BIOGRAPHICAL SKETCH

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NAME: Qin, Bo

eRA COMMONS USER NAME (credential, e.g., agency login): BONNIEQ

POSITION TITLE: Assistant Professor of Medicine

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
Cornell University	Exchange	12/2008	Biological Sciences
Hong Kong Polytechnic University (HKPU)	BS	08/2010	Applied Biology with Biotechnology
University of North Carolina at Chapel Hill (UNC) Gillings School of Global Public Health	PhD	08/2014	Nutrition Epidemiology
Rutgers Cancer Institute of New Jersey	Postdoctoral Associate	02/2019	Cancer Prevention and Control

A. Personal Statement

I am an epidemiologist with training and research in multilevel modifiable risk factors that influence breast and ovarian cancers and cancer health disparities. I received formal training in nutrition epidemiology at the UNC School of Public Health with applied research experience in examining the effects of modifiable dietary factors including dietary patterns on chronic disease outcomes related to cardiovascular health. I have developed expertise in utilizing advanced analytic methods to mitigate the methodological limitations in observational epidemiological studies. During my postdoctoral training, I expanded my training and research agenda to investigate modifiable lifestyle factors of cancer risk with a focus on ovarian and breast cancers. I have led or contributed to studies examining the impact of dietary patterns, obesity, and other modifiable lifestyle factors on ovarian cancer risk among racial/ethnic minority populations. I have also been engaged with the Women's Circle of Health Follow-Up Study (WCHFS), a population-based longitudinal study of Black breast cancer survivors in New Jersey. I have been actively involved in its implementation, including hiring and training study personnel, guiding data collection (especially, diet and other lifestyle data), and data management and analyses. I was awarded the NIH Pathway to Independence Award (K99/R00 MD013300) in 2018 to develop additional expertise in multilevel and geospatial methods, social determinants of cancer health disparities with a focus on breast cancer survivorship, as well as cancer metabolism. I became a tenure-track assistant professor in 2020 in the Section of Cancer Epidemiology and Health Outcomes at Rutgers Cancer Institute of New Jersey. To date, I have more than 50 publications in peer-reviewed journals, and received several honors including, Cancer Disparities Special Interest Poster Award from the American Society of Preventive Oncology, Scholar in Training Award from American Association for Cancer Research, and John A. Milner Poster Prize from American Institute for Cancer Research. Based on my expertise and preliminary data that I obtained on multilevel determinants of breast cancer outcomes among Black women, the current application proposes to enrich the WCHFS with area-level measures on social determinants of health and to identify upstream determinants that may affect lifestyle patterns, patient-reported outcomes, and mortality after breast cancer diagnosis among Black women, and the downstream inflammatory markers mediating these associations. There is no scientific overlap between the current proposal and any funded grants. This is a cost-efficient proposal with critical research questions to be answered through the integration of multiple data sources.

Ongoing projects that I would like to highlight include:
New Jersey Commission on Cancer Research Post-Doctoral Fellowship Grant COCR23PDF006

Sánchez-Díaz (PI)
07/01/2022-06/30/2024
Neighborhood Archetypes, Adiposity, and Quality of Life in African American and Hispanic Breast Cancer Survivors: The Impact of the COVID-19 Pandemic

NIH K99/R00 MD013300
Qin (PI)
08/14/2018-05/31/2023
A Multilevel Approach to Cardiovascular Health in African American Breast Cancer Survivors: from Neighborhoods to Metabolomics

Relevant citations to this application that I would like to highlight:

a. **Qin B**, Kim K, Goldman N, Rundle AG, Chanumolu D, Zeinomar N, Xu B, Pawlish KS, Ambrosone CB, Demissie K, Hong CC, Lovasi GS, Bandera EV. Multilevel factors for adiposity change in a population-based prospective study of Black breast cancer survivors. *Journal of Clinical Oncology*. 2022 Jul 10;40(20):2213-2223. PMID: 35333586. PMCID: PMC9273374.
b. Bandera EV, **Qin B**, Lin Y, Zeinomar N, Xu B, Chanumolu D, Llanos A, Omene CO, Pawlish KS, Ambrosone CB, Demissie K, Hong CC. Association of body mass index, central obesity, and body composition with mortality among Black breast cancer survivors. *JAMA Oncology*. 2021 Jun 4;7(8):1-10. PMID: 34086040. PMCID: PMC8377573.
c. **Qin B**, Babel RA, Plascak JJ, Lin Y, Stroup AM, Goldman N, Ambrosone CB, Demissie K, Hong CC, Bandera EV, Llanos AAM. Neighborhood social environmental factors and breast cancer subtypes among Black women. *Cancer Epidemiology, Biomarkers & Prevention*. 2021 Feb;30(2):344-350. PMID: 33234556. PMCID: PMC7867587.
d. **Qin B**, Xu B, Ji N, Yao S, Pawlish K, Llanos AAM, Lin Y, Demissie K, Ambrosone CB, Hong CC, Bandera EV. Intake of vitamin D and calcium, sun exposure, and risk of breast cancer subtypes among black women. *The American Journal of Clinical Nutrition*. 2020 Feb 1;111(2):396-405. PMID: 31826233. PMCID: PMC6997081.

