

DELISHA STEWART

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Education

Ph.D., Biochemistry, University of Alabama at Birmingham, Birmingham, AL, 2001.

B.S., Biochemistry, University of Dayton, Dayton, OH, 1996.

Summary of Expertise and Research Goals

My research focuses on the role of nutrition in breast cancer progression and treatment response. I interrogate mechanisms of inflammation-driven dysfunction, and genetic heterogeneity to determine how the modifiable lifestyle factor of dietary pattern contributes to detrimental and health disparate cancer outcomes. The goal of my research aligned with the mission of the UNC Nutrition Research Institute (NRI), to optimize nutrition for improved human health. I have expertise in malignant disease progression, therapeutic responsiveness and immune microenvironment crosstalk in models of melanoma, leukemia, prostate, bone, endometrial and breast cancers; using high-throughput molecular bioassays, genomics and metabolomics to conduct *in vitro* and *in vivo* studies. In addition to my primary focus in oncology, I have collaborated on extensive inflammatory and metabolic analyses of biospecimens from human subject cohort studies across a myriad of disease phenotypes, as part of NIH-funded Resource Cores (i.e., NRI-NORC-MMC). My research has revealed mechanistic drivers of malignancy, cellular players facilitating cancer-immune system crosstalk that promote aggressiveness and diminish treatment efficacy and identified metabolic and inflammatory biomarkers of treatment response. My current efforts are to determine optimal nutritional strategies to improve treatment response, diminish recurrence and increase overall survival in high-risk breast cancer patient populations (i.e., diagnosed with the triple-negative subtype) in a more precise manner, based on nutrient-responsive mechanistic studies to better understand how to manipulate the immune-tumor microenvironmental landscape. In addition to my research, I performed administrative responsibilities within the NRI, focused on increasing community engagement as relates to research education, by coordinating programming that provides summer internships for high school students in both the local community and across the country (Virtual Internship Program).

Professional Experience

3/2017 to Present. Department of Nutrition, University of North Carolina at Chapel Hill, Chapel Hill, NC.

Assistant Professor, Nutrition Research Institute. Dr. Stewart's program focuses on cancer and how different nutritional states (i.e., deficiencies, overfeeding) impact both inflammation and metabolism and how precision nutrition approaches can be used to improve treatment-associated outcomes in cancer patients. She also studies perturbations in inflammatory mechanisms that result in immune system dysregulation across other disease models (i.e., drug addiction, Type 2 Diabetes, osteoarthritis, psychosocial stress, bacterial infections and obesity in geriatric populations). Primarily studying the heterogeneity of chemotherapeutic responses that result in disparate outcomes in breast cancer, as relates to

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diet and inflammation, she uses *in vitro* and *in vivo* models to inform human subjects' research. Beyond research, she has and continues to actively serve on several Department of Nutrition and Nutrition Research Institute-specific committees (faculty search committee, advancement committee; DEI committees, also serving as co-chair). Dr. Stewart has served as a primary or co-mentor for UNC Department of Nutrition BSPH and graduate students (MPH) and serves as Department of Pathobiology and Translational Sciences (Ph.D. student committee member). She has also mentored interns, undergraduate students and postdoctoral fellows from surrounding NRI community schools, other North Carolina institutions (i.e., Meredith College) and those across the country (i.e., University of Alabama-Birmingham, University of Bridgeport).

2014 to 2017. RTI International, Research Triangle Park, NC.

Research Biologist, NIH ERCMRC. Used expertise in LC-MS and NMR-based metabolomics methods to complement previous molecular biology proficiencies to lead 20 cancer and immunology-focused program collaborative projects and 25 additional projects across a range of research disciplines, within the ERCMRC; evaluating therapeutic responses, distinguishing disease status, and identifying potentially relevant biomarker targets. Responsibilities also included coordinating activities of the annual Pilot and Feasibility program review process, managing the laboratory logistics of the ERCMRC, and assisting with training of interns in workflows.

2013 to 2014. RTI International, Research Triangle Park, NC.

Postdoctoral Scientist, NIH ERCMRC. Trained to become proficient in various metabolomics methods (LC-MS and NMR) and analysis workflows used to characterize diseases and biological dysfunction through biomarker identification.

2010 to 2013. University of North Carolina at Chapel Hill, Chapel Hill, NC.

Postdoctoral Fellow, Departments of Pathology & Laboratory Medicine and Epidemiology. Used microarray and polymerase chain reaction (PCR)-based array technologies and analyses to characterize the phenotypic and genomic expression responses between different breast cancer microenvironments and macrophages. Participated in several aspects of the Normal Breast Study observational trial, from consenting patients and processing samples to conducting pilot studies on epidemiologically based research questions.

2012. North Carolina Central University, Durham, NC.

Guest Lecturer, General Biology (September to October). Prepared and delivered eight lectures covering two chapters on cell structure and function and on membrane structure and function. Assigned in-class work and homework to students. Contributed to exam questions and proctored exams.

2007 to 2009. City of Dayton Municipality, Dayton, OH.

Chemical Analyst, Wastewater Treatment Plant Laboratory. Conducted many analytical assays to monitor plant quality-control checkpoints for the wastewater treatment process. These assays include the biochemical oxygen demand test, fecal coliform assay, ammonia, nitrate and phosphorus monitoring, sludge handling, cyanide and heavy metals analyses. Documented and entered parameters into the Laboratory Information Management System (LIMS) for plant operations and U.S. Environmental Protection Agency-required reporting to ensure that safe effluent is discharged into the receiving waters as mandated by the National Pollutant Discharge Elimination System.

2004 to 2005. University of Alabama, Birmingham, AL.

Postdoctoral Fellow, Department of Pathology. Conducted research on prostate cancer metastasis to bone. Investigated the significance of the Notch signaling cascade during prostate cancer progression to determine whether the Notch protein or its downstream effector genes could serve as new therapeutic targets for treating metastatic prostate cancer.

2002 to 2004. University of Delaware, Newark, DE.

Postdoctoral Fellow, Department of Biological Sciences. Identified and validated microarray-detected differentially expressed genes as potential oncofetal biomarkers in the LNCaP prostate cancer progression

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model. Conducted an in vivo epigenetic stress study on prostate development, evaluating key developmental in utero exposures of the urogenital sinus to estrogen or testosterone and survival-surgery castration on prostate tissues harvested and analyzed by microarray technology. Conducted research on the in vitro efficacy of novel sodium channel blockers in breast cancer cell line models.

1996 to 2001. University of Louisville, Louisville, KY; and University of Alabama, Birmingham, AL. Graduate Research Assistant, Department of Biochemistry and Molecular Genetics. Conducted dissertation research. Designed and tested the in vitro and in vivo efficacy of rationally modified clamp-forming antisense oligonucleotides targeting the importance of *c-myc* oncogene overexpression in melanoma cell lines and a melanoma mouse model.

1996. Rohm and Haas Company, Spring House, PA. Summer Research Intern, Architectural Coatings Division (June to August). Monitored and evaluated the viscosity, flow, and shear of rheology modifiers to determine the best compositions for use in exterior paint coatings. The internship was a component of an award received as part of a research presentation contest at the Annual Conference of the National Organization for the Advancement of Black Chemists and Chemical Engineers.

1995 to 1996. Montgomery County Crime Laboratory, Dayton, OH. Undergraduate Research Intern, Division of Toxicology. Standardized the method of dry ashing digestion used by the Crime Laboratory for detecting arsenic poisoning.

1995 to 1996. University of Dayton, Dayton, OH. Senior Research Fellow, Department of Chemistry. Conducted the thesis project on medicinal chemistry, focusing on the synthesis of novel adenine analog nucleosides to be evaluated for antiviral efficacy.

1995. Montgomery County Coroner's Office, Dayton, OH. Visceration Assistant, Division of Autopsy (May to August). Assisted a Pathologist in conducting autopsies, including specimen collection and final body preparation.

