

*How Your Contributions Have Already Made a Difference Grants Awarded to Date*

# To date, total Peachey Fund grants: $3,606,261

The Catherine Peachey fund is a member of the Heroes Foundation family (a 501(c)(3)). The funds raised to support the following grants were raised by hundreds of volunteers over many years. Projects include: *Just Peachey: Bearing Fruit Cookbook*, Polo with Peachey, Wine Tasting with Peachey at Peace Water Winery, walks/runs, quilt sales, concerts and the sale of *Just Peachey: Cooking up a Cure.*

**The Amelia Project at the IU Simon Cancer Center** $95,000.00: For 13 years, with Dr. George Sledge as Chair, the Catherine Peachey Fund hosted an annual meeting for scientists and clinicians from across Indiana and guests from around the country. It was at these meetings that many of the projects listed below took form and were then funded by the CPF. It was at the Amelia Project that the first movement toward the Komen Tissue Bank began. The KTB has now gone on to become the only biorepository for normal breast tissue in the world.

2022

**Metabolic Regulation of Breast Cancer Metastasis by Aquaporin-7** $100,000: Led by Laurie Littlepage, PhD, Harper Cancer Research Institute at the University of Notre Dame. Breast cancer is the second leading cause of cancer related deaths in women, and 90% of deaths in breast cancer patients are due to therapeutic resistance of metastatic tumors. Finding new markers and therapies to overcome resistance in breast cancer patients is critical to helping these patients. A way that cells can become resistant is by altering their metabolism. Understanding how metabolism contributes to disease progression will help to identify efficacious treatments for breast cancer patients. Dr. Littlepage and her lab discovered that Aquaporin-7 (human AQP7/mouse Aqp7), a protein that transports water and glycerol, is a negative prognostic marker of overall survival and metastasis in breast cancer patients. They showed that Aqp7 knockdown (KD) decreases proliferation and significantly decreases primary tumor burden as well as lung metastasis in vivo. Metabolomics on Aqp7 KD cells and tumors revealed significantly altered lipids, redox, and arginine metabolism pathways. With this gift, they will purchase a powerful dissection microscope, a microplate reader (used to detect various microscopic events in samples), and a Aqp7 knockout (KO) mouse. These items will be used to study how AQP7 regulates metabolic pathways that sensitize breast cancer cells to anti-tumorigenic properties upon inhibition in cultured breast cancer cells. The requirements for Aqp7 in metastasis and in endocrine therapy resistance will be evaluated both in cells and in mice. The requested animals and equipment will be essential for their ability to study the mechanisms by which AQP7 regulates metabolic reprogramming to enable breast cancer metastasis and to exploit Aqp7 inhibition for therapeutic benefit in overcoming endocrine therapy resistance. The data they generate will serve as preliminary data to support both R01 and DOD BCRP submissions.

**Continuation of Application of Emerging Proteomics Technologies to Breast Cancer** $10,000: Led by Amber L. Mosley, PhD at the Indiana University School of Medicine. In 2020, the Catherine Peachey Fund’s gift of $20,000 allowed the Mosley lab to investigate whether a unique process called thermal proteome profiling could be a new tool in the fight against breast cancer drug resistance. With the 2020 Peachey support, Dr. Mosley was able to analyze one half of the samples she has available. With those samples, the lab found that low dose treatment (0.1uM) of triple-negative breast cancer cells with the bioactivatable compound IB-DNQ leads to changes in the thermal stability of several cell cycle related factors. The data from the project clearly show the utility of thermal proteome profiling in uncovering unique mechanisms in diverse cell systems including triple-negative breast cancer cells. $10,000 in additional support would cover the team member time and consumables of three additional steps of analysis: Perform thermal proteome profiling (TPP) studies on high dose IB-DNQ exposed triple-negative breast cancer cells, Bioinformatics analysis of the TPP and phosphoproteomics (signaling) to determine if TPP analysis of TNBC drug treatment models is more sensitive to cancer cell changes in response to drug than the more standard signaling analysis approach, and Follow up experiments using purified proteins to confirm some of the findings in our low dose IB-DNQ studies. When combined, these three steps of analysis create a foundation for expanding this work into different breast cancer types and possible early detection of molecular changes in cells that lead to cancer and drug resistance.

**Pink4Ever Ending Disparities Stay Alert, Stay Alive: Breast Health Summit** $3,000: The Catherine Peachey Fund will be an Education Sponsor for the Pink4Ever Breast Health Summit held in Indianapolis. The mission of Pink4Ever Ending Disparities is to eliminate breast cancer disparities for black women through advocacy, education, research, and empowerment. The Breast Health Summit is their annual outreach and education initiative, bringing together healthcare professionals, community members, survivors, caregivers, advocates and volunteers and policy makers for a day of learning and engagement.