B. Positions, Scientific Appointments, and Honors

Positions and Scientific Appointments

2020-	Assistant Professor of Medicine, Division of Medical Oncology and Section of Cancer Epidemiology and Health Outcomes, Rutgers Cancer Institute of New Jersey, Robert Wood Johnson Medical School, New Brunswick, NJ
2019-2020	Instructor of Medicine, Division of Medical Oncology and Section of Cancer Epidemiology and Health Outcomes, Rutgers Cancer Institute of New Jersey, Robert Wood Johnson Medical School, New Brunswick, NJ
2017-2019	Research Associate, Division of Population Science, Rutgers Cancer Institute of New Jersey, New Brunswick, NJ
2014-2017	Postdoctoral Appointee, Division of Population Science, Rutgers Cancer Institute of New Jersey, New Brunswick, NJ

Memberships in Professional Societies

2020-	Metabolomics Society
2017-	American Society of Preventive Oncology (currently serving on Leadership Council of the ASPO Cancer Health Disparities Special Interest Group)
2015-	American Association for Cancer Research
2014-	American Heart Association
2012-	American Society for Nutrition

Honors

2020	American Society of Preventive Oncology Cancer Disparities Special Interest Group Poster Award
2018-	NIH K99/R00 Pathway to Independence Award
2017	Cancer Disparities Research Network Early Career Cancer Health Disparities Travel Award

2016-2017	Rutgers Biomedical and Health Sciences Postdoctoral Supplement
2016-2017	New Jersey Commission on Cancer Research Postdoctoral Fellowship
2016	One of 3 winners of the American Institute for Cancer Research John A. Milner Poster Prize
2016	Rutgers Biomedical and Health Sciences Research Travel Award
2015	American Association for Cancer Research Scholar-in-Training Award
2015	One of 4 Finalists of the American Heart Association Jeremiah and Rose Stamler Research Award for New Investigators
2013	UNC Gordon H. DeFriese Career Development in Aging Research Award
2010-2014	Sanofi/UNC Global Nutrition Fellowship

C. Contributions to Science

1. **Impact of lifestyle factors on breast cancer risk and survivorship.** My work has contributed to our understanding of the modifiable lifestyle factors for breast cancer among minority women. Recognizing that it remains unknown if anthropometric values are reported by cancer survivors accurately, I led a study aimed to fill this major literature gap by evaluating the validity of self-reported weight, height and BMI among African American/Black breast cancer survivors, who are known to have a high prevalence of obesity. I also led a project based on the Women's Circle of Health Follow-Up Study (WCHFS; R01 CA185623) to fill a gap in the literature about the impact of vitamin D on breast cancer subtypes among African American/Black women, who are more likely to develop aggressive breast cancer. Our recent work also increases our understanding of the survivorship issues, including sleep disturbance and quality of life, among African American/Black breast cancer survivors. Over the past few years, I have been working closely with the WCHFS team, including training study interviewers, supervising data collection and data management, and have been leading analyses of dietary assessment and lifestyle factors that are ready for the lifestyle pattern analyses in the proposed study.
    a. **Qin B**, Xu B, Ji N, Yao S, Pawlish K, Llanos AAM, Lin Y, Demissie K, Ambrosone CB, Hong CC, Bandera EV. Intake of vitamin D and calcium, sun exposure, and risk of breast cancer subtypes among black women. *The American Journal of Clinical Nutrition*. 2020 Feb 1;111(2):396-405. PMID: 31826233. PMCID: PMC6997081.
    b. Bandera EV, **Qin B**, Yong L, Zeinomar N, Xu B, Chanumolu D, Llanos AAM, Omene C, Pawlish KS, Ambrosone CB, Demissie K, Hong CC. Association of body mass index, central obesity, and body composition with mortality among Black breast cancer survivors. *JAMA Oncology*. 2021 Jun 4;7(8):1-10. PMID: 34086040. PMCID: PMC8377573.
    c. **Qin B**, Llanos AAM, Lin Y, Szamreta EA, Plascak JJ, Oh H, Pawlish K, Ambrosone CB, Demissie K, Hong CC, Bandera EV. Validity of self-reported weight, height and body mass index among African American breast cancer survivors. *Journal of Cancer Survivorship*. 2018 Aug;12(4):460-468. PMID: 29536415. PMCID: PMC6054548
    d. Gonzalez BD, Eisel SL, **Qin B**, Llanos AAM, Savard J, Hoogland AI, Jim H, Lin Y, Demissie K, Hong CC, Bandera EV. Prevalence, risk factors, and trajectories of sleep disturbance in a cohort of African-American breast cancer survivors. *Support Care Cancer*. 2021 May;29(5):2761-2770. PMID: 32995999. PMCID: PMC7981240.

