNA sequencing and genomics technology to 425 pancreatic cancer patients from families with a profound clustering of pancreatic cancer. To accomplish this, Dr. Klein is collaborating with Dr. Winston Timp, a biomedical engineer, and Dr. Michael Schatz, a computer scientist, both in the Whiting School of Engineering at Johns Hopkins, to develop and employ novel, cutting-edge sequencing technologies. This will enable Klein and team to discover more of the genetic changes that cause pancreatic cancer in families and lead the way for more individuals to benefit from screening and precision treatment.

One of the Lustgarten Foundation’s research pillars recognizes that time is everything when it comes to pancreatic cancer and prioritizes funding the world’s best early detection science. These grants embody this commitment and will provide over $6M to researchers over three years.

“I am thankful for the Lustgarten Foundation’s support of early detection research,” said Laura Wood, M.D., Ph.D. “One reason for the dismal prognosis of pancreatic cancer is the late stage at which it is often diagnosed. We know that most individuals develop benign lesions in the pancreas called PanINs.
Most of these lesions will never progress, but some will progress and form pancreatic tumors. Unfortunately, we can’t predict which PanINs will likely progress and know very little about their biology. This project utilizes a novel approach developed in partnership with Dr. Denis Wirtz, Pei-Hsu Wu, Ph.D., and Ashley Kiemen from the Johns Hopkins Whiting School of Engineering to create 3-dimensional images of human PanINs allowing us to explore the genetic changes, cell-cell interactions, and biology of these lesions. By investigating the events that happen in these pancreatic cancer precursors, we hope to identify tools to distinguish dangerous PanINs from benign and strategies to identify and treat pancreas cancer as early as possible.

To detect pancreatic cancer at the earliest stages, we need to understand the biology of the tumors as they first develop. Together with Johns Hopkins McKusick-Nathans Institute of Genetic Medicine computational collaborators, Drs. Elana Fertig and Rachel Karchin, Ph.D., Wood’s highly synergetic research aims to leverage novel technological approaches to human pancreas samples to develop a better mechanistic understanding of early pre-cancerous lesions and disease progression.

“At the Lustgarten Foundation, we believe that time is everything and are dedicated to advancing the most promising science to give pancreatic cancer patients and their families exactly that, more time,” said Linda Tantawi, Lustgarten Foundation CEO. “Both Dr. Klein & Dr. Wood’s research reflect new and innovative approaches to realizing our mission of transforming pancreatic cancer into a curable disease.”

About the Lustgarten Foundation
The Lustgarten Foundation is the largest private funder of pancreatic cancer research in the world. Based in Woodbury, N.Y., the Foundation's mission is to cure pancreatic cancer by funding scientific and clinical research related to the diagnosis, treatment, and prevention of pancreatic cancer; providing research information and clinical support services to patients, caregivers, and individuals at high risk; and increasing public awareness and hope for those dealing with this disease. Since its inception, the Lustgarten Foundation has directed nearly $250 million to research and has assembled the best scientific minds with the hope that one day, a cure can be found. Thanks to separate funding to support administrative expenses, 100% of your donation goes directly to pancreatic cancer research. For more information, visit www.lustgarten.org.

About Johns Hopkins Kimmel Cancer Center:
Since its opening in 1973, our Cancer Center has led the world in deciphering the mechanisms of cancer and new ways to treat it. The strength of our research and treatment programs was recognized early on by the National Cancer Institute, becoming one of the first to earn comprehensive cancer center status. In 2001, Sidney Kimmel gave a transformative gift to Johns Hopkins University. In recognition of his extraordinary philanthropy, the cancer center was named in his honor: Sidney Kimmel Comprehensive Cancer Center.

The center has active programs in clinical research, laboratory research, education, community outreach, and prevention and control. More on the NCI’s Cancer Centers Program.