**Early Breast Cancer Evaluation in High-Risk Subjects Using Advanced MRI Modalities** $15,000: Led by Joseph V. Rispoli at Purdue University’s Women’s Global Health Institute. Breast magnetic resonance imaging (MRI) has gradually become more available as a diagnostic tool for evaluation of treatment response, preoperative staging, tissue perfusion, and biopsy guidance. The aim of this study is to develop a comprehensive imaging protocol using both an in-house and a commercially available flexible coil to investigate the sensitivity and specificity of advanced MRI methods for early breast cancer detection in high-risk subjects with dense breast tissue or family history of breast cancer.

**Targeting FGFR to Prevent Obesity-induced Metastatic Recurrence in Breast Cancer** $15,000: Led by Michael K. Wendt, PhD at Purdue University’s Women’s Global Health Institute. Fibroblast growth factor receptor (FGFR) signaling is suggested as a promoting factor in obesity-induced breast cancer recurrences. This study will utilize Wendt’s newly developed mouse model to study the role of diet-induced obesity (DIO) on systemic breast cancer dormancy and metastatic outgrowth. Using this novel approach, they aim to investigate the role of FGFR signaling in obesity-mediated breakage of the tumor dormancy. Their long-term goal is to elucidate the molecular mechanism behind the crosstalk between obesity and breast cancer progression.

2021

**A Culturally Informed, Multi-theory Approach to Testing Messaging for a Future Intervention to Increase Black**

**Women’s Intentions to Participate in a Breast Cancer Clinical Trial** $14,000: Led by Kathi Ridley-Merriweather,

MA, Communication and Minority Outreach Coordinator with the Susan G. Komen Tissue Bank at the IU Simon Comprehensive Cancer Center. Minorities comprise 40% of the United States population, but are underrepresented in clinical trials, meaning a substantial subset of Americans are not fully benefitting from clinical and biomedical developments. Black women in particular have been historically underrepresented in medical research and clinical trials. This study will experimentally test messages in an online setting with Black and African American women as participants. A goal sample size of 350 participants will be randomly selected through Qualtrics, a cloud-based platform for creating and distributing web-based surveys. The participants will be divided into five randomly assigned conditional groups, with each group receiving a unique level of messaging encouraging Black women to participate in the KTB clinical trial by donating their healthy breast tissue. This effort will test culturally targeted messaging for use in a future intervention to increase Black women’s intentions to participate in breast cancer research.

**Evaluating the Impact of Complex Extracellular Matrix Proteins Using a High-throughput Magnetically Actuated**

**3D Microtumor Environment for More Precise Breast Cancer Drug Screening** $15,000: P.I. Luis Solorio, PhD, Weldon School of Biomedical Engineering at Purdue University. The objective of this work is to use their recently developed 3D drug-screening platform to evaluate the effect of the ECM biochemical composition and mechanical properties on metastatic breast cancer growth and cancer drug responsiveness. Dr. Solorio and team will use primary metastatic cancer cells isolated from pleural effusions collected from the Susan G. Komen Tissue Bank at the IU Simon Comprehensive Cancer Center. The drugs tested will be selected to match the drugs that were administered to the patient as part of their treatment plan. The dose response of the patient specific samples will retrospectively be compared to the available clinical data characterizing the patient response. Upon completion of this preliminary work, they expect to have all necessary preliminary data to robustly demonstrate their platform’s unique drug screening capability for NIH R01-level extramural funding.

**Understanding the Role of Obesity in Facilitating Resistance to HER2-targeted Therapies** $15,000: P.I. Mike Wendt, PhD, Purdue University Center for Cancer Research. The aim of this project is to investigate how STAT3 contributes to metastasis and development of drug resistance in obesity-associated breast cancer. Based on their preliminary data, they hypothesized that STAT3 is important in driving obesity-related breast cancer metastasis and blockade of this pathway will result in reduced lipid droplet formation, decreased expression of lipid synthesizing enzymes, and decreased HER2 drug resistance. The first specific aim is to establish the role of STAT3 in obesity-driven primary tumor growth and metastatic progression by using an in vivo model. The second aim is to identify if STAT3 activation is sufficient to drive changes in lipid metabolism and resistance to HER2-targeting agents. The third aim will identify if ruxolitinib can prevent acquisition of the resistance to HER2-targeting agents by targeting JAK-STAT3 pathway in metastatic HME2 cells. In addition to securing larger scale funding, the longterm goal is to develop targeting strategies to overcome drug-resistance in the metastatic setting. Towards achievement of this goal, the overall objective of this project is to define how STAT3 contributes to lipid metabolism during metastasis and acquisition of drug resistance. These studies will be the first molecular examination which identifies the reason behind accumulation of the excess amount of lipid droplets in drugresistant breast cancer metastases.

