Lisa Dean Moseley Foundation Awards $2 Million in Research Grants to Nemours

Wilmington, DE -- The Lisa Dean Moseley Foundation has announced grant awards to two Nemours research scientists in the amount of $2 million over five years. Both awards will support pediatric cancer research, in particular the use of stem cell therapy in the treatment of childhood leukemia.

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Erin Crowgey, PhD, was awarded $1 million over four years for her project focusing on pediatric cancers and stem cell genomics. The genomic landscape of pediatric leukemia is complex and demands diagnostic and treatment programs that are designed for children. The Nemours Center for Cancer and Blood Disorders (NCCBD) is developing new techniques in genomic sequencing that enable the detection of known and novel mutations in leukemic stem cells, and link these mutations to specific treatment options. The center is now scaling techniques to support preclinical drug testing as well as incorporation at the bedside. As data complexity expands, new technologies for data processing and storage are needed. Nemours is developing computational techniques, including using graphical processing units (GPUs) that have traditionally been used in video games, for processing of complex biological data. The Moseley Foundation award will allow significant progress toward a final platform that will be unique in its power, computational scope and size.

Anil Gopalakrishnapillai, PhD, will receive $1 million over five years to study acute myeloid leukemia (AML) among children with Down syndrome. These children possess an extra copy of chromosome 21 and are at high risk for different types of leukemia. Two out of 100 children with Down syndrome develop AML before they turn five years of age. Currently, non-specific chemotherapy, highly toxic to young children, is the only option to treat all of these patients, although they fall into different subtypes based on their individual genetic changes. One in five patients will relapse and have no other viable treatment option. Dr. Gopalakrishnapillai will be using multi-pronged approaches to identify specific targeted therapies for pediatric Down syndrome AML. One of the goals of the Moseley Foundation grant award is to understand the actionable targets of a class of drugs, called epigenetic drugs, which were found to be more specific and effective than chemotherapy in laboratory models. The ultimate goal is to guide clinicians in choosing treatment options for each individual patient based on the changes in their genome.

E. Anders Kolb, MD, Director of the NCCBD, called the grants "transformational." He noted that the Moseley Foundation's funding "will allow us to better understand the genetic determinants of cancer stem cells in children. We anticipate that this work will have a direct impact on how we care for children with cancer." Nemours Vice President and Chief Scientific Officer **Mary M. Lee, MD**, added: "Precision medicine is reshaping the way we think about health, enabling us to tailor treatment to individual patients. At Nemours, we combine scientific discovery with studies to advance new approaches to care, and this very generous donation helps to accelerate our efforts."

The **Lisa Dean Moseley Foundation** is headquartered in Wilmington, Delaware. Its primary mission is to encourage, promote and support medical research focused on stem cells, typically by funding research and clinical programs undertaken by qualified organizations.

Nemours is an internationally recognized children's health system that owns and operates the two free-standing hospitals: the Nemours/Alfred I. duPont Hospital for Children in Wilmington, Del., and Nemours Children's Hospital in Orlando, Fla., along with outpatient facilities in five states, delivering pediatric primary, specialty and urgent care. Nemours powers the world's most-visited website for information on the health of children and teens, KidsHealth.org, and offers on-demand, online video patient visits through Nemours CareConnect. Nemours ReadingBrightstart.org is a program dedicated to preventing reading failure in young children, grounded in Nemours' understanding that child health and learning are inextricably linked, and that reading level is a strong predictor of adult health.

Established as The Nemours Foundation through the legacy and philanthropy of Alfred I. duPont, Nemours provides pediatric clinical care, research, education, advocacy and prevention programs to families in the communities it serves.

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