Hope Scarves Metastatic Breast Cancer Research Fund
Raised and Invested to Date - $1,490,000.00

Timeline of Investments:

2015 - $50,000

- Our first donation of $50,000 was presented to **UofL Brown Cancer Center** in December of 2015. This gift supported Dr. Yannis Imbert- Fernandez's work to determine the effects of simultaneous suppression of estrogen signaling and a key metabolic enzyme known as PFKB3 on sugar metabolism, grown on sugar metabolism, growth and survival of metastatic breast cancer.

2016 – Hope Scarves Metastatic Breast Cancer Research Fund was established

- We spent this year understanding the landscape of MBC research and formalizing the Hope Scarves Metastatic Breast Cancer Research Fund to ensure funding research that would make the biggest impact for MBC patients.

2017 – 2018 - $125,000

- **Memorial Sloan Kettering Cancer Center** – researching CDK 4/6 inhibitors with the tools of DNA and RNA sequencing to understand and overcome resistance mechanisms.
- **Dana Farber Cancer Institute** – working to create a "Resistance Atlas" for ER+ metastatic breast cancer which will help inform treatment decisions for individual patients and propel the development of new combination treatment strategies.
- In collaboration with **Metavivor** two researchers were funded in memory of Laura Williams
    - Wei Tao – The Brigham and Women's Hospital/Harvard University
    - Ana Castro-Garrido – Dana Farber Cancer Institute

2019 - $125,000

- **Dana Farber Cancer Institute** – research study led by Nick Wagle into the causes and drivers of ER loss and an attempt to identify new therapeutic strategies for patients whose tumors transition from ER+ to triple negative MBC.
- **Johns Hopkins University** – research study led by Andrew Ewald to isolate cancer cells from breast tumors, profile their molecular features, sort them into categories based on their metastatic ability, and then use techniques from pathology to determine which breast tumors metastasize by which method.
- **UofL Brown Cancer Center** – to hire additional staff to expand clinical trials and clinical research for metastatic breast cancer patients.

2020 - $175,000

- **Dana Farber Cancer Institute** – research project directed by Nick Wagle to further support the understanding of how and why ER+ metastatic breast cancer transforms into metastatic triple negative breast cancer.
- **Johns Hopkins University** – research project directed by Andrew Ewald seeking to understand how disseminated breast cancer cells successfully seed new tumors in distant organs in order to identify new therapeutic targets for patients with existing metastases.
- **UofL Brown Cancer Center** - funding to expand clinical trials and clinical research at the BCC for metastatic breast cancer patients through three distinct efforts: 1) expand the biorepository at the BCC specific to metastatic breast cancer to allow greater access for scientists which will in turn accelerate our understanding of this disease, 2) expand the current metastatic trial portfolio to ensure the options available to breast cancer patients in the region is comprehensive and local to minimize need for travel, and 3) increase patient accruals to these trials which in turn will increase the availability and support of early stage innovative trials.

2021- $175,000

- **Dana Farber Cancer Institute** – continued funding for Nick Wagle's research project to study the causes and drivers of estrogen receptor loss and attempt to identify new therapeutic strategies for patients whose tumors transition from ER+ to triple negative metastatic breast cancer
- **Johns Hopkins University** – continued funding for Andrew Ewald's research project seeking to understand how disseminated breast cancer cells successfully seed new tumors in distant organs in order to identify new therapeutic targets for patients with existing metastases.
- **UofL Brown Cancer** – funding to expand clinical trials and clinical research at the BCC for metastatic breast cancer patients through three distinct efforts: 1) expand the biorepository at the BCC specific to metastatic breast cancer to allow greater access for scientists which will in turn accelerate our understanding of this disease, 2) expand the current metastatic trial portfolio to ensure the options available to breast cancer patients in the region is comprehensive and local to minimize need for travel, and 3) increase patient accruals to these trials which in turn will increase the availability and support of early stage innovative trials.

2022 - $200,000

- **Dana Farber Cancer Institute** - continued funding for Nick Wagle's research project to study the causes and drivers of estrogen receptor loss and attempt to identify new therapeutic strategies for patients whose tumors transition from ER+ to triple negative metastatic breast cancer.
- **Johns Hopkins University** - continued funding for Andrew Ewald's research project seeking to understand how disseminated breast cancer cells successfully seed new tumors in distant organs in order to identify new therapeutic targets for patients with existing metastases.
- **UofL Brown Cancer Institute** – continued funding to support the clinical trials program to expand support for MBC patients as well as support a clinical trials nurse navigator who will have time dedicated specifically to metastatic breast cancer trials and continue the momentum that has already been accomplished.
- **Norton Cancer Institute** – funding to establish the Hope Scarves Metastatic Breast Cancer Clinical Trials Program within Norton Cancer Institute to support patient education, connection, and participating in metastatic breast cancer clinical research and trials regardless of where patients live and are treated.