**Increasing the Tumor Penetration of Cancer Drugs to Improve the Treatment of Metastatic Tumors** $45,000: Joseph Ipe, PhD, Indiana University School of Medicine. Understanding the factors that regulate how drugs penetrate tumors should help improve the effectiveness of many FDA-approved drugs. Until we better understand the mechanisms underlying the variable penetration, it will likely continue to be a problem for any new drugs that are developed. This project will visualize the tumor penetration of two common anti-cancer drugs in patientderived tumors grown in animals. By combining spatial genomic and drug-imaging technologies to visualize gene expression and drug penetration patterns across the same samples, the team expects to identify the reasons why some tumors can prevent the drug from penetrating certain cells. The goal is to eventually block those mechanisms. Next, the research team will combine their expertise in drug therapies and genetics with the imaging abilities of a collaboration lab to look for gene signatures in human tumor tissues that can be used to predict drug penetration. The ultimate goal of this project is to ensure that each patient receives a treatment that will have the highest likelihood of penetrating and eliminating the metastases. The funding will provide support for the animal studies and spatial transcriptomics experiments. This research team has already identified grant opportunities through the American Cancer Society and National Institutes of Health that would allow for future work based on the preliminary data generated. The NIH has particularly indicated interest in projects studying drug penetration in tumors.

**Susan G. Komen Tissue Bank Intern Program** $10,000: Anna Maria Storniolo, MD, Indiana University School of Medicine. The Catherine Peachey Fund again provided full funding for the annual KTB intern program. This program provides engagement opportunities for students during their undergraduate and graduate careers and moves the work of the KTB forward more quickly. The support of these students is essential to fulfilling the mission of the KTB, but the expense is significant in the KTB budget and not provided for in Susan G. Komen grant funding. Beyond projects completed, KTB interns also experience professional growth and gain valuable insights into a career in cancer research and the life sciences. Ensuring funding is available to cover this important expense will increase the accomplishments of the KTB in 2021.

2020

**Application of Emerging Proteomics Technologies to Breast Cancer** $20,000: Led by Amber Mosley Ph.D., this research team would like to determine if an innovative molecular tool called thermal proteome profiling can help observe and characterize the changes that occur as a cell moves from normal to cancerous to evading treatment and possibly metastasizing. Potentially answering the question of why some breast cancer cells survive after treatment.

**Komen Tissue Bank Intern Program** $10,000: This summer the KTB hosted 5 interns remotely with tasks including managing social media accounts, assisting directly with analysis of work done in the tissue bank lab, review for accuracy of data points researchers all over the world are using to analyze the normal tissue samples and drafting a manuscript on how the KTB is changing breast cancer research.

**R.E.D. Alliance/Stay Alert, Stay Alive: Breast Health Summit** $2,000: The Catherine Peachey Fund will be a

“Health & Wellness” sponsor for the R.E.D. Alliance Breast Health Summit held in Indianapolis. The mission of the

R.E.D. Alliance is to eliminate the disparity in breast cancer mortality between African American women and Caucasian women in Indianapolis. The Breast Health Summit is their annual outreach and education initiative, bringing together healthcare professionals, community members, survivors, caregivers, advocates and volunteers and policy makers for a day of learning and engagement. *Note: due to COVID-19, this event has been postponed to 2021.*

**Identifying the Motives of Minority Women to Donate Healthy Breast Tissue** $1,380: This project’s goal is to identify why African-American, Hispanic/Latina and Asian women choose to donate healthy breast tissue to the Komen Tissue Bank at the IU Simon Cancer Center. To accomplish this, the research team led by Katherine E. Ridley-Merriweather MA, will conduct guided interviews with minority tissue donors to better understand the determinants and considerations that led these women to choose to donate healthy breast tissue. Minorities account for fewer than 10% of patients enrolled in clinical trials and there has been considerable attention on the need to increase the number of racial and ethnic minority group members involved in cancer clinical research. This project will provide insights that can be applied to the recruitment practices of many current and future clinical trials in breast cancer research.

2019

**Catherine Peachey Taxonomy of the Normal Breast Project at the IU Simon Cancer Center** $100,000:

With the Peachey Fund’s landmark contribution of $250,000 to launch the Catherine Peachey Fund Normal Breast Taxonomy Project and the subsequent external grant of $750,000 from the Chan Zuckerberg Initiative, this unique area of research at I.U. has been significantly enhanced and a need for additional technological support is now evident. This 2019, $100,000 gift from the Peachey Fund, funds two positions specializing in data analysis for the Catherine Peachey Fund Normal Breast Taxonomy Project and normal breast tissue research. The data will be made available to breast cancer researchers through the Komen Tissue Bank’s Virtual Tissue Bank and will be reported to the Chan Zuckerberg Initiative. The work will also assist in organization of the system for data collected for any normal tissue samples within the Komen Tissue Bank. Therefore, the investment of time and resources will provide benefits to the Komen Tissue Bank for years to come.

**International Breast Cancer & Nutrition Program (IBCN) at Purdue University** $5,000: The goals of the IBCN partnership, launched at Purdue University in 2010, is to develop research locally as well as globally for the prevention of breast cancer onset; through this research they intend to promote the training locally and via international exchanges, of future scientists in breast cancer prevention research. They have awarded the Catherine Peachey Award for Oral Presentation to 25 trainees from different countries and across life science and social science disciplines over the past eight years. Our 2019 support will be used for up to four awardees ($500 per trainee) and the rest (~$3,000) will be used to support educational and research exchanges for IBCN trainees with Purdue University and the registration of trainees from Purdue to this year’s symposium.