Publications

* Co-First Authorship or Corresponding Authorship; * Student authors

1. Yuan-yuan Li, *Supradeep S. Madduri, Erika T. Rezeli, Charlene Santos, *Herman Freeman, III, *Jing Peng, Susan L. McRitchie, Wimal Pathmasiri, Susan J. Sumner, Stephen D. Hursting and **Delisha A. Stewart***. *Macronutrient-differential dietary pattern impacts on hepatic inflammation and metabolism*. **Accepted May 2024**; *Frontiers in Nutrition*.
2. *Jing Peng, *Supradeep S. Madduri, *Angela Clontz and **Delisha A. Stewart**. 2023. Clinical trial-identified inflammatory biomarkers in breast and pancreatic cancers. 27 April, *Frontiers in Endocrinology-Cancer Endoc* 14:1106520. <https://doi.org/10.3389/fendo.2023.1106520>.
3. Samantha Martin, Michelle I. Cardel, Tiffany Carson, James O. Hill, Takara Stanley, Steven Grinspoon, Felicia Stegar, Loneke Blackman-Carr, Maxine Ashby-Thompson, **Delisha Stewart**, Jamy Ard, The Nutrition Obesity Research Center Taskforce to Advance the Careers of Researchers from Groups Underrepresented in Academia and Fatima Cody Stanford. 2023. Increasing diversity, equity, and inclusion in the fields of nutrition and obesity: A road map to equity in academia. 10 March, *Obesity*. doi: <https://doi.org/10.1002/oby.23704>. {This article is co-published in *The American Journal of Clinical Nutrition* (10.1016/j.ajcnut.2023.02.001).}
4. *Dabin Yeum, Diane Gilbert-Diamond, *Brett Doherty, Modupe Coker, **Delisha Stewart**, David Kirchner, Susan Sumner, Margaret Karagas, Anne Hoen. 2023. Associations of maternal plasma and umbilical cord plasma metabolomics profiles with birth anthropometric measures. 10 January, *Pediatric Research*. doi: <https://doi.org/10.1038/s41390-022-02449-2>.

5. Zahra Mohammadi, Faraz Bishehsari, Sahar Masoudi, Azita Hekmatdoost, **Delisha A. Stewart**, Sareh Eghtesad, Maryam Sharafkhah, Hossein Poustchi and Shahin Merat. 2022. Association between sleeping patterns and mealtime with Gut Microbiome: A Pilot Study. 1 May, *Archives of Iranian Medicine*; 25(5):279-284. doi: 10.34172/aim.2022.46.
6. *Brett T. Doherty, Susan L. McRitchie, Wimal W. Pathmasiri, **Delisha A. Stewart**, David Kirchner, Jiang Gui, Juliette C. Madana, Anne G. Hoen, Susan J. Sumner, Margaret R. Karagas, Megan E. Romano on behalf of program collaborators for Environmental Influences on Child Health Outcomes. 2022. Chemical co-exposures assessed via silicone wristbands and endogenous plasma metabolomics during pregnancy. Mar, *Journal Of Exposure Science and Environmental Epidemiology*; 32(2):259-267. doi: [10.1038/s41370-021-00394-6](https://doi.org/10.1038/s41370-021-00394-6).
7. Richard F. Loeser, Liubov Arbeevea, Kathryn Kelley, Anthony A. Fodor, Shan Sun, Veronica Ulici, Lara Longobardi, Yang Cui, **Delisha A. Stewart**, Susan Sumner, M. Andrea Azcarate-Peril, Balfour Sartor, Ian Carrol, Jordan Renner, Joanne M. Jordan, Amanda E. Nelson. 2021. Association of Increased Intestinal Permeability but not Microbial Dysbiosis with Obesity-related Osteoarthritis. 23 August, *Arthritis and Rheumatology*. doi: [10.1002/art.41955](https://doi.org/10.1002/art.41955).
8. Julie A. Marusich, Elaine A. Gay, **Delisha A. Stewart** and Bruce E. Blough. 2021. Sex differences in inflammatory cytokine levels following synthetic cathinone self-administration. 4 November, *NeuroToxicology*. [https://authors.elsevier.com/sd/article/S0161-813X\(21\)00148-0](https://authors.elsevier.com/sd/article/S0161-813X(21)00148-0).
9. Penny Gordon-Larsen, John E. French, Naima Moustaid-Moussa, Venkata S. Voruganti, Elizabeth J. Mayer-Davis, Christopher A. Bizon, Zhiyong Cheng, **Delisha A. Stewart**, Katie A. Meyer, John W. Easterbrook and Saame Raza Shaikh. 2021. Synergizing mouse and human studies to understand the heterogeneity of obesity. Apr 22, *Advances in Nutrition*, (Review); nmab040. doi: [10.1093/advances/nmab040](https://doi.org/10.1093/advances/nmab040).
10. *Alleigh Wiggs, Justin Chandler, Aynur Aktas, Susan Sumner and **Delisha A. Stewart***. 2021. The Effects of Diet and Exercise on Endogenous Estrogens and Subsequent Breast Cancer Risk in Postmenopausal Women. 20 September, *Frontiers in Endocrinology*, (Review). doi: <https://doi.org/10.3389/fendo.2021.732255>.
11. Ximena Bustamante-Marin, *Meredith Carson, *Emily Devericks, *Jenna Merlino, Stephen Hursting and **Delisha Stewart***. 2021. Mechanistic Targets and Nutritionally-Relevant Intervention Strategies to Break the Obesity-Breast Cancer Link. *Frontiers in Endocrinology—Obesity section*, doi: [10.3389/fendo.2021.632284](https://doi.org/10.3389/fendo.2021.632284).
12. *Sama Rezasoltani, Reza Ghanbari, Mehdi Azizmohammad Looha, Ehsan Nazemalhosseini Mojarad, Abbas Yadegar, **Delisha Stewart***, Hamid Asadzadeh Aghdaei* and Mohammad Reza Zali. 2020. Expression of Main Toll-like Receptors in Patients with Different Types of Colorectal Polyps and their Relationship with Gut Microbiota. *Int. J. Mol. Sci.*, 8968; doi:10.3390/ijms21238968.
13. *Jai Woo Lee, Erika L Moen, Tracy Punshon, Anne G Hoen, **Delisha Stewart**, Hongzhe Li, Margaret R Karagas and Jiang Gui. 2019. An Integrated Gaussian Graphical Model to Evaluate the Impact of Exposures on Metabolic Networks. *Comput Biol Med.*, Nov;114:103417. doi: [10.1016/j.combiomed.2019.103417](https://doi.org/10.1016/j.combiomed.2019.103417).
14. Li, Y-Y., **Stewart, DA.**, Ye, XM., Yin, LH., McRitchie, SL., Pathmasiri, WW., Fennell, TR., Cheung, HY., Sumner, SJ. 2018. A metabolomics approach to investigate kukoamine B - a potent natural product with anti-diabetic properties. *Frontiers in Pharmacology*, 22 January, vol 9, 1-16.
15. Jason Winnike*, **Delisha Stewart***, Wimal Pathmasiri, Susan McRitchie, and Susan Sumner. 2018. Stable isotope resolved metabolomic differences between hormone-responsive and triple-negative breast cancer cell lines. *International Journal of Breast Cancer*, vol. 2018, Article ID 2063540.