2. **Multilevel factors for breast cancer among African American/Black women.** To better understand the multilevel determinants on undesirable breast cancer outcomes among African American/Black women, an understudied and underserved population, I led an NIH-funded study (K99MD013300) to append selected neighborhood measures to the WCHFS and I am leading the R00 stage for metabolomic analysis. Findings from the study indicate that places people live may influence breast tumor biology, particularly among women with lower levels of education. Furthermore, we found that both individual and neighborhood factors were associated with adiposity change among African American/Black breast cancer survivors, implying that residential environment features can provide clinically valuable information to identify breast cancer survivors at risk for undesirable weight change.
    a. **Qin B**, Kim K, Goldman N, Rundle AG, Chanumolu D, Zeinomar N, Xu B, Pawlish KS, Ambrosone CB, Demissie K, Hong CC, Lovasi GS, Bandera EV. Multilevel factors for adiposity change in a population-based prospective study of Black breast cancer survivors. *Journal of Clinical Oncology*. 2022 Jul 10;40(20):2213-2223. PMID: 35333586. PMCID: PMC9273374.
    b. **Qin B**, Babel RA, Plascak JJ, Lin Y, Stroup AM, Goldman N, Ambrosone CB, Demissie K, Hong CC, Bandera EV, Llanos AAM. Neighborhood social environmental factors and breast cancer

subtypes among Black women. *Cancer Epidemiology, Biomarkers & Prevention*. 2021 Feb;30(2):344-350. PMID: 33234556. PMCID: PMC7867587.

c. Plascak JJ, Llanos AAM, **Qin B**, Chavali L, Lin Y, Pawlish KS, Goldman N, Hong CC, Demissie K, Bandera EV. Visual cues of the built environment and perceived stress among a cohort of black breast cancer survivors. *Health Place*. 2021 Jan;67:102498. PMID: 33383367. PMCID: PMC8243540.

d. Xing CY, Doose M, **Qin B**, Lin Y, Carson TL, Plascak JJ, Demissie K, Hong CC, Bandera EV, Llanos AAM. Pre-diagnostic allostatic load and health-related quality of life in a cohort of Black breast cancer survivors. *Breast Cancer Res Treat*. 2020;184(3):901-914. PMID: 32914357. PMCID: PMC7657984.

3. **Role of modifiable lifestyle factors and obesity in ovarian cancer risk among African American/Black women.** My research has also focused on understanding how modifiable lifestyle factors and obesity contribute to ovarian cancer risk. I have been involved with a team of researchers of the African American Cancer Epidemiology Study (AACES), which represents one of the largest studies assessing risk factors for ovarian cancer in African American/Black women. I have led studies to systematically test the hypothesis between overall dietary patterns and underlying dietary components with ovarian cancer risk in African American/Black women. This line of inquiry may open up new strategies for preventing ovarian cancer and could contribute to the understanding of ovarian cancer risk factors. Our work has also contributed to the understanding of the role of obesity, physical activity, smoking, and reproductive factors in ovarian cancer risk.