**R.E.D. Alliance/Stay Alert, Stay Alive: Breast Health Summit** $2,000: The Catherine Peachey Fund was a “Health & Wellness” sponsor for the R.E.D. Alliance Breast Health Summit held in Indianapolis. The mission of the R.E.D. Alliance is to eliminate the disparity in breast cancer mortality between African American women and Caucasian women in Indianapolis. The Breast Health Summit is their annual outreach and education initiative, bringing together healthcare professionals, community members, survivors, caregivers, advocates and volunteers and policy makers for a day of learning and engagement. Several Peachey Fund volunteers attended the event, and 120 *Just Peachey: Bearing Fruit* cookbooks were donated to summit attendees.

**Kathi Ridley-Meriweather, M.A.** $2,700: The Catherine Peachey Fund awarded this gift to fund transcription costs, in order to deliver a findings-informed, culture-focused video intervention tool. Kathi is responsible for the Komen Tissue Bank having the much needed and appropriate representation of minority women and women who face disparities in their ability and willingness to participate in medical research. This opportunity to fund a project that works to create a new tool for outreach and inclusion of a diverse pool of women in research is in line with the goals and objectives of our fund.

**Intern Stipend for the Susan G. Komen Tissue Bank at the IU Simon Cancer Center** $500: For the past several years, the Catherine Peachey Fund has rewarded unpaid interns for their important contributions. Some of the most interesting projects on the “to do list” at the Tissue Bank are not the most pressing. The small staff deals with the big projects first, and the contributions of these interns has always been hugely important in helping the Tissue Bank reach its potential.

2018

**Dr. Harikrishna Nakshatri, Taxonomy of the Normal Breast** $250,000: One of the most important avenues for the research into normal breast tissue lives in the genetic information found in every cell of a tissue sample. While researchers have not previously had the tools to unlock that information, there is cutting-edge genetic technology that can now sequence or lay out the information found in each individual cell. As the home of the Komen Tissue Bank, Indiana University researchers are uniquely situated to take advantage of this new technology. Unlike any other institution, Indiana University has the mechanisms in place to begin this work immediately. Funding is the only obstacle standing in the way. **Important outcomes for Women**:

* The data derived from single-cell sequencing of tissue samples will create an entirely new roadmap for breast cancer researchers all over the world.
* It will be a tool to identify the favorite pathways and patterns of breast cancer development, ultimately looking for the earliest signs of breast cancer risk and identifying precise ways to treat breast cancer.
* Most critically, it may help to identify the cell type in the breast from which the cancer originated, so that targeted therapies can better treat breast cancer.

This project will create an entirely new avenue of prevention research, ultimately affecting all women. Researchers across the breast cancer community will have the resources to conduct experiments that might determine individualized breast cancer risk assessments or possibly develop new screening techniques. Single-cell sequencing of normal tissue samples has the potential to revolutionize breast cancer research and can only be accomplished at Indiana University.

**Richard Carpenter, Ph.D., Indiana University School of Medicine-Bloomington** $45,000: Boosting Immunotherapy for Metastatic Breast Cancer. All deaths from breast cancer result from the spread of cancer cells to other vital organs such as bones, liver or brain in a process called metastasis. While it is possible that metastatic tumors at these different organs may each require different types of treatment, Dr. Carpenter proposes that immunotherapy, or enhancing the activity of the immune system, is an effective way to target metastatic tumors regardless of the organ site. He and his team have recently identified a new mechanism used by tumors to suppress the immune system. The work funded through this grant seeks to establish a new therapeutic strategy for patients with metastatic breast cancer by targeting this novel mechanism of immune suppression in combination with immunotherapy. These studies may also establish a new biomarker for response to immunotherapy. Dr. Carpenter believes that the proposed preclinical development of this novel therapeutic combination and biomarker will significantly advance the field and provide the basis for moving research from the bench to the clinic to help patients with metastatic breast cancer.

**Dr. Anna Maria Storniolo** $20,000**:** Research project to perform transcriptome analysis on RNA samples extracted from microdissected breast epithelium from either cancer-affected breast (adjacent normal) or healthy contralateral breast. The total number of samples is twelve. The analysis (RNA sequencing) will be performed at the Center for Medical Genomics at IU School of Medicine.

**International Breast Cancer & Nutrition Program (IBCN) at Purdue University** $5,000: The goals of the IBCN partnership, launched at Purdue University in 2010, is to develop research locally as well as globally for the prevention of breast cancer onset; through this research they intend to promote the training locally and via international exchanges, of future scientists in breast cancer prevention research. They have awarded the Catherine Peachey Award for Oral Presentation to 21 trainees from different countries and across life science and social science disciplines over the past eight years. Our 2018 support will be used for up to four awardees ($500 per trainee) and the rest (~$3,000) will be used to support educational and research exchanges for IBCN trainees with Purdue University and the registration of trainees from Purdue to this year’s symposium.