2023 - $240,000

- **Dana Farber Cancer Institute** - continued funding for Daniel Abravanel's research project to study the causes and drivers of estrogen receptor loss and attempt to identify new therapeutic strategies for patients whose tumors transition from ER+ to triple negative metastatic breast cancer after the departure of Nick Wagle. Funding also supports a salary for a PhD-level computational biologist and obtaining matched biopsies from the same patient before and after ER loss from hold additional potential to help us better understand evolution from the ER+ to ER-negative state.
- **Johns Hopkins University** - continued funding for Andrew Ewald's research project seeking to understand how disseminated breast cancer cells successfully seed new tumors in distant organs in order to identify new therapeutic targets for patients with existing metastases.
- **UofL Brown Cancer Institute** - funding to support the clinical trials program to expand support for MBC patients and continue the momentum that has already transpired. The entirety of the funding is directed toward the salary and administrative costs of the trials program.
- **Norton Cancer Institute** - to expand the Hope Scarves Metastatic Breast Cancer Clinical Trials Program("Program") within the Norton Cancer Institute. This Program will continue to support patient education, connection and participation in metastatic breast cancer clinical research and trials. This gift will be used to build out additional educational materials and resources for metastatic breast cancer patients regardless of where they live or where they are treated.

2024 - $200,000

- **Dana Farber Cancer Institute** – funding to continue Daniel Abravanel's study of targeted genomic and transcriptomic sequencing to compare samples from the same patient both before and after ER loss in order to identify new therapeutic strategies for patients whose tumors transition from ER+ to triple negative metastatic disease.
- **Johns Hopkins University** - continued funding for Andrew Ewald's research project seeking to understand how disseminated breast cancer cells successfully seed new tumors in distant organs in order to identify new therapeutic targets for patients with existing metastases.
- **UofL Brown Cancer Center** - funding to expand the biorepository, expand the current metastatic trial portfolio, and increase the MBC patient accruals to trial at Brown Cancer Center.
- **Norton Cancer Institute** – funding to support the Hope Scarves Metastatic Breast Cancer Clinical Trials Program("Program") within the Norton Cancer Institute. This Program will continue to support patient education, connection and participation in metastatic breast cancer clinical research and trials. This gift will be used to build out additional educational materials and resources for metastatic breast cancer patients regardless of where they live or where they are treated.

2025 - $200,000

- **Dana Farber Cancer Institute** – funding to continue Daniel Abravanel's study of targeted genomic and transcriptomic sequencing to compare samples from the same patient both before and after ER loss to yield key insights into evolution and therapeutic resistance in metastatic breast cancer with important clinical implications
- **Johns Hopkins University** – funding for Andrew Ewald to map the epigenetic correlations of the pro-metastatic cell state in luminal breast cancer models and to identify the molecular regulators of clonal vs. cooperative metastatic strategies.
- **UofL Brown Cancer Center** - funding to expand the biorepository, expand the current metastatic trial portfolio, and increase the MBC patient accruals to trial at Brown Cancer Center.
- **Norton Cancer Institute** - funding to support the expansion of the Hope Scarves Metastatic Breast Cancer Clinical Trials Program within the Norton Cancer Institute. This Program supports patient education, connection and participation in metastatic breast cancer clinical research and trials as well as two positions of a specialty research coordinator and nurse navigator for metastatic breast cancer to extend access to novel therapies.
- **Hope Scarves/AACR Innovation and Discovery Grant** – Gloria Kim, Mayo Clinic, is working to improve CAR-T cell therapy in TNBC. CAR-T cell therapy, where a patient's immune cells are genetically modified in the lab to recognize and kill cancer hasn't worked well for solid tumors like TNBC due to limited immune cell access to the tumor, as well as the time, cost, and complexity of lab-based cell engineering. To address these challenges, Dr. Kim's team is developing a new therapy that creates CAR-T cells directly inside the body.

*Monies raised in prior fiscal year is invested the following year based upon recommendations of the Hope Scarves Board of Trustees