   a. **Qin B**, Moorman PG, Alberg AJ, Barnholtz-Sloan JS, Bondy M, Cote ML, Funkhouser E, Peters ES, Schwartz AG, Terry P, Schildkraut JM, and Bandera EV. Dairy, calcium, vitamin D and ovarian cancer risk in African-American women. *British Journal of Cancer*. 2016 Oct 25;115(9):1122-1130. PMID: 27632371. PMCID: PMC5117784.

   b. **Qin B**, Moorman PG, Kelemen LE, Alberg AJ, Barnholtz-Sloan JS, Bondy M, Cote ML, Funkhouser E, Peters ES, Schwartz AG, Terry P, Schildkraut JM, and Bandera EV. Dietary quality and ovarian cancer risk in African-American women. *American Journal of Epidemiology*. 2017 Jun 15;185(12):1281-1289. PMID: 28535290. PMCID: PMC5860470.

   c. Peres LC, Bandera EV, **Qin B**, Guertin KA, Shivappa N, Hebert JR, Abbott SE, Alberg AJ, Barnholtz-Sloan J, Bondy M, Cote ML, Funkhouser E, Moorman PG, Peters ES, Schwartz AG, Terry PD, Camacho F, Wang F, Schildkraut JM. Dietary inflammatory index and risk of epithelial ovarian cancer in African American Women. *International Journal of Cancer*. 2017 Feb 1;140(3):535-543. PMID: 27727481. PMCID: PMC5159198.

   d. Babic A, Sasamoto N, Rosner BA, Tworoger SS, Jordan SJ, Risch HA, Harris HR, Rossing MA, Doherty JA, Fortner RT, Chang-Claude J, Goodman MT, Thompson PJ, Moysich KB, Ness RB, Kjaer SK, Jensen A, Schildkraut JM, Titus LJ, Cramer DW, Bandera EV, **Qin B**, Sieh W, McGuire V, Sutphen R, Pearce CL, Wu AH, Pike M, Webb PM, Modugno F, Terry KL. Association between breastfeeding and ovarian cancer risk. *JAMA Oncology*. 2020 Jun 1;6(6):e200421. PMID: 32239218. PMCID: PMC7118668.

4. **Diet, vascular risk factors, and cognitive function.** I led several projects based on prospective cohort studies in both US and non-US populations to determine the role of diet and vascular risk factors in cognitive trajectories. In one study, which represents the first to prospectively examine the association between dietary patterns and cognitive decline in non-Western populations, I found that adherence to an adapted Mediterranean dietary pattern, and a factor-analysis derived dietary pattern characterized by similar foods, were associated with a slower cognitive decline among community-dwelling adults. Together, these studies have contributed to our understanding of the impact of modifiable lifestyle factors on brain health. In addition, my interest in diet and obesity has led to several publications, including a review article that summarized and assessed recent evidence evaluating the association between ultra-processed food intake and obesity.

   a. **Qin B**, Xun P, Jacobs DR Jr, Zhu N, Daviglus ML, Loria CM, Reis JP, Steffen LM, Van Horn L, Liu K, Sidney S, and He K. Intake of niacin, folate, vitamin B_6 and vitamin B_{12} through young adulthood and cognitive function in midlife: the CARDIA study. *The American Journal of Clinical Nutrition*. 2017 Oct;106(4):1032-1040. PMID: 28768650. PMCID: PMC5611785.

   b. **Qin B**, Viera AJ, Muntner P, Plassman BL, Edwards LJ, Adair LS, Popkin BM, and Mendez MA.

Visit-to-visit variability in blood pressure is related to late-life cognitive decline. *Hypertension*. 2016 Jul;68(1):106-13. PMID: 27217401. PMCID: PMC4900904. *Invited Clinical Implications: *Hypertension*. 2016;68:1

c. **Qin B**, Adair LS, Plassman BL, Edwards LJ, Batis C, Popkin BM, and Mendez MA. Dietary patterns and cognitive decline among Chinese older adults. *Epidemiology*. 2015 Sep;26(5):758-68. PMID: 26133024. PMCID: PMC5928777.
d. Poti J, Braga BC, **Qin B**. Ultra-processed food intake and obesity: what really matters for health-processing or nutrient content? *Current Obesity Reports*. 2017 Dec;6(4):420-431. PMID: 29071481. PMCID: PMC5787353.

Complete List of Published Work in MyBibliography:
https://www.ncbi.nlm.nih.gov/sites/myncbi/bo.qin.1/bibliography/50767371/public/?sort=date&direction=ascending