**2018 Susan G. Komen Tissue Bank Collection Sponsorship** $5,000**:** In keeping with our ongoing support of the normal tissue bank, we along with Eli Lilly, will be Co-Presenting Sponsors of this year’s tissue collection on November 4, 2018.

2017

**R.E.D. Alliance Critical Support** $21,500: The R.E.D. Alliance’s mission is to address the disparity in breast cancer mortality rates of African-American women in Indianapolis through a collaborative approach, faith-based community outreach, and providing access to health care and resources. As finding a cure for triple-negative breast cancer has always been a priority for the Catherine Peachey Fund, supporting the work of this organization fits very well with our mission. This grant provides critical support for R.E.D. Alliance Executive Director, Lisa Hays, including a laptop, as well as other assistance with education and research.

**R.E.D. Alliance/Stay Alert, Stay Alive: Breast Health Summit** $2,500: As a member of the R.E.D. Alliance, the Peachey Fund was very proud to be a sponsor of this inaugural Breast Health Summit. The R.E.D. Alliance takes a unique approach to addressing the disparity in breast cancer mortality among African-American women in Indianapolis by meeting these women where they are: in their places of worship and faith-based communities. This *free* summit will give health care professionals and community members tools for fighting this disparity and together finding solutions to reduce the breast cancer death rate for women most susceptible to developing triplenegative breast cancer.

**Susan G. Komen Tissue Bank at the IU Simon Cancer Center’s 10th Anniversary Campaign** $2,500: Contribution for a new longitudinal study utilizing data generated from the tissue bank. This new study is aimed at making the tissue samples even more valuable to researchers, increasing the likelihood of lifesaving discoveries. This means the bank will ask a subset of tissue donors, past and future, to make a further commitment to regular follow-up questionnaires and possibly minimal additional periodic blood and/or tissue donations.

**Intern Stipends for the Susan G. Komen Tissue Bank at the IU Simon Cancer Center** $1,750: For the past several years, the Catherine Peachey Fund has rewarded unpaid interns for their important contributions. Some of the most interesting projects on the “to do list” at the Tissue Bank are not the most pressing. The small staff deals with the big projects first, and the contributions of these interns has always been hugely important in helping the Tissue Bank reach its potential.

2016

**Theresa A. Guise, M.D., Andrew R. Marks M.D., Paul Territo, Ph.D. Co-Pls** $33,145: Cognitive Dysfunction Associated with Chemotherapy: Role for Ryanodine Receptor (RyR) Oxidation. Chemotherapy for breast cancer can be associated with debilitating cognitive dysfunction (“chemobrain”) during and after treatment. Chemobrain is marked by significant impairment in memory, deficits in processing and executive function, depression and anxiety. The Guise team will be testing a potential therapy for chemobrain in the laboratory utilizing the required equipment purchased by the Catherine Peachey Fund. The therapy being studied has the potential to treat chemobrain resulting from treatment in multiple cancers. This unique research tool will be available to researchers at IU doing similar studies that require this unique research technology.

**Leica CM 1860 Cryostat** $30,000: The Leica CM 1860 Cryostat was purchased for clinical research on behalf of the Breast Cancer Program and the Susan G. Komen Tissue Bank at the IU Simon Cancer Center. BCP and KTB researchers had previously been utilizing a shared Cryostat located miles away from their labs on a contractual basis. The cryostat is used to section tissues with the purpose of identifying proteins that can serve as biomarkers of disease progression or treatment effects. The Leica Cryostat will be located centrally for the shared use of the BCP and the KTB for immediate processing of tissue thus reducing research costs and the time needed to complete projects.

**Leica Microtome and Water Bath** $11,643: The Leica Microtome and Water Bath was purchased for the Storniolo Laboratory-Komen Normal Tissue Bank at the IU Simon Cancer Center. Medical and biological researchers are aiming to investigate the normal structure and function of breast cells and tissue. The use of formalin fixation and paraffin embedded tissues enable the preservation of the morphology and cellular details of tissue samples. The purchase of the Microtome will allow researchers to process the samples within the KTB laboratory rather than transporting the samples and contracting with the department of pathology to process the samples after hours thus saving precious time and funding, reducing costs to researchers and enabling the speedy delivery of the samples to research.

**Kathy Ridley-Merriweather (Komen Tissue Bank Minority Outreach Coordinator)** $5,000: For printing of 2,000 copies of a full-color booklet, *Give the Gift of a Healthy Future*, a minority outreach brochure. Funding will also provide for the translation of the booklets into Mandarin and Spanish, to facilitate minority recruitment into the Komen Tissue Bank. The data derived from the collection of tissue and individual data on the donors must reflect the diversity of women representative of the United States. True informed consent can only be achieved through sensitive and thorough outreach education illuminating the process and the intent of the donor’s unique gift to research.