16. Xuezheng Sun*, **Delisha A. Stewart***, Rupninder Sandhu, Erin L. Kirk, Wimal W. Pathmasiri, Susan L. McRitchie, Robert Clark, Melissa A. Troester, and Susan J. Sumner. 2018. Correlated metabolomic, genomic, and histologic phenotypes in histologically normal breast tissue. *PLoS ONE*, April, 13(4):e0193792.
17. Audet GN, Dineen SM, **Stewart DA**, Plamper ML, Pathmasiri WW, McRitchie SL, Sumner SJ, Leon LR. 2017. Pre-treatment with indomethacin results in increased heat stroke severity during recovery in a rodent model of heat stroke. *J Appl Physiol*, Jun 8; doi: 10.1152/jappphysiol.00242.2017.
18. Bruce M. McClenathan, **Delisha A. Stewart**, Christina E. Spooner, Wimal W. Pathmasiri, Jason P. Burgess, Susan L. McRitchie, Young S. Choi, Susan C. Sumner. 2017. Metabolites as Biomarkers of Adverse Reactions Following Vaccination: A Pilot Study using Nuclear Magnetic Resonance Metabolomics. *Vaccine*, 35(9):1238-1245.
19. **Delisha Stewart**, Jason Winnike, Susan McRitchie, Wimal Pathmasiri, and Susan Sumner. 2016. Metabolomics analysis of hormone-responsive versus triple-negative breast cancer cell responses to Taxol identify key differences. *Journal of Proteome Research*, Sep 2;15(9):3225-40.
20. *Alexandra E. Livanos, Thomas Greiner, Pajau Vangay, Wimal Pathmasiri, **Delisha Stewart**, Susan McRitchie, Huilin Li, Jennifer Chung, Jiho Sohn, Zhan Gao, Cecily Barber, Sara Kim, Joanne Kim, Sandy Ng, Arlin Rogers, Susan Sumner, Dan Knights, Alexander Alekseyenko, Fredrik Bäckhed and Martin J. Blaser. 2016. Antibiotic-mediated gut microbiome perturbation accelerates development of type 1 diabetes in NOD mice. *Nature Microbiology*, 1, Article 1.
21. Mortensen NP, Mercier KA, McRitchie S, Cavallo T, Pathmasiri W, **Stewart D**, Sumner S. 2016. Microfluidics Meets Metabolomics to Reveal the Impact of *Campylobacter jejuni* Infection on Biochemical Pathways. *Biomedical Microdevices* 18(3):51. doi: 10.1007/s10544-016-0076-9.number:16140; doi:10.1038/nmicrobiol.2016.140.
22. *Milner, J., J. Rebeles, S. Dhungana, **D.A. Stewart**, S.C. Sumner, M.H. Meyers, P. Mancuso, and M.A. Beck. 2015. Obesity increases mortality and modulates the lung metabolome during pandemic H1N1 influenza virus infection in mice. *Journal of Immunology* 194(10):4846–4859.
23. *Pirone, J.R., *M. D’Arcy, **D.A. Stewart**, W.C. Hines, M. Johnson, M.N. Gould, P. Yaswen, J.J. Jerry, S.S. Schneider, and M.A. Troester. 2012. Age-associated gene expression in normal breast tissue mirrors qualitative age-at-incidence patterns for breast cancer. *Cancer Epidemiology, Biomarkers & Prevention* 21(10):1735–1744.
24. Fleming, J.M., T.C. Miller, M. Kidacki, M. E. Ginsburg, C.H. Stuelten, **D.A. Stewart**, M.A. Troester, and B.K. Vonderhaar. 2012. Paracrine interactions between primary human macrophages and human fibroblasts enhance murine mammary gland humanization in vivo. *Breast Cancer Research* 14(3):R97.
25. **Stewart, D.A.**, Y. Yang, L. Makowski, and M.A. Troester. 2012. Basal-like breast cancer cells induce phenotypic and genomic changes in macrophages. *Molecular Cancer Research* 10(6):727–738. (*Selected as the June Issue Highlight.*)
26. Camp, J.T., F. Elloumi, E. Roman-Perez, J. Rein, **D.A. Stewart**, J.C. Harrell, C.M. Perou, and M.A. Troester. 2011. Interactions with fibroblasts are distinct in basal-like and luminal breast cancers. *Molecular Cancer Research* 9(1):3–13.
27. **Stewart, D.A.**, C.R. Cooper, and R.A. Sikes. 2004. Changes in extracellular matrix (ECM) and ECM-associated proteins in the metastatic progression of prostate cancer. *Reproductive Biology and Endocrinology* 2:2.
28. ***Stewart, D.A.**, X. Xu, S.D. Thomas, and D.M. Miller. 2002. Acridine-modified, clamp-forming oligonucleotides synergize with cisplatin to inhibit c-Myc expression and B16-F0 tumor progression. *Nucleic Acids Research* 30(11):2565–2574.

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29. ***Stewart, D.A.**, S.D. Thomas, C.A. Mayfield, and D.M. Miller. 2001. Psoralen-modified, clamp-forming antisense oligonucleotides reduce cellular c-Myc protein expression and B16-F0 proliferation. *Nucleic Acids Research* 29(19):4052–4061.
30. ***Stewart, D.A.** 2001. Ph.D. Dissertation: *The Efficacy of Clamp-Forming Antisense Oligonucleotides on c-Myc Oncogene Expression in a Mouse Melanoma Model*. University of Alabama at Birmingham, Birmingham, AL.
31. ***Stewart, D.**, J. Trauth, J. Windholtz, and K. Church. 1996. Adenosine nucleoside analog synthesis via electrophilic activation of electron rich alkenes. *Synthetic Communications* 26(22):4279–4288.
32. ***Stewart, D.A.** 1996. Senior thesis: *Synthesis of Adenine Analogue Nucleosides via Amino-Selenation*. University of Dayton, Dayton, OH.

Book Chapters

1. **Stewart, D.A.**, S. Dhungana, R.F. Clark, W.W. Pathmasiri, S.L. McRitchie, and S.J. Sumner. 2015. Omics technologies used in systems biology. Pp. 57–84 in *Systems Biology in Toxicology and Environmental Health*. 1st Edition. Edited by R. Fry (Ed.). Waltham, MA: Academic Press.

Manuscripts submitted and under review or under revision

1. Cameron Kurz, Liubov Arbeeveva, M. Andrea Azcarate-Peril, **Delisha A. Stewart**, B. Duncan X Lascelles, Richard F. Loeser and Amanda E. Nelson. *Exploring Associations Between Pro-Inflammatory Cytokines, Obesity Associated Osteoarthritis, and Gut Microbiome Composition Using Machine Learning*. **Submitted August 2024**, *Osteoarthritis And Cartilage Open*.
2. Lynch, David; Petersen, Curtis L.; **Stewart, Delisha**; Justice, Jamie; Batchek, Dakota J.; Sumner, Susan; McRitchie, Susan and Batsis, John. *Changes in Senescence Markers, Physical Function and Anthropometrics after a Weight Loss Intervention in Older Adults with Obesity*. **Submitted, May 2023**, *Journal of Gerontology: Biological Sciences*.

Manuscripts in preparation

1. *Metabolic profiles distinguish breast cancer progression in African American women*. Delisha A. Stewart, Wimal W. Pathmasiri, Susan L. McRitchie, Lance Buckley, Tammey J. Naab, Robert L. DeWitty, Jr, Vikisha T. Fripp, Estelle Cooke-Sampson, Desta A. Beyene, Luisel Ricks-Santi, Robert L. Copeland, Jr, Susan J. Sumner and Yasmine M. Kanaan. In preparation.
2. *Common and Unique Breast and Prostate Cancer Metabolic Mechanisms in African-Americans*. Delisha A. Stewart, Wimal W. Pathmasiri, Susan L. McRitchie, Lance Buckley, Tammey J. Naab, Robert L. DeWitty, Jr, Vikisha T. Fripp, Desta A. Beyene, Olakunle O. Kassim, Yasmine M. Kanaan, Susan J. Sumner and Robert L. Copeland, Jr. In preparation.
3. *Single nucleotide polymorphisms in chemotherapy drug metabolism genes reduces treatment efficacy in triple negative breast cancer cells*. Yuan-yuan Li, Herman L. Freeman, III, Susan L. McRitchie, Wimal W. Pathmasiri, Baba Mass, Saroja Voruganti, Susan J. Sumner and Delisha A. Stewart. In preparation.

Presentations

* UNC/other University Students

1. Delisha A. Stewart. 2024. Invited speaker at the inaugural Atrium Health Levine Cancer Oncology Nutrition Symposium hosted by the South Piedmont Area Health Education Center (AHEC). *Nutrition-dependent approaches to improve treatment response in Breast cancer*. Levine Cancer Institute, Charlotte, NC. March 15, 2024

