

Biography. Dr. Yasmine Kanaan is an Associate Professor and Interim Chair of Microbiology Department at the Howard University College of Medicine (HUCM) and Howard University Cancer Center in Washington DC, USA. She currently teaches Microbiology, Immunology and Molecular Biology to Medical, Dental, Nurses, and Graduate students. She has trained twelve doctoral students and served on various other doctoral candidate committees. She has over 127 publications and abstracts in breast and prostate cancer research. Due to her academic accomplishments, she has been invited as a speaker in several national and international venues. She served as a peer-reviewed for several scientific journals. Also, she served on many committees at the Microbiology Department, HUCM, and Howard University. She has an extensive collaborative research effort in directions that delineate molecular differences in breast cancers amongst the two ethnic groups (i.e., African Americans and Caucasians). The overall aim of her research is to identify specific biomarkers most prominent in these ethnic groups. This would lead to better understanding of breast cancer progression and aid in the development of a more tailored therapeutic approach leading to better management of breast cancer in African American women.

Expertise. Dr. Kanaan's Lab is focused on 1) conducting research to refine the diagnostic criteria for the basal-like phenotype, particularly as related to cancers in African American women, while simultaneously identifying molecular features that can be used as markers and clues for further studies into the pathogenesis of these cancers and 2) the development of novel approaches for prevention and treatment of breast cancer. Together, these exploratory analyses will provide clues regarding specific chromosomal regions, and genes within those regions, which are important for this phenotype of breast cancer; 3) determine associations between metabolic syndrome and molecular profiles (particularly related to fat metabolism) in breast cancers of African American women; and 4) using breast cancer cell lines with gene expression patterns parallel to those of major categories of basal-like breast cancer, to evaluate critical endogenous lipid metabolic pathways and endogenous growth requirements.

Recently, Dr. Kanaan initiated research to investigate the interactions between breast cancer, microbiome composition, metabolic regulation, nutrition, and the extent to which nutrient-microbe crosstalk can modulate the breast tissue and breast cancer microenvironments in African American and Caucasian women. The outcome of this study will provide distinctive breast-associated microbiomes that may modulate therapeutic response and serve as potential biomarkers for diagnosing and staging of breast cancer and informing treatment strategies.