**International Breast Cancer and Nutrition Project (Sophie Lelievre, Purdue University)** $5,000: This grant was used to support upcoming, young scientists through attendance at the meeting. The goal of the symposium is to bring together global public health advocates, clinicians and researchers with an interest in breast cancer prevention to discuss resources necessary to conduct primary prevention research. New types of biobanks and databases in nutrition and epigenetics that are needed to study cancer risk, notably to design prevention interventions and identify biomarkers, taking into account public policy and practices, and socioeconomic and cultural contexts in which environmental factors leading to cancer come into play are discussed. Breast Cancer prevention is a global public health challenge that requires: Utilization of the diversity of diet: environment and epigenetic pool globally: A multidisciplinary approach: biology, epidemiology, medicine, nutrition, social sciences and communication, education, and public policy: Contributions from scientists, clinicians, and advocates: Sustained international effort in research and action.

**Harikrishna Nakshartri, Ph.D. (IUSM) and Crislyn D’Souza-Schorey, Ph.D. (University of Notre Dame)** $50,000: Collaborative research project focused on Inter-Individual Variation in Breast Epithelial Extracellular Vesicles.

Recent studies have shown extensive inter-individual functional variation in the regulatory regions of the genome that results in wide-spread transcriptome differences among healthy individuals. The central objective of this proposal is to obtain proof-of-concept evidence supporting this hypothesis and generate data that will aid in the submission of a larger, extramurally funded research program aimed at developing an individualized disease progression model, which potentially could have marked impact on personalized medicine.

2015

**The Amelia Project** $75,000: The Catherine Peachey fund is pleased to announce a new grant to support the Amelia Project for five years.

Dr. Hari Nakshatri, Dr. Kathy Miller and the Catherine Peachey Fund recently opened the conversation about the value that had been achieved from many years of the Amelia Project. Several important achievements would not have existed without the Catherine Peachey Fund and the IU Simon Cancer Center supporting this annual meeting. The Amelia Project will include researchers and physicians from all institutions in Indiana doing research in breast cancer. The meeting always pulled its strength from being a multi-institutional day bringing together the best and the brightest. Drs. Rich Zellars (Chair, IUSM Radiation Oncology), Joseph Irudayaraj (Professor and an expert in Nanotechnology and biomedical engineering at Purdue) and Crisyln D'Souza-Schorey (Chair, Department of Biological Sciences, Notre Dame) will be co-chairing the Amelia Project in 2016. This represents outstanding leadership for the new beginning of the Amelia Project.

**The Komen Tissue Bank at the IU Simon Cancer Center** $2,500: The CPF participated in a fundraising event in partnership with the IU Foundation and Susanna F. Scott and provided matching funds for a portion of the project which raised $15,000 for the KTB.

**Dr. Natascia Marino and Dr. Rulla Tamimi** $50,000: The Catherine Peachey Fund is pleased to announce funding for a proposal entitled: *Molecular mechanisms behind the association of early-life adiposity and breast cancer risk.*

The proposal was submitted by Dr. Natascia Marino from the IU School of Medicine and by Dr. Rulla Tamimi from the Harvard Medical School.

*There is accumulating evidence that adolescence and especially the period between menarche and first term pregnancy is an important period for breast cancer susceptibility. Understanding how early life exposures influence breast cancer risk has important implications for understanding breast cancer etiology as well as developing prevention strategies.*

This project looks at risk and prevention, uses tissue from the Komen Tissue Bank.

2014

**Dr. Hari Nakshatri** $35,500: In 2014 support of the CPF made it possible for us to fund a grant request from Dr. Hari Nakshatri, B.V.Sc.(DVM), Ph.D.,Marian J. Morrison Professor in Breast Cancer Research, Professor of Surgery and of Biochemistry and Molecular Biology. The funding will support work that will allow for the comparative analysis of normal breast epithelial cells from African American and Caucasian women. This grant will allow Dr. Nakshatri to rapidly move forward some of the exciting preliminary data from his laboratory relevant to triple negative breast cancer. The $30,500.00 grant will be matched by funding from the IU Simon Cancer Center.

**Dr. Milan Radovich** $50,000: In 2014 the CPF also funded the second year of a two-year grant with $50,000 to fund bioinformatics support in sequencing Triple-negative breast cancer for clinical trials. Milan Radovich, PhD, Assistant Professor and Co-Director of the IU Health Precision Genomics Program will be bringing on a very talented PhD student who has extensive experience and expertise in next-generation sequencing.

**Komen Tissue Bank** $1,500: Stipend for interns to support their work for the KTB (cataloging donor data, sending annual letters for updated donor information, inventory and other tasks needed to assist the small full-time staff at the tissue bank).