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2. Delisha A. Stewart. 2023. Director and speaker for the Nutrition Research Institutes' Summer Virtual Internship Program. Introduction of *Nutrition 101*. University of North Carolina at Chapel Hill Nutrition Research Institute; Kannapolis, NC (Zoom). June 20, 2023.
3. **Delisha A. Stewart**. 2023. Invited speaker at Kannapolis City Schools March Motivational Month, *WoderWomen in STEM Careers* series. A. L. Brown High School, February 28, 2023.
4. Yuan-yuan Li, Herman L. Freeman, III, Susan L. McRitchie, Wimal W. Pathmasiri, Susan J. Sumner and **Delisha A. Stewart** (presenter). 2022. *Metabolic and inflammatory differences in breast cancer chemotherapeutic response identify targetable pathways*. 12th American Association for Cancer Research-Japanese Cancer Association joint conference on Breakthroughs in Cancer Research: Translating Knowledge into Practice; Maui, HI. December 13, 2022.
5. David H. Lynch (presenter), John A. Batsis, Curtis L. Petersen, Susan Sumner, **Delisha Stewart**, Susan McRitchie, Jan Busby-Whitehead. 2022. *Changes in Inflammatory Markers after a Dietary and Exercise Intervention in Older Adults with Obesity*. 12th Annual Alliance for Healthy Aging Conference; Mayo Clinic, Rochester, MN. October 10, 2022.
6. **Delisha Stewart**. 2022. Invited speaker for the Nutrition Research Institutes' Summer Virtual Internship Program. Introduction of *Research Methods (Part 1 and Part 2)*. University of North Carolina at Chapel Hill Nutrition Research Institute; Kannapolis, NC (Zoom). June 16, 2022.
7. **Delisha Stewart**. 2022. Invited open forum panel speaker for the Cabarrus County Schools STEMersion at UNC Nutrition Research Institute. March 28, 2022; NRI.
8. **Delisha Stewart**. 2022. Invited international presentation for 10th Edition – Webinar on Breast Cancer, for research on *Metabolic differences in breast cancer chemotherapeutic response identify targetable pathways*. February 16, 2022 (GMT - London Time), Zoom; [Breast Cancer Webinar | GICBC 2022 | Feb 16-17, 2022](#).
9. **Delisha Stewart**. 2021. Panelist for the University of North Carolina-Chapel Hill's Research Week program discussing Undergraduate research experiences at the Nutrition Research Institute; Kannapolis, NC (Zoom; recorded session can be found on YouTube: <https://youtu.be/F3k7c5wmkhA>).
10. **Delisha Stewart**. 2021. Invited speaker for the Nutrition Research Institutes' Summer Virtual Internship Program. *Elements of good mentorship and restarting through the COVID-19 pandemic*. July, University of North Carolina at Chapel Hill; Nutrition Research Institute; Kannapolis, NC (Zoom).
11. Herman L. Freeman, III, Yuan-yuan Li, Susan L. McRitchie, Wimal W. Pathmasiri, Susan J. Sumner, Baba B. Mass, Brea C. Nance, Saroja Voruganti and **Delisha A. Stewart** (presenter). 2021. *Identification of genetic and metabolic impairments to improve chemotherapeutic efficacy*. May, American Association for Cancer Research – Annual Meeting, Virtual II Conference.
12. **Delisha Stewart**. 2021. Invited faculty seminar on *Identifying Drug Metabolism Genetic Impairments for Bypass to Improve Chemotherapeutic Efficacy*, April, University of North Carolina at Chapel Hill, Nutrition Research Institute; Kannapolis, NC (Zoom).
13. **Delisha Stewart**. 2021. Invited panelist for *Diversifying the Gillings Research Workforce: NIH Diversity Supplement Workshop*, March, University of North Carolina at Chapel Hill; Chapel Hill, NC (Zoom).
14. **Delisha Stewart**. 2021. Presentation on collaborative R01 grant application (June submission) to Malnutrition and Inflammation Task Force, March, Levine Cancer Center-Atrium Health, Charlotte, NC (Zoom).
15. **Delisha Stewart**. 2020. Invited talk for Gillings School of Global Public Health, *Lunch with the Dean* seminar series. Chapel Hill, NC. Dec.

16. **Delisha Stewart**. 2020. Invited speaker for Department of Supportive Oncology Grand Rounds, *HCHF vs HP Diet Impacts On Breast Cancer Progression and Chemotherapeutic Treatment Response & Precision Nutrition Collaborative Opportunities*, November, Levine Cancer Institute, Atrium Health, Charlotte, NC.
17. **Delisha Stewart**. 2020. Invited speaker for Department of Nutrition monthly faculty meeting seminar series. *Macronutrient Impacts On Obesity-sensitive Breast Cancer Progression and Chemotherapeutic Treatment Response*, September, University of North Carolina at Chapel Hill; Chapel Hill, NC.
18. Supradeep S. Madduri*, Erika T. Rezeli, Charlene M. Santos, Herman L. Freeman, III, Susan L. McRitchie, David R. Kirchner, Susan J. Sumner, Stephen D. Hursting and **Delisha A. Stewart** (presenter). *High Carbohydrate and Fat Diet Hastens Tumor Growth, Increases Pro-inflammatory Signals and Metabolic Shifts in a Mouse Model of Basal-like Breast Cancer*, June, 2020. American Association for Cancer Research – Annual Meeting, Virtual II Conference.
19. **Stewart DA**, Pathmasiri WW, McRitchie SL, Naab T, DeWitty RL, Fripp VT, Beyene DA, Kassim OO, Kanaan YM, Sumner SJ, Copeland RL. *Common and Unique Breast and Prostate Cancer Metabolic Profiles in African Americans*, September, 2019. American Association for Cancer Research - 12th Conference on The Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved, San Francisco, CA.
20. **Delisha Stewart**. 2019. Invited panelist for session on *Next steps for animal models to further clinic-based medical treatment: Ideal models going in each direction, cage-to-clinic and vice-versa*. Inaugural Interdisciplinary Sciences Symposium, Department of Nutrition, University of North Carolina at Chapel Hill; Chapel Hill, NC.
21. Brett Doherty*, Jiang Gui, **Delisha Stewart**, Juliette Madan, Anne Hoen, Susan Sumner, Margaret Karagas and Megan Romano. August, 2019. *Environmental Pollutants and Plasma Metabolomics in a Pregnancy Cohort*. For oral presentation at the 31st Annual Conference of the International Society Of Environmental Epidemiology, Utrecht, The Netherlands.
22. **Delisha Stewart**. 2019. *Metabolomics Approaches to Cancer Research*. Invited talk at the American Institute for Cancer Research Conference on Diet, Obesity, Physical Activity and Cancer, Chapel Hill, NC.
23. Reza Ghanbari, Wimal Pathmasiri, Susan McRitchie, **Delisha Stewart**, Yuanyuan Li, Hossein Maleki, Arash Etemadi, Christian Abnet, Jonathan Pollock, Reza Malekzadeh, Susan Sumner. 2019. *Metabolomics Analysis of Opiate Abusers from Golestan Cohort Study (GCS)*. Poster presented at Experimental Biology 2019 (American Society for Biochemistry and Molecular Biology), Orlando, FL.
24. **Delish A. Stewart**. 2018. *Race, Ethnicity, and Health Disparities*. Invited talk at NRI “Appetite For Life” community outreach seminar series, Kannapolis, NC.
25. **Delisha A. Stewart**, Wimal W. Pathmasiri, Susan L. McRitchie, Lance Buckley, Tammey J. Naab, Robert L. DeWitty, Jr, Vikisha T. Fripp, Estelle Cooke-Sampson, Desta A. Beyene, Luisel Ricks-Santi, Robert L. Copeland, Jr, Susan J. Sumner and Yasmine M. Kanaan. 2018. *Metabolic profiles distinguish breast cancer progression in African American women (nutritionally-focused)*. Poster presented at the Nutrition Research Institute’s Defining Precision Nutrition Symposium, Kannapolis, NC.
26. Li, Y.Y., **Stewart, D.A.**, Pathmasiri, W., McRitchie, S., Urbina E.M., Mayer-Davis E.J., Dabelea D., and Sumner, S.J. 2018. The impact of obesity on metabolotype of type 1 and type 2 diabetes in youth. Selected for and received award for oral presentation at Metabolomics Society Annual Meeting, Seattle, WA.
27. **Delisha A. Stewart**, Wimal W. Pathmasiri, Susan L. McRitchie, Lance Buckley, Tammey J. Naab, Robert L. DeWitty, Jr, Vikisha T. Fripp, Estelle Cooke-Sampson, Desta A. Beyene, Luisel Ricks-Santi, Robert L. Copeland, Jr, Susan J. Sumner and Yasmine M. Kanaan. 2018. *Metabolic profiles distinguish*

