

A Message from the Director



Dear Friends,

As we share this first newsletter, I reflect back on the evening of December 3rd, 2014, the first time a group of investigators with diverse research and clinical interests, research administrators, and patient advocates came together as part of an interdisciplinary colloquium initiative at Duke University School of Medicine. We self evaluated the strengths, weaknesses, challenges and opportunities available at each institution to be able to address the unique features and challenges of inflammatory breast cancer (IBC), a rare but highly aggressive cancer that is frequently misdiagnosed and underreported. The group ratified the critical need for a multidisciplinary and cohesive effort in the State of North Carolina that will also enhance collaborations with our Global partners and national IBC Centers in research,

education, and population health.

Over the past year, the consortium has grown substantially in both scope and visibility and our investigators have been successful in garnering collaborative research grants. We are currently approaching 100 members, with representation from faculty, staff, and trainees across multiple departments and institutes at Duke University, local universities including North Carolina Central University, University of North Carolina-CH, North Carolina State and Shaw University. What has been an amazing journey is our growing partnership with local and national patient advocates from grassroots organizations to legislative offices.

Our goal for next year is to Connect North Carolina for IBC. Toward this we seek your continued and active participation, as there are tremendous opportunities for our growth and progress. We plan to keep you updated on new consortium efforts in clinical and translational research through scientific retreats and educational activities and are unveiling a website at the Duke Cancer Institute (<http://dukecancerinstitute.org/duke-consortium-inflammatory-breast-cancer>). Thank you all for your effort and commitment. I hope to see many of you at the IBC retreat this coming year—save the date, February 28th!

Happy Holidays!

Gayathri Devi, PhD

Associate Professor of Surgery and Pathology, Duke University School of Medicine

Associate Director, Research Education, Department of Surgery

Program Director, Duke Consortium for Inflammatory Breast Cancer

My Story

Alexis Frisinger

In October of 2004, my husband, young son, and me moved to Charlotte. At the time, I was breastfeeding my son and, six months later, he stopped feeding from my right breast. I suddenly noticed that the same breast felt solid and my skin was red. I was a stay-at-home mom and belonged to a la leche group for young mothers. Coincidentally, after explaining my situation to my group leader, she encouraged me to see a doctor because another group member was being treated for IBC.

I was officially diagnosed with IBC in Charlotte, but my sister-in-law was a medical fellow in hematology and,



based on my blood results, felt I needed a second opinion as soon as possible. She did some research and landed on Kim Blackwell at Duke. I was originally told that I was ER- and PR+, but after seeing Dr. Blackwell, that turned out to be backwards. Two days later, I was admitted to a hyperthermia trial at Duke.

I was in treatment for more than a year and did most of my treatment at Duke, but have been in remission ever since. I was extremely lucky.

My experience with cancer changed me for the better—I think I'm more patient and tolerant now. I definitely paid attention to what I put in my body before, but I pay greater attention now.

To patients who are currently in treatment, my advice would be to ask a lot of questions. Find a support group early. I joined IBC Research Listserv the day I was diagnosed.

Don't be afraid to ask for help—it's not a character flaw when you're that sick.

Highlights from our Global Community

The IBC International Consortium has a new website:

<https://ibic.org/>

Morgan Welch IBC Center celebrates 10 years: [Link](#)

Fighting IBC Will Require More Than One Approach by Phyllis Johnson: [Link](#)

Bright Lines and the Cost of Health Care by Brenda Denzler: [Link](#)

News from Consortium Investigators

Publications in 2017

Oladapo HO, Tarpley M, Sauer SJ, Addo KA, Ingram SM, Strepay D, Ehe BK, Chdid L, Trinkler M, Roques JR, Darr DB, Fleming JM, Devi GR, Williams KP. Pharmacological targeting of GLI1 inhibits proliferation, tumor emboli formation and *in vivo* tumor growth of inflammatory breast cancer cells. *Cancer Letters*, 411:136-149, 2017.

Lane WO, Thomas SM, Blitzblau RC, Plichta JK, Rosenberger LH, Fayanju OM, Hyslop T, Hwang ES, Greenup RA. Surgical Resection of the Primary Tumor in Women With De Novo Stage IV Breast Cancer: Contemporary Practice Patterns and Survival Analysis. *Ann Surg*. 2017 Dec 7. doi: 10.1097/SLA.0000000000002621.

Freel SA, Smith PC, Burns EN, Downer JB, Brown AJ, Dewhirst MW. Multidisciplinary Mentoring Programs to Enhance Junior Faculty Research Grant Success. *Acad Med*. 2017 Oct;92(10):1410-1415. doi: 10.1097/ACM.0000000000001620. PMID: 28272113.