2013

**Dr. Milan Radovich** $50,000: This grant will provide two years of salary support (a total of $100,000 over the two years) for a bioinformatician in Dr. Radovich’s laboratory. Dr. Radovich: “Because of gracious funding from the Catherine Peachey Foundation, we have been able acquire the latest in next-generation sequencing technology, the Ion Proton Sequencer from Life Technologies. Our primary goal is to use next-generation sequencing technology to help understand three important clinical questions: 1) Can we improve survival of high-risk TNBC patients by incorporating next-generation sequencing into their clinical care; 2) Can we better understand what causes treatment resistance by studying key changes in TNBC cancer genomes; 3) Can we used next-generation sequencing to detect circulating tumor DNA mutations in the blood and use them as biomarkers of treatment response. Because of the massive amount of data that is produced, and the complexity in analyzing it, highly specialized personnel who are trained in computer science and biotechnology (Bioinformaticians) are needed in order to derive druggable mutations and biological insights.”

**Komen Tissue Bank** $1,500: Stipend for interns to support their work for the KTB (cataloging donor data, sending annual letters for updated donor information, inventory and other tasks needed to assist the small full-time staff at the tissue bank).

2012

**Indy’s Super Cure** $25,000: The Indianapolis Super Bowl XLVI was an amazing event for Indianapolis and for the

Susan G. Komen Tissue Bank at the IU Simon Cancer Center. The Host Committee, under the direction of Allison

Melangton, made many lasting contributions to the city and citizens of Indianapolis. The Host Committee created

Super Cure as one of its major contributions to the women of Indiana and the world. They raised over $1,000,000.00 for the Komen Tissue Bank and increased the number of donors to the tissue bank by over 665 women in two days of collections. This unique and monumental community effort increased and highlighted the diversity of women through race, ethnicity and age who are now represented in the only collection of “normal” breast tissue in the world.

**Dr. Milan Radovich**: $75,000: This grant supported the purchase of the Ion Proton Next-Generation Sequencer made by Life Technologies. This new sequencer will greatly advance the capability of the lab to perform research in personalized medicine as well as drug discovery.

**Dr. Bryan Schneider** $75,000: This grant spanned two years (2011/2012) ($150,000 total over the two years) to support a position in his laboratory for a scientist/technician to help rapidly move forward work utilizing the preliminary data from his laboratory relevant to triple negative breast cancer.

**Komen Tissue Bank** $1,500: Stipend for interns to support their work for the KTB (cataloging donor data, sending annual letters for updated donor information, inventory and other tasks needed to assist the small full-time staff at the tissue bank).

2011

**Dr. Bryan Schneider** $75,000: This grant spanned two years (2011/2012) ($150,000 total over the two years) to support a position in his laboratory for a scientist/technician to help rapidly move forward work utilizing the preliminary data from his laboratory relevant to triple negative breast cancer.

**Komen Tissue Bank** $1,500: Stipend for interns to support their work for the KTB (cataloging donor data, sending annual letters for updated donor information, inventory and other tasks needed to assist the small full-time staff at the tissue bank).

2010

**Dr. Hartmut Rohm, Department of Surgery at IU** $50,000: This grant supported work in the lab of Dr. Sue Clare on the identification of small molecules against targets identified in the Triple Negative Breast Cancer Transcriptome Sequencing Project.

**Dr.Thyagarajan- Sahu** $5,000:This grant supported the study of the Anti-Obesity and anti-carcinogentic properties of Ganoderma Luciderm and its component ganodermanontriol GDNT.

**Dr. Milan Radovich, Dr. Bryan Schneider, Dr. Sue Clare** $20,000: This grant supported decoding the landscape of triple-negative breast cancer compared to micro dissected normal breast tissue using next generation RNA sequencing.

**Purdue University International Breast Cancer and Nutrition Project** $10,000: This grant was dispensed over four years for awards to junior scientists for their innovative work in breast cancer research.

**Dr. Sue Clare** $3,500: This was granted for the purchase of a sophisticated camera for the microscope used to take photos of tissue that has been micro-dissected to produce mRNA for the Virtual Tissue Bank.

2009

**Department of Surgery at IU** $14,000: This grant supported the salary for the Data Base Manager for the Komen Tissue Bank.

**Dr. Sue Clare** $70,000: This grant supported research on cores of adipose tissue collected during one of the Komen Tissue Bank collections. The fat-soluble substances stored in the body fat are representative of the cumulative exposure of a woman over her lifetime.

**Susan G. Komen Tissue bank at the IU Simon Cancer Center** $15,000: This grant supported the purchase of materials and services not covered under the $1,000,000.00 from Komen to the tissue bank.

**Dr. Bryan Schneider** $10,000: This grant supported the triple-negative sequencing of the normal tissue being done in his lab by Dr. Radovich.

**Cancer Society of St. Joseph County** $32,000: Supporting the work of the organization in developing educational programs focusing on nutrition and energy conservation, handling the side effects of treatment, money matters and genetics.

2008

**Dr. Anna Maria Storniolo** $5,000: This grant funded the research on legal opinions for issues that had not at that time been adjudicated relating to “nonspecific” bio banking for research and also the creation of a “virtual tissue bank.”

**Dr. Bryan Schneider** $36,000: This grant supported the project and equipment for “association of buccal mucosa vasculary density with genotype and with outcome in the presence of anti-angiogenic therapy.”