- breast cancer progression in African American women.* Poster presented at the Annual Meeting of the American Association for Cancer Research, Chicago, IL.
28. **Delisha Stewart** and Susan Sumner. 2017. *NIH Eastern Regional Comprehensive Metabolomics Resource Core (ERCMRC): Applications of Metabolomics in Cancer Research.* Poster presented at the North Carolina Research Campus monthly “Chem101”, Kannapolis, NC.
 29. **Delisha Stewart**, Yuan-Yuan Li, Wimal Pathmasiri, Zachery Acuff, Susan McRitchie and Susan Sumner. 2017. *Expansion of STS capability in cytokine array platform development: application in natural products research.* Poster presented at RTI International’s Internal Research & Development Annual Innovation Showcase, Research Triangle Park, NC.
 30. Wimal Pathmasiri, Yuan-Yuan Li, **Delisha Stewart**, Susan McRitchie and Susan Sumner. 2017. *Establishment of a Platform to Evaluate Interactions Between Natural Products and Pharmaceutical Drugs.* Poster presented at RTI International’s Internal Research & Development Annual Innovation Showcase, Research Triangle Park, NC.
 31. Tammy Bowman Cavallo, Ninell Pollas Mortensen, Jocelin Deese-Spruill, **Delisha Stewart**, Susan McRitchie, Zachary Acuff and Susan J. Sumner. 2017. *Flow Cytometry Method Development and Suitability of Cell Sorting in Metabolomics Analysis of Single Cell Populations.* Poster presented at RTI International’s Internal Research & Development Annual Innovation Showcase, Research Triangle Park, NC.
 32. Li Y. Y., **Stewart D. A.**, McRitchie S. L., Acuff Z. J., Pathmasiri W. W., Ye X. M., Cheung H. Y., Sumner, S. J. 2016. *Kukoamine B is a potent antidiabetic dietary natural product: A system pharmacology approach.* Selected as oral presentation at the 51st Annual Southeastern Regional Lipid Conference. Cashiers, NC.
 33. BP Vickery, M Kulis, D Hamilton, **D Stewart**, W Pathmasiri, S McRitchie, J Burgess, S Sumner, AW Burks. 2016. *NMR-Based Metabolomics Analysis Reproducibly Identifies Unique Subject-Specific Profiles That Change during Peanut Oral Immunotherapy.* Poster presented at American Academy of Allergy Asthma & Immunology, Annual Meeting, Los Angeles, CA.
 34. Bruce M. McClenathan, **Delisha A. Stewart**, Christina E. Spooner, Wimal W. Pathmasiri, Jason P. Burgess, Susan L. McRitchie, Y. Sammy Choi, Susan C.J. Sumner. 2016. *Metabotypes of Subjects with Adverse Reactions Following Vaccination: A Pilot Study using NMR Metabolomics and Multivariate Analysis.* Poster presented at the Military Health System Research Symposium, Kissimmee, FL.
 35. **Stewart, D.A.**, J. Winnike, S.L. McRitchie, W.W. Pathmasiri, and S.J. Sumner. 2015. *Triple Negative Breast Cancer Biomarker Identification for Drug Development.* Poster presented at Metabolomics Society Annual Meeting, San Francisco, CA.
 36. Li, J., P. Stewart, K. Fisher, S. Dhungana, **D.A. Stewart**, S.J. Sumner, E. Welsh, S. Eschrich, A. Chen, and E. Haura. 2015. *Proteo-metabolomic Dissection of Small Cell Lung Cancer Using Activity Based Protein Profiling and Metabolomics Profiling.* Presented at the Annual Meeting of the Metabolomics Society, San Francisco, CA.
 37. **Stewart, D.A.**, J. Winnike, S.L. McRitchie, W.W. Pathmasiri, and S.J. Sumner. 2015. *Triple Negative Breast Cancer: Metabolomics and Flux Analysis to Identify Targets for Drug Development.* Poster presented at the Annual Meeting of the American Association for Cancer Research, Philadelphia, PA.
 38. Stewart, P.A., J. Li, K.J. Fisher, S. Dhungana, **D. Stewart**, S. Sumner, E. Gardner, J. Poirier, C.M. Rudin, E.A. Welsh, S. Eschrich, A. Chen, and E.B. Haura. 2015. *Integrating Proteomics and Metabolomics Characterizes Active Pathways and Potential Drug Targets in Small Cell Lung Cancer.* Poster presented at the Annual Meeting of the American Association for Cancer Research, Philadelphia, PA.

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39. **Stewart, D.A.** 2015. *Metabolomics in Cancer Research*. Presented at the Omics in the Characterization, Classification and Treatment of Autoimmune Diseases and Cancer Conference, at NIH, Bethesda, MD.
40. Mortensen, N.P., **D.A. Stewart**, W.W. Pathmasiri, K.A. Mercier, S.L. McRitchie, T. Cavallo, T.R. Fennell, and S.J. Sumner. 2014. *Metabolomics and Darkfield Microscopy of Mammalian Cells from Microfluidic and Transwell Systems*. Poster presented at National Institutes of Health Common Fund Metabolomics Consortium Meeting, Research Triangle Park, NC.
41. **Stewart, D.A.** 2013. *Characterizing Breast Cancer Subtype-Specific Responses to Macrophages*. Poster presented to the American Association for Cancer Research, Washington, DC. April.
42. **Stewart, D.A.** 2011. *Basal-like Breast Cancer Cells Induce Phenotypic and Genomic Changes in Macrophages in vitro*. Poster presented to the Breast Cancer and the Environment Research Program, Cincinnati, OH.
43. **Stewart, D.A.** 2011. *Basal-like Breast Cancer Microenvironments Induce Phenotypic and Genomic Differentiation in THP-1 Cells*. Poster presented at the Department of Pathology and Laboratory Medicine Annual Research Symposium, Chapel Hill, NC.
44. **Stewart, D.A.** 2010. *THP-1 Cells Respond to a Heterotypic Stromal Coculture System by Differentiating into M2-tropic Macrophages*. Poster presented at the Department of Pathology and Laboratory Medicine Annual Research Symposium, Chapel Hill, NC.
45. **Stewart, D.A.** 2004. *Efficacy of Novel Sodium Channel Blockers in Human Breast Cancer Cells*. Poster presented to the American Association for Cancer Research, Orlando, FL.
46. **Stewart, D.A.** 2001. Presented a talk on *Psoralen-modified, clamp-forming antisense oligonucleotides reduce cellular c-Myc protein expression and B16-F0 proliferation*. Presented to the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers, Baltimore, MD.
47. **Stewart, D.A.** 1999. *The Efficacy of Clamp-Forming Antisense Oligonucleotides on c-Myc Oncogene Expression in a Mouse Melanoma Model*. Poster presented to the American Association for Cancer Research, Philadelphia, PA.
48. **Stewart, D.A.** 1999. Presented a talk on the *efficacy of clamp-forming antisense oligonucleotides on c-Myc oncogene expression in a mouse melanoma model*. Presented to the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers, San Diego, CA.
49. **Stewart, D.A.** 1996. *Synthesis of Adenine Analogue Nucleosides via Amino-Selenation*. Presented to the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers, Detroit, MI.

Current Research Support

2P30DK056350-21 Elizabeth Mayer-Davis (Lead PI) 4/2021-3/2026
Funding Agency: NIH/ National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)
Title: UNC Nutrition Obesity Research Center (NORC)
Role: Investigator

Grants submitted, *pending*

R01 Delisha Stewart, Yasmine Kanaan, Aynur Aktas, Robert Copeland (MPIs) Submitted 2/2024
Funding Agency: NIH NCI
Title: Nutrition-dependent Approaches To Improve Triple Negative Breast Cancer Treatment Response
Role: MPI (Multiple Principal Investigator)

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R21 **Delisha Stewart, Yasmine Kanaan (MPIs)** *Submitted 10/2023*

Funding Agency: NIH NIMHD

Title: Validation of metabolic biomarkers for non-invasive early detection and staging of breast cancer in African American women

Role: MPI (Multiple Principal Investigator)

Level 1 Funding **Delisha Stewart (Partnering), Aynur Aktas (Initiating)** *Submitted 08/2023*

Funding Agency: Department of Defense (DOD) Breast Cancer Research Program

Title: Associations between body composition, diet quality, and inflammation influence breast cancer subtype and neoadjuvant treatment response

Role: Partnering Principal Investigator (PPI)

R01 **Victoria Bae-Jump, Keku Tope (MPIs)** *ReSubmitted 06/2023*

Funding Agency: NIH NCI

Title: Impact of Race and the Microbiome on the Progression and Treatment of Endometrial Cancer

Role: co-Investigator

R21 **Delisha Stewart, Aynur Aktas (MPIs)** *Submitted 06/2023*

Funding Agency: NIH NCI

Title: Nutritional Intervention During Neoadjuvant Systemic Therapy to Improve Adherence to Dietary Recommendations and Inflammation in Newly Diagnosed Patients with Breast Cancer

Role: MPI

P01 **Victoria Bae-Jump (Lead PI)** *Submitted 01/2023*

Funding Agency: NIH NCI

Title: Program on Translational Research in Endometrial Cancer Disparities (UNC TREND) (RAMSeS # 23-2867)

Role: Investigator

Completed Support

1R21AG078630-01 **Anthony Zannas and David Rubinow (MPI)** *9/2022-3/2024*

Funding Agency: National Institute on Aging (NIA)

Title: Stress-stimulated immune profiles and cardiometabolic risk during the menopausal transition

Role: Co-Investigator

1U2CES030857-03 **Susan Sumner, Tim Fennell, Xiuxia Du (MPI)** *9/2019-6/2024*

Funding Agency: National Institute of Environmental Health Sciences (NIEHS)

