

Robert C. Millikan, DVM, MPH, PhD

Department of Epidemiology
School of Public Health
University of North Carolina at Chapel Hill
919-966-7437
bob_millikan@unc.edu

Dr. Robert Millikan is an Associate Professor in the Department of Epidemiology at the UNC-CH School of Public Health. He is the Director of the High Throughput Genotyping Core Laboratory and also is a member of the Carolina Center for Genome Sciences and the Lineberger comprehensive Cancer Center. Dr. Millikan received his DVM from the School of Veterinary Medicine – Davis, and both his MPH and PhD from the University of California – Los Angeles.

Dr. Millikan studies the causes of cancer in human populations, including ways that genes interact with specific environmental factors. He is particularly interested in breast carcinogenesis, including epidemiologic studies of benign breast disease, carcinoma in situ, and invasive breast cancer. These studies combine traditional epidemiologic measures of exposure and family history with molecular markers aimed at characterizing genetic susceptibility and specific pathways for somatic genetic alteration. Dr. Millikan is also Co-Principal Investigator of the North Carolina Colon Cancer Study, a population-based case-control study investigating the influence of metabolism genes and diet on colon cancer. He and his lab are also part of an international collaboration to study the causes of malignant melanoma called the Genes, Environment and Melanoma Project. Each of these studies is based on the premise that traditional epidemiologic studies yield limited information regarding disease causation; that is, observed associations are often too weak for causal inference, and the biological rationale for establishing carcinogenicity is often insufficient. By including information regarding genetic susceptibility and investigating patterns of acquired cellular DNA damage in tumors, new insights may be gained into the etiology of the major cancers (breast, colon, and malignant melanoma). These investigations also include add-on clinical/translational projects that may provide information useful for the early detection of cancer, as well as designing new forms of chemotherapy.

Dr. Millikan was recently awarded a Fulbright Scholarship to the University College Dublin - Conway Institute in Ireland and proposes to identify novel biomarkers that predict the spread of breast tumor cells to distant sites using an integrated analysis gene expression datasets.

Dr. Millikan is an avid rower and has coached the rowing teams at the University of North Carolina at Chapel Hill.