2006-2007

**Dr. George Sledge and Dr. Steve Williams, Dr.Sunil Badve**  $95,000: This grant supported the purchase of the Illumina DASL. This piece of equipment will be the cornerstone for doing the necessary laboratory work to begin to mine the data from the “normal tissue” in the biorepository at IU.

**Dr. Anna Maria Storniolo** $50,000: This grant intended to be given over five years to supplement the salary for the Komen Tissue Bank Administrator.

**Dr. Anna Maria Storniolo** $50,000: In matching funds with the Braodripple Key Club to support the work of The Catherine Peachey Breast Cancer Prevention Program at the IU Simon cancer Center.

2005

**Dr. Anna Maria Storniolo** $27,000 of $100,000: Pledged for Mary Ellen’s Tissue Bank: the first biorepository for normal breast tissue that became the precursor to the Susan G. Komen Tissue Bank at the IU Simon Cancer Center.

**Dr. Susan Clare** $25,000: This was a matching grant with the Department of Surgery for the development of a data base that would serve Mary Ellen’s Tissue Bank for capturing the data in a HIPPA compliant data base and create tracking software capable of inventorying the samples for storage and distribution.

**Dr. Phillip Abbosh**: $500. This travel grant awarded via the *Amelia Project* to study at IU in conjunction with his Purdue project.

2005-2001

**Dr. Anna Maria Storniolo** $1,000,000: In 2001, The Catherine Peachey Fund entered into an agreement with Dr.

Steve Williams and the IU Breast Program to create a $1 million-dollar endowment to support the Catherine Peachey Breast Cancer Prevention Program at IU. Dr. Anna Maria Storniolo has been the Director of this program since its inception until the present. This commitment was fully funded by the year 2005, and the program continues today.

2000-2003

**Dr. Steve Williams** $150,000: During the years 2000-2003, the Catherine Peachey Fund dedicated $150,000.00 of funding to the Vera Bradley Chair held by Dr. Linda Malkas. This commitment continued for three years at $50,000 a year.

**Dr. Meei-Huey Jeng** $20,000: Dr. Jeng studies how breast cancer becomes resistant to standard hormonal therapies.

1999

**Dr. George Sledge** $10,000: This grant funded the study of the role of matrix metalloproteinases *(MMP)* as an inducer of new blood vessel formation.

**Dr.Pamela L. Crowell** $20,000: This project will characterize two novel breast cancer genes.

**Dr. Kathy Miller** $14,669: Granted for her project “Breast Cancer Imaging testing Thermoacoustic Computed Tomography: Validation and Physiologic Correlation.”

**Dr. George Sledge** $90,000: This grant given to support funding for Dr. Shinichi Nozaki, the Doctoral Fellow recruited by Dr. George Sledge to work with him in his laboratory. Dr. Sledge had this to say: “Dr. Nozaki brings to the laboratory a wealth of prior experience with molecular biology techniques, as well as techniques related to angiogenesis.”

**Dr.Harikrishna Nakshatri** $19,906: This grant supported unique research that is an effort to understand why some breast cancer cells do not respond to chemotherapy and also determine which factors increase breast cells' sensitivity to treatment.

1998

**Dr.Harikrishna Nakshatri** $20,000: Dr. Nakshatri's lab found that a protein called NF-kB was hyperactive in cancer cells that did not respond to chemotherapy. His group identified a compound that reduced NF-kB and made cancer cells respond to chemotherapy. In addition, this compound along with commonly used chemotherapy drugs reduced spreading of breast cancers to other parts of the body in an animal model. A modified form of the compound is now in clinical trial for leukemia and his group hopes to initiate clinical trial in solid tumors in the near future.

**Dr.Kenneth Cornetta** $20,000: His research project, *Gene Therapy for Breast Cancer Using FLT3-Ligand Expressing Vectors,* investigates the use of gene therapy to boost the body's immunity to breast cancer.

1997

**Dr.Eric Wiebke** $20,000: This study examined of the role of doxycycline in reversing Adriamycin resistance in breast cancer.

**Dr.George Sledge, Jr.** $10,000: This grant supported the study of the inhibition of breast cancer metastasis by Irsogladine, a novel anti-Angiogenic agent.

**Dr.Worta McCaskill-Stevens** $10,000: This grant used for supplemental funding for NIHAU Grant: Bone Loss in Premenopausal Women with Breast Cancer Receiving Adjuvant Chemotherapy or Adjuvant Chemohormonal Therapy.

**Dr.Michael Gordon, Dr. George Sledge, Jr.** $20,000: The Catherine Peachey Fund, Inc. was pleased to participate in procuring instrumentation for an angiogenesis laboratory at the Indiana University Cancer Center.

1996

In 1996, The Catherine Peachey Fund made its first round of grants to researchers at Indiana University. The IU records show that grants totaling $81,568 dollars were awarded to: Heereman, Sledge, Cornetta, Crowell and Nozaki. Unfortunately the records do not record the research projects that these grants supported.