Title: Human Health Exposure Analysis Resource (HHEAR): Untargeted Exposure Analysis Laboratories

Role: Investigator

1R37CA226969-04 **Victoria Bae-Jump (PI)** *3/2018-2/2023*

Funding Agency: National Cancer Institute (NCI)

Title: Obesity-driven Metabolic and Molecular Biomarkers of Metformin Response in Endometrial Cancer

Role: Co-Investigator

1R21CA235029-02 **Abbie E. Smith-Ryan, Victoria Bae-Jump (MPI)** *1/2019-12/2022*

Funding Agency: NCI

(no cost extension due to COVID-19)

Title: Interval Exercise Training As A Therapy For Endometrial Cancer

Role: Co-Investigator

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ID#T2017-015 **Victoria Bae-Jump (PI)** **11/2017–11/2020**
Funding Agency: V Foundation Translational Research Grant
Title: Metabolic and Molecular Biomarkers of Metformin Response in Obesity-driven Endometrial Cancer
Role: Co-Investigator

3R35CA197627-03S1-05S1 **Delisha Stewart (PI)** **4/2018–7/2020**
Funding Agency: NCI
Title: Higher Dietary Carbohydrates Detrimentally Impact Obesity-Associated Breast Cancer
Chemoresistance
FAIN: 3R35CA197627 (Hursting, PI: Breaking the Obesity-Cancer Link: New Targets and Strategies)
Role: PI

Stewart NRI Pilot **Delisha Stewart (PI)** **9/2019-5/2020**
Funding Agency: NRI, Institutional program
Title: Identifying and Bypassing Genetic Impairments to Improve Chemotherapeutic Efficacy
Role: PI

1R21DA039315-01A1 **Julie Marusich (PI)** **9/2017–8/2019**
Funding Agency: National Institute on Drug Abuse (NIDA)
Title: Neurochemical and Inflammatory Dysregulation During Synthetic Cathinone Self-Administration
Role: UNC-CH PI

U2CES026544-01 **Tim Fennell (PI)** **9/2017–8/2019**
Funding Agency: NIEHS
Title: Children's Health Exposure Analysis Resource (CHEAR) Hub
Role: Investigator

1U24DK097193-01 **Susan Sumner (PI)** **9/2017–8/2019**
Funding Agency: NIH Common Fund; administered through the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)
Title: Eastern Regional Comprehensive Metabolomics Resource Core at UNC-CH Nutrition Research Institute (ERCMRC)
Role: Investigator

Brody Brothers Grant **Gregory Kearney (PI)** **4/2017–8/2018**
Funding Agency: Brody School of Medicine, East Carolina University
Title: Environmental Asthma Among Rural, High Risk and Underserved Children in Eastern NC
Role: UNC-CH PI

1U24DK097193-01 **Susan Sumner (PI)** **9/2012–8/2017**
Funding Agency: NIH Common Fund; administered through the National Institute of Diabetes and Digestive and Kidney Diseases
Title: NIH Eastern Regional Comprehensive Metabolomics Resource Core at RTI International (RTI RCMRC, 2012-2017)
Role: Research Biologist (2014 to 2017); Postdoctoral Fellow (2013)

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U01 ES019472

Melissa Troester (PI)

7/2012–1/2013

Funding Agency: NIEHS

Title: Pregnancy, Obesogenic Environments, and Basal-like Breast Cancer

Role: Postdoctoral Fellow

Mentoring

2022-23. University of Bridgeport, Bridgeport, CT.

External committee mentor for Ph.D. candidate completing dissertation in the Division of Health Sciences.

Providing support and guidance for the writing process to complete requirements to earn the Ph.D.; dissertation completed and accepted in May 2023. Kimberly Robinson.

2022-. University of North Carolina at Chapel Hill, Chapel Hill, NC.

Ph.D. committee member service for third year student in the Department of Pathobiology and Translational Sciences. Also providing support and guidance as she prepares for candidacy completing the qualifying written and oral exams on a proposed thesis project to research the role of obesity associated pathways in relation to endometrial cancer pathogenesis. Breanna Jeffcoat.

2022-23. University of North Carolina at Chapel Hill, Chapel Hill, NC.

Master's in Public Health/Registered dietician (MPH/RD) candidate, in the Department of Nutrition.

Mentoring has included systematic preparation of a review article on the comparative inflammatory biomarkers of diagnosis, monitoring and treatment response in breast and pancreatic cancers. Jing Peng. Review article resubmitted March 2023.

2021. University of North Carolina at Chapel Hill, Chapel Hill, NC.

Postdoctoral fellow, in the Department of Physical Medicine & Rehabilitation, School of Medicine. (Primary mentors, Dr. Susan Gaylord and Dr. Keturah Faurot for the Program on Integrative Medicine) Mentoring has included general career development advice and preparation of collaboration grant application (DOD/NIH for 2021-2022) related to integrative and wholistic health approaches for improved quality of life in breast cancer patients. Aisha Chilcoat.

2020-2023. University of Alabama at Birmingham, Birmingham, AL.

Independent mentorship of postdoctoral fellow, starting in Fall 2020. Mentoring has included advice on writing collaboration related to the 2020 UAB NORC Minority Symposium, professional development suggestions and strategy for negotiating first tenure-track faculty appointment. Samantha Martin.

2020-2021. Meredith College and North Carolina State University, Raleigh, NC.

Independent mentorship of undergraduate student seeking to enroll in Master's in Nutrition program, Fall 2021. Mentoring included course selection advice and bi-weekly meetings to work on development of a review article on inflammation and cancer endpoints. Was unable to work in person in the lab during Summer 2021, due to COVID-19 restrictions. Assisted in the successful recruitment of student into the UNC-CH Department of Nutrition's Ph.D. program, Fall 2022. Angela Clontz.

2020. University of North Carolina at Chapel Hill, Nutrition Research Institute, Kannapolis, NC.

NRI Virtual Internship Program - Mentoring Session (August 2020). Group mentoring in the format of a zoom-based open conversation (due to COVID-19 restrictions), with 18 high school students from North Carolina, California and New York about my story in science. The discussion included my journey to

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obtain my Ph.D., what it means to have a Ph.D., how I came to work at the UNC-CH, NRI, and the focus of my research program.

2020-2021. University of North Carolina at Chapel Hill, Nutrition Research Institute, Kannapolis, NC.

PhD graduate student (July 2020- June 2021). Serving as faculty co-mentor (Summer, co-mentor) for incoming Department of Nutrition graduate student, Grace Qian.

2020-2021. University of North Carolina at Chapel Hill, Nutrition Research Institute, Kannapolis, NC.

BSPH undergraduate student (July 2020- December 2021). Serving as faculty co-mentor (Summer, co-mentor) for undergraduate student (rising junior), Alleigh Wiggs. Primarily virtual plan currently, due to COVID-19, started summer of 2020, and will culminate in writing a critical review article during Fall 2020. Plan is to conduct in-lab research during summer 2021. Review article resubmitted June 2021.

PMCID: [PMC8489575](https://pubmed.ncbi.nlm.nih.gov/PMC8489575/) ; DOI: [10.3389/fendo.2021.732255](https://doi.org/10.3389/fendo.2021.732255). Student currently enrolled in UNC-CH medical school, Fall 2022.

2019-2020. University of North Carolina at Chapel Hill, Nutrition Research Institute, Kannapolis, NC.

Gap-year intern (October 2019- June 2020). Faculty mentor providing research experience for recently graduated Campbell University undergraduate student, Herman Freeman; during year he applied for and got accepted to UNC-CH Medical School (Fall 2020 class). Gained experience in metabolomics and inflammatory cytokine profiling workflows, study design management, data analysis and data integration analyses, sterile techniques for cell culture; and course development assistance, manuscript development and grant submissions.

2019-2022. University of North Carolina at Chapel Hill, Nutrition Research Institute, Kannapolis, NC.

BSPH undergraduate student (December 2018- August 2020). Continuing to serve as faculty co-mentor (Summer, co-mentor) for recently graduated undergraduate student (and during senior year), Pradeep Madduri. Volunteered through summer of 2020 for manuscript development. Continued mentorship and support and student is currently enrolled in UNC-CH medical school, Fall 2022.

2018-2019. University of North Carolina at Chapel Hill, Nutrition Research Institute, Kannapolis, NC.

BSPH undergraduate student laboratory mentoring (December 2018- to date). Serving as primary faculty mentor (Summer, co-mentor) for a current junior, Pradeep Madduri, who will be working on my funded project to determine macronutrient roles in obesity-associated breast cancer chemoresistance. Will train student in workflows for metabolomics and inflammatory cytokine profiling; as well as study design management, data analysis and data integration.

