

Emory Nursing's Dr. Jinbing Bai Awarded Prestigious American Cancer Society-Winship Collaborative Pilot Grant for Groundbreaking Breast Cancer Research

Atlanta, GA – September 4, 2024 - Emory University's Nell Hodgson Woodruff School of Nursing is proud to announce that Assistant Professor **Jinbing Bai, RN, MSN, PhD, FAAN**, has been awarded the American Cancer Society-Winship Collaborative Pilot Grant Program Award for his innovative research titled, "Multi-level Social Determinants of Health, Tumor and Gut Microbiome, and Psychoneurological Symptom Cluster among Breast Cancer Survivors: A Case-Control Study." This groundbreaking project is poised to shed light on the intricate relationships between lifestyle factors, social determinants, the gut microbiome, and psychoneurological symptoms among breast cancer survivors.

Breast cancer remains the most diagnosed cancer among women in the United States. While advances in multimodal treatments have improved survival rates, survivors often experience a persistent cluster of psychoneurological symptoms (PNS) such as pain, fatigue, anxiety, depression, and sleep disturbances. These symptoms significantly affect the long-term quality of life for survivors and pose social and economic burdens.

In his newly funded research, Dr. Bai will explore the role of the gut microbiome and tumor-associated microbiota (oncobiota) in shaping the development of these psychoneurological symptoms. His study will uncover the underlying biological mechanisms linking gut microbiota disruptions and tumor microbiota with the PNS cluster, and how lifestyle factors (e.g., diet, physical activity) and social determinants (e.g., socioeconomic status, environment) further influence these relationships.

The project is a collaborative effort across multiple disciplines, with a stellar team that includes: Caroline Um, PhD, MPH, RD (Principal Scientist, Epidemiology Research, American Cancer Society), who leads the microbiome component of the American Cancer Society's Cancer Prevention Studies; Jolinta Lin, MD (Associate Professor, Emory University Winship Cancer Institute), an expert in breast cancer treatment and tumor microbiota; Snehalata V. Huzurbazar, PhD (Professor and Statistician, Emory University School of Nursing), who specializes in biostatistics and microbiome data analysis; and Madelyn Houser, PhD (Assistant Professor, Emory University School of Nursing).

Dr. Bai's study will utilize data from the American Cancer Society's Cancer Prevention Study (CPS)-3: The Microbiome Study Cohort, which includes over 3,000 healthy participants and cancer survivors, providing a robust foundation for the research.

This research is anticipated to make significant strides in understanding the role of the oncobiota and gut microbiome in long-term cancer survivorship and symptom management. Identifying microbiota linked with PNS could lead to the development of biomarkers for early screening of treatment-related symptoms, and potentially inform future interventions targeting the gut microbiome to alleviate these burdens and reduce health disparity.

This research will provide critical biological foundations to address disparities in cancer care outcomes and improve the quality of life for breast cancer survivors, contributing to a more comprehensive understanding of the complex interactions between cancer treatment, microbiome health, and survivor well-being.

Dr. Jinbing Bai is an Assistant Professor from Emory School of Nursing and a member of Winship Cancer Institute, Emory University. His expertise includes treatment toxicities, patient-reported outcomes, and biological mechanisms of symptoms in pediatric oncology. He is one of the national Champions for the environmental health in pediatric cancer under the first cohort of Pediatric Oncology Clinician Education Supplement (POCES) training. Dr. Bai has intensive research experience in understanding the role of multilevel social determinants of health in children's care outcomes, including neighborhood socioeconomic deprivation, ambient air quality, and green spaces. As a pediatric cancer researcher, Dr. Bai is very passionate to discover new knowledge and disseminate new evidence to promote children's health.

For more information on Dr. Jinbing Bai, visit his [faculty profile](#). To learn more about the Research Project grant, visit the Winship American Cancer Society [website](#).

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