



Join the Department of Biostatistics and Epidemiology for a Special Guest Lecture on Tuesday, January 23rd at 2:00pm via Zoom

"Multi-omics data integration for improving etiology understanding and risk prediction of prostate and pancreatic cancer"



Lang Wu, Ph.D. Assistant Professor, University of Hawai'i Cancer Center University of Hawai'i at Mānoa In this talk I will include several examples of studies we have been conducting by integrating multi-omics data to identify novel genes and biomarkers for human cancers. These include transcriptome-wide association studies, which aim to integrate genome and transcriptome data to identify disease related susceptibility genes; methylome-wide association studies, which aim to integrate genome, methylome, and transcriptome data to identify disease related DNA methylation biomarkers; and proteome-wide association studies, which aim to integrate genome and proteome data to identify disease related protein biomarkers. I will use prostate and pancreatic cancer, two cancer types of our research focus, as our examples. I will further include some work we are conducting to develop improved disease risk prediction models by incorporating information of predicted intermediate molecular levels besides conventional genetic and non-genetic factors. Lastly, I will show some of our ongoing and planned research.

Dr. Wu is currently an Assistant Professor in the Cancer Epidemiology Division of University of Hawaii Cancer Center, University of Hawaii at Manoa. He received his Ph.D. in Clinical and Translational Sciences from Mayo Clinic in 2015. He was a postdoctoral fellow at Vanderbilt University Medical Center between 2015 and 2018, followed by a Research Instructor position at Vanderbilt between 2018-2019. Dr. Wu's research involves the epidemiologic investigation of genetic, molecular, nutritional, and lifestyle factors in cancer etiology and prognosis, especially for prostate and pancreatic cancer. Currently, a main focus of Dr. Wu's research is to conduct integrative multi-omics (genomics, transcriptomics, methylomics, proteomics, metabolomics, etc.) studies to identify novel cancer susceptibility genes and biomarkers. He has led several large studies and identified multiple novel susceptibility genes and methylation and protein markers for prostate and pancreatic cancers. Dr. Wu is also studying disease risk prediction using genetic, molecular, and other information.