2018. University of North Carolina at Chapel Hill, Nutrition Research Institute, Kannapolis, NC.

High School student laboratory mentoring (Jun-Aug 2018). Supervised a high school eleventh grader, Anuj Jayaram, for an 8-week summer internship to learn basic concepts of metabolomics workflows. Worked on an actual study project related to identifying metabolic biomarkers for perturbations in a diet-induced obesity and calorie restriction genetically diverse mouse model using the Collaborative Cross Model.

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Mentorship continues through providing college admissions recommendation letters and working to publish the results in a journal for high school student research.

2017-2019. University of North Carolina at Chapel Hill, Nutrition Research Institute, Kannapolis, NC.

Supports ERCMRC by training/ onboarding staff new to NRI on ERCMRC administrative and project management workflows and safety training compliance. Includes two postdoctoral fellows (Hossein Maleki, Krissy Kay), a NIDA Invest-funded Fellow (Reza Ghanbari), and two research staff members.

2010 to 2012. University of North Carolina at Chapel Hill, Chapel Hill, NC.

Graduate student academic coaching (January to June 2012). Serve as a mentor for a University of North Carolina at Chapel Hill Graduate student. The student was sponsored by the Training Initiatives in Biomedical & Biological Sciences and Academic and Career Excellence Programs funded by the university's Offices of Graduate Education and Postdoctoral Affairs. Interacted with the student weekly to coach her through the steps needed to prepare a successful preliminary proposal for candidacy. Specifically, assisted with reading and critically analyzing data in the literature, and writing exercises as she is an ESL student.

Undergraduate laboratory mentoring (2010 to 2011). Supervised an undergraduate Biology major in all experiments conducted to study the interactions between macrophages and different breast cancer subtype cell lines. This research project resulted in a university award, a presentation of the work at a National Undergraduate Research Conference and contributing authorship on a related manuscript.

2002 to 2004. University of Delaware, Newark, DE.

Managerial laboratory mentoring. During the first postdoctoral fellowship, served as Laboratory Manager and assisted with hiring of personnel and training all new technicians, undergraduates, and graduate students in Good Laboratory Practices and techniques. Also mentored students on specific projects focusing on prostate cancer etiology and with preparing presentations and manuscripts.

1997 to 1999. University of Alabama at Birmingham, Birmingham, AL.

Mentoring of undergraduate and high school students during summer research. As a graduate student, I had the opportunity to mentor undergraduate science majors at the University of Alabama at Birmingham and high school students from local public schools in Birmingham, AL, who wanted research experience. Trained the students in basic laboratory techniques, and they assisted with experiments specific to my Ph.D. dissertation research project.

Teaching and Course Development

2024	Lecturer for NUTR 714 (<i>Nutritional Biochemistry, Health and Metabolism</i>)
2023	Lecturer for NUTR 845 (<i>Nutritional Metabolism</i>)
2023	Lecturer for NUTR 714 (<i>Nutritional Biochemistry, Health and Metabolism</i>); continued to expand DEI-related course content focused on intersections between nutrition and biochemistry, several physical and mental stress SDOH factors, and the impacts on overall detrimental and disparate health outcomes.
2022	Lecturer for NUTR 714 (<i>Nutritional Biochemistry, Health and Metabolism</i>); specifically incorporated more DEI-related content to course lectures focused on how nutrition and biochemistry link to health disparate outcomes in the context of various social determinants of health/SDOH (i.e., Food Quality & Stability: Access and Affordability).
2021	Co-Instructor for NUTR 714 (<i>Nutritional Biochemistry, Health and Metabolism</i>)
2020	Co-Instructor for NUTR 715 (inaugural semester class offered, <i>Nutritional Biochemistry</i>)
2019-2020	Redevelopment of NUTR 400 for graduate students only (<i>NUTR 715</i>)
2019	Lecturer for NUTR 400 (<i>Nutritional Biochemistry</i>)

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- 2018-2019 Grader for NUTR 600 (*Human Metabolism: Macronutrients*)
- 2018 Participated in development of new SPH course *Biology & Public Health*
- 2018 Participated in development of new SPH course *Public Health Systems & Solutions*
- 2018 Lecturer for NUTR 845 (*Nutritional Metabolism*)
- 2017-2018 Guest lecturer for Skype-based learning on NMR metabolomics data processing and analysis, University of Alabama at Birmingham (Barnes)
- 2017 Guest lecturer (*Metabolomics 101*), Duke University (Kwatra)
- 2017 Instructor, NIH Common Fund-sponsored metabolomics workshop at University of Alabama at Birmingham (received scores of 4-5/5 from attendee evaluations)

University and Nutrition Research Institutional Committee Service

- 2022-2023 UNC NRI DEI Committee
- 2021-2023 UNC-CH Department of Nutrition, DEI Committee Co-Chair
- 2022 UNC Institute for the Environment's Environmental Justice Student Graduate Award, Application Reviewer
- 2020-2021 UNC-CH Department of Nutrition Diversity, Equity and Inclusion (DEI) Committee
- 2017-2021 UNC NRI Faculty Search Committee
- 2021 UNC NRI Special Administrative Team Search Committee (Business Officer)
- 2018-2021 UNC-CH Department of Nutrition Advancement Committee
- 2021 UNC-NRI Annual Catalyst Symposium poster session judge
- 2019 UNC-NRI Faculty GROW Committee
- 2019 UNC-NRI Annual Catalyst Symposium poster session judge
- 2018 Chancellor's Science Scholars Program - Diversity in STEM Conference poster judge

National Committee Service

- 2022-2025 The Obesity Society's (TOS) Annual Meeting Program Committee member (*Track 1- Metabolism/Integrative Physiology*);
- Chair for "Nexus of Obesity and Cancer" Session at 2022 meeting, San Diego, CA
- 2022 Scientific Review Committee member for the 15th AACR Conference on *The Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved*

Study Section Referee Service

- 2021 National Institutes of Health-National Cancer Institute (NIH-NCI) Cancer Biomarkers Study Section (CBSS) Early Career Reviewer
- 2021 DOD-CDMRP-BCRP (Department of Defense- Congressionally Directed Medical Research Program-Breast Cancer Research Program) study section reviewer
- 2018 USDA NP 107 Panel 4. Immunity and Animal Models, study section reviewer

Professional Journal Review Service

- 2022-present *Frontiers in Nutrition*, journal reviewer
- 2021-2023 *Journal of Cancer Metastasis and Treatment*, Junior Editorial Board member
- 2020-2023 *Encyclopedia*, journal reviewer
- 2019-2022 *FASAB*, journal reviewer
- 2018-present *Frontiers Genetics (Nutrigenomics)*, journal reviewer
- 2018-2022 *International Journal of Molecular Sciences*, journal reviewer

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Professional Memberships

The American Society for Nutrition (ASN), 2021 to date.

The Obesity Society (TOS), 2020 to date.

American Association for Cancer Research (AACR), 1998 to 2005 and 2012 to date.

Metabolomics Society, 2013 to date.

Metabolomics Association of North America (MANA), 2017 to date.

Breast Cancer and the Environment Research Program, 2011 to 2014.

American Chemical Society (ACS), 1996 to 2005.

National Organization for the Professional Advancement of Black Chemists and Chemical Engineers, (NOBCChE) 1996 to 2005.

Continuing Education

CITI Training, Basic Course completion for Good Clinical Practice (GCP) – Social and Behavioral Research Best Practices for Clinical Research, CITI Program (support.citiprogram.org), UNC-CH, 2023.

Diversity, Equity, and Inclusion in Research (DEIR) Certificate Program, Odum Institute, UNC-CH, 2022-2023.

UNC Center for Faculty Excellence, *TEAM ADVANCE* Mentor Training session on “Aligning Expectations with Graduate Student Mentees,” (virtual), 2021.

UNC Office of Graduate Education’s Faculty Mentor Training series, UNC (virtual), 2021.

Racial Equity Institute (REI): Introduction to Race Equity, UNC (virtual), 2020.

National Cancer Institute (NCI) Center to Reduce Cancer Health Disparities (CRCHD), Continuous Umbrella of Research Experiences (CURE)-funded Professional Development Workshop and Mock Review, NIH Natcher Conference Center, Bethesda, MD, 2019.

Evidence-Based Interventions workshop, sponsored by the North Carolina Translational and Clinical Sciences Institute (NC TraCS), Raleigh, NC, 2012.