Crawford BM, Shammam RL, Fales AM, Brown DA, Hollenbeck ST, Vo-Dinh T, Devi GR. Photothermal ablation of inflammatory breast cancer tumor emboli using plasmonic gold nanostars. *International Journal of Nanomedicine*, 26(12):6259-6272.

Arora J, Sauer SJ, Tarpley M, Vermeulen P, Rypens C, Van Laere S, Williams KP, Devi GR, Dewhirst MW. Inflammatory breast cancer tumor emboli express high levels of anti-apoptotic proteins: Use of a quantitative high content and high-throughput 3D IBC spheroid assay to identify targeting strategies. *Oncotarget*, 8(16):25848-25863, 2017.

Sauer SJ, Tarpley M, Shah I, Save AV, Lyerly HK, Patierno SK, Williams KP, Devi GR. Bisphenol A activates EGFR and ERK promoting proliferation, tumor spheroid formation and resistance to EGFR pathway inhibition in estrogen receptor-negative inflammatory breast cancer cells. *Carcinogenesis*, 38(3):252-260, 2017.

Shammam RL, Fales AM, Crawford BM, Wisdom AJ, Devi GR, Brown DA, Vo-Dinh T, Hollenbeck ST. Human adipose-derived stem cells labeled with plasmonic gold nanostars for cellular tracking and photothermal cancer cell ablation. *Plastic and Reconstructive Surgery*, 139(4):900e-910e, 2017.

Fayanju OM, Hall CS, Bauldry JB, Karhade M, Valad LM, Kuerer HM, DeSnyder SM, Barcnas CH, Lucci A. Body mass index mediates the prognostic significance of circulating tumor cells in inflammatory breast cancer. *American Journal of Surgery*, 214(4):666-671, 2017.

Grant Awards

1P20-CA202925-01A12, NIH/NCI: NCCU-Duke Cancer Disparities Translational Research Partnership. To develop research projects in inflammatory breast cancer and prostate disparities and a cancer research education program through a collaborative relationship between Duke University's NCI-designated Duke Cancer Institute (DCI) and North Carolina Central University (NCCU), a Historically Black University. Patierno (PI); Williams, Barrett, Devi.

Department of Defense Breakthrough Level 2 Award: Characterization of tumor factors that promote lympho-vascular invasion and dissemination in locally advanced breast cancer. Devi (PI); Hwang, Morse, Brown, McCall, Palmer.

Clarence Gardner Award: Duke Surgery Basic-Clinical Research Partnership for A Novel Tissue-Engineered Lymphovascular Invasion Model of Cancer Dissemination. Devi, Levinson, Klitzman.

DASHE Duke Ahead Education: An education program for multi-modal faculty development to promote team science, improve didactic teaching, and incorporate innovative resources for interdisciplinary approach to translational research. Devi and Freel.

IBC-related Abstract Presentations from our Consortium Members

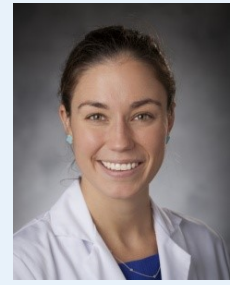
Duke Surgery Research Day, April 26, 2017

AACR Science of Cancer Health Disparities Meeting, Atlanta, GA, Sep 25-28, 2017

SNCURCS undergraduate research meeting, Campbell University, NC

12th Annual Breast Cancer and Environment Research Program (BCERP) Meeting, Monrovia, CA Nov 16-17, 2017

Trainee Spotlight



Whitney Lane, MD

General Surgery Resident

T32 Fellowship IBC Project Awardee

According to Whitney, she fell into medicine. No one in her family has a medical background, but she liked science and enjoys operating, preferring to do something with her hands. Oncology, specifically breast cancer, is Whitney's preferred specialty because she "gets to help patients and help guide them to treatment decisions that patients and their families are most happy with."

Whitney is in the middle of her clinical training to be a surgeon. All general surgery residents at Duke are expected to spend two years conducting research and Whitney is in her first year as a research trainee in Dr. Devi's lab and is co-mentored by Dr. Shelley Hwang. As a researcher, she is primarily interested in care outcomes, which attracted her to IBC. While a lot of breast cancer patients do well, there are patients who receive the same type of treatment that do not—those are the patients that need continued research and will get Whitney's attention.

Two large projects are currently occupying Whitney's research effort, one looking at the molecular mechanics driving inflammatory breast cancer progression and another focused on disparities among patients with locally advanced breast cancer, including IBC.