Participatory Research Approaches workshop, sponsored by NC TraCS, Raleigh, NC, 2011.

Community Based Participatory Research workshop, sponsored by NC TraCS, Raleigh, NC, 2010.

Writing from the Reader’s Perspective workshop, hosted by Dr. George Gopen, Duke University, Chapel Hill, NC, 2010.

Diversity, Equity and Inclusion (DEI)

Personal Statement on DEI:

During 2020, multiple, tragic and core-shaking atrocities were perpetrated against U.S. citizens and other peoples living in this country that identify as part of a racial/ethnic minority group. These were widely publicized and/or publicly witnessed because of various social media platforms and are still heart-breaking. Sadly, while a seemingly large proportion of people in America and across the globe, “woke up and took notice” and even some action in solidarity against these atrocities, these occurrences are nothing new to so-called ‘people of color’. As a faculty member, being from one of those government-defined “under-represented ethnic groups in academe”, my position is that going forward: **The Academy must take dramatic and substantial steps to improve conditions and outcomes that fall under the metrics of diversity, equity and inclusiveness, as an institution.** Faculty are the foundation and staff are the backbone of academic institutions, but unfortunately the lion share of all DEI efforts, have and continue to be focused on improvements for students. While these efforts are important, the deficits in addressing DEI concerns for faculty and staff, will ultimately result in an overall failure of this work to promote institutional progress. I caution and encourage all those in executive levels of academic administration, and especially at the University of North Carolina (UNC) at Chapel Hill, where I serve, to refocus and recommit to real change for all members of the community, but more aggressively for those

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marginalized and disenfranchised members that without which the institution could not be sustained. Personally, I pledge to continue to contribute to fostering an environment where anyone can thrive, and to treat everyone with decency and respect, irrespective of their level or role within the organization. Finally, I will always strive to point out areas where UNC, at both the Chapel Hill and Nutrition Research Institute campuses, can move beyond being diverse and somewhat inclusive, but toward being truly equitable.

Regarding specific efforts to support a diverse, equitable and inclusive environment during June 2020 through May 2021, I have:

- participated in training and mentorship of scientists from diverse backgrounds from the high school level to the post-doctorate level; even though my philosophy on mentorship does not take the “diversity of background” for the potential mentee into account,
- participated in the Gillings Minority Health Conference for many years, even prior to joining UNC as faculty member, and provided financial support for Department of Nutrition graduate students to attend the Conference,
- served as an invited speaker or panelist for UNC symposia and town hall meetings,
- currently serve on the Department of Nutrition’s DEI Committee (*Diversity subcommittee*)
- participated in several required and optional training, enlightenment and enrichment activities, to fulfill the minimum 8-hour requirement, including:
 1. Racial Equity Institute Seminar: Intro to Race Equity (3 hours)
 2. UNC Gillings Minority Health Conference (8 hours)
 3. University of Alabama at Birmingham, Nutrition Obesity Research Center (NORC) Underrepresented in Academia (URiA) Symposium - Workshops 1-5 (18 hours); *also see item #3 under Publications*
 4. NC System Racial Equity Task Force, Virtual Town Hall - Faculty Session and Student, Faculty, and Staff Session (3 hours)
 5. American Association for Cancer Research, Virtual Briefing: Release of the AACR Cancer Disparities Progress Report 2020 (1.5 hours)
 6. UNC Gillings Inclusive Excellence Zoomtable Conversations: 1-Supporting BIPOC Antiracist Work and Needs & 2-Celebrating BIPOC Joy (3 hours)
 7. UNC Nutrition Research Institute Open Discussion on Race and Racism (panelist) (2.5 hours)
 8. Inaugural Race, Racism and Racial Equity Symposium (panelist) (1 hour)
 9. R3 series event on ARTivism: Using arts-based scholarship to interrogate and dismantle racism (1.5 hours)
 10. UNC Gillings-sponsored NIH Diversity Supplement Workshop (speaker) (1 hour)
 11. UNC Managing Bias training (2 hours)
 12. Undoing Racism: The Role Higher Education Has Played In Institutional Racism and What It Can Do To Create Change; a candid conversation with UNC-CH Chancellor Kevin Guskiewicz and Sherrilyn Ifill, President of the NAACP Legal Defense Fund, moderated by UNC’s Ted Shaw (1.5 hours)
 13. UNC Department of Nutrition DEI Town Hall (1 hour)

Regarding specific efforts to support a diverse, equitable and inclusive environment during June 2021 through March 2022, I have:

- continued to serve on the Department of Nutrition’s DEI Committee (*as Co-Chair*)
- participated in several required and optional training, enlightenment and enrichment activities, to fulfill the minimum 8-hour requirement, including:
 1. UNC Inclusive Excellence Symposium seminar on “Reduce the incidence and impact of microaggressions.” (3.0 hours)

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2. Race, Racism and Racial Equity (R3) Symposium on “The Many Faces of Environmental (In)justice: Scholarship addressing Racism, Infrastructure, and Climate Action” (1.5 hours)
3. UNC Gillings Minority Health Conference (4.0 hours)
4. UNC Gillings School Department of Social Work seminar, “Coping Amidst COVID as BIPOC” (1.0 hour)

Regarding specific efforts to support a diverse, equitable and inclusive environment during June 2022 through March 2023, I have:

- continued to serve on the Department of Nutrition’s DEI Committee (*as Co-Chair*)
- started serving on the Nutrition Research Institute’s DEI Committee
- participated in a DEI optional training certificate program, focused on diversity, equity and inclusion in research (DEIR) sponsored through the ODUM Institute, to fulfill the minimum 8-hour requirement, and have completed the following courses and a total of 16.5 hours of training to achieving the certificate:
 1. Dr. Deborah Stroman - *Race Realities for the Research Enterprise* (1.5 hr)
 2. Dr. Stephanie Baker - *Cultural Competency & Cultural Humility* (2.0 hr)
 3. Dr. Robert Smith - *History of Unethical Research: How to Address Stigma & Distrust* (1.5 hr)
 4. *DEIR Semester Wrap Up & Reflection Session* (1.0 hr)
 5. *Inclusive Recruitment Methods* (2.0 hr)
 6. *Equity Considerations for Scholars Taking a Critical Approach to Research* (1.0 hr)
 7. *A Model of Equity: Greensboro Health Disparities Collaborative* (2.0 hr)
 8. Keon Gilbert - *Best Practices for Community-based Participatory Research* (2.0 hr)
 9. Allison De Marco - *Seats at the Table: A Framework for Racially Equitable and Inclusive Research Methods* (2.0 hr)
 10. Robert Walker - *Equity Matter for Engagement with the NIH* (1.5 hr)

Honors, Awards and Spotlights

UNC-CH School of Public Health, Minority Student Caucus’ “50 for 50” Showcase nominating outstanding Gillings affiliates of color who have made significant contributions to public health, 2022.

NRI Annual Employee Excellence Award *for the Core Value of Collaboration*, 2022.

Nutrition Obesity Research Center at Harvard (NORCH), *Diversity Scholars Featured Investigator*, 2021.

Inductee in Diversity Scholars Program at the Nutrition Obesity Research Center at Harvard, 2021.

Faculty Focus (2021) [Embracing Life’s Detours: Faculty Focus with Delisha Stewart, PhD | UNC NRI](#)

RTI Annual Awards, 2013, 2014 and 2016.

Minority Scholar in Cancer Research Award, American Association for Cancer Research, 2013.

Environmental Pathology Training Grant Postdoctoral Fellowship, University of North Carolina at Chapel Hill, 2010 to 2011.

True Grit Award, City of Dayton Wastewater Treatment Plant, 2009.

United Negro College Fund–Merck Postdoctoral Science Research Fellowship Award, 2003 to 2004.

NIH Minority Supplement Postdoctoral Fellowship Award (declined acceptance), 2003 to 2004.

Golden Key National Honor Society, 1996 to 2004.

Departmental “In the Spotlight” Recognition, University of Delaware, 2004.

Comprehensive Minority Faculty Student Development Fellowship, University of Alabama at Birmingham, 1996 to 2001.

Presidential Scholars Achievement Award, University of Alabama at Birmingham, 2000.

W.S. McIntosh Memorial Scholarship and City of Dayton Internship, 1992 to 1996.

DELISHA STEWART

Undergraduate Scholastic Research Award, National Organization for the Professional Advancement of Black Chemists and Chemical Engineers and the Rohm & Haas Company 1996.

America–Israel Friendship League Youth Ambassador, Ohio Delegation, 1991.