BIOGRAPHICAL SKETCH

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NAME: Veronica Wendy Setiawan

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

POSITION TITLE: Associate Professor of Preventive 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
University of California, Los Angeles, CA	B.S.	06/1995	Biochemistry
University of California, Los Angeles, CA	M.S.	04/2000	Epidemiology
University of California, Los Angeles, CA	Ph.D.	06/2002	Epidemiology
Harvard School of Public Health	Postdoc	07/2003	Cancer Epidemiology
University of Southern California (USC)	Postdoc	07/2005	Cancer and Genetic Epidemiology

A. Personal Statement

I am a cancer epidemiologist whose research focuses on understanding the determinants of racial/ethnic differences in cancer incidence and mortality and identifying populations at highest risk because of genetic and biologic factors, environmental exposures, or a combination of both. My primary research interest is focused on liver, pancreatic and endometrial cancer. For over a decade, I have conducted research by leveraging the exceptional resource offered by the Multiethnic Cohort Study (MEC), where I have served as a co-investigator since 2013. I expanded the scientific value of the MEC for studying health disparities for chronic diseases by successfully spearheading the linking of the MEC to the Medicare Claim Database. My leadership and expertise in developing this area of research have allowed the MEC to expand its research portfolios to treatment and factors impacting cancer outcomes as well as non-cancer endpoints (*e.g.* chronic liver disease, pancreatitis, diabetes, etc.) that were otherwise unobtainable in the cohort. In addition to the MEC, I have led many projects within large epidemiologic studies such as the Southern Community Cohort Study, the Nurses' Health Study, the NCI's Epidemiology of Endometrial Cancer Consortium (E2C2), and the NHGRI Population Architecture Using Genomics and Epidemiology (PAGE) study. I received an NCI's career development award (K07) early in my career and have now served as a PI of several NCI- and ACS-funded studies which resulted in >110 peer-reviewed publications. As a co-leader of the Cancer Epidemiology Program at Norris, I provide oversight of programmatic activities dedicated to enhancing cancer epidemiology and population science research, lead strategic planning for the program's direction and integrate it with the center's overall mission, and participate in faculty recruitment, retention and mentoring.

a. **Setiawan VW**, Hernandez BY, Lu SC, Stram DO, Wilkens LR, Le Marchand L, et al. Diabetes and racial/ethnic differences in hepatocellular carcinoma risk: the multiethnic cohort. *Journal of the National Cancer Institute*. 2014;106(12). PMCID: PMC4334798.
b. **Setiawan VW**, Wilkens LR, Lu SC, Hernandez BY, Le Marchand L, Henderson BE. Association of Coffee Intake With Reduced Incidence of Liver Cancer and Death From Chronic Liver Disease in the US Multiethnic Cohort. *Gastroenterology*. 2015;148(1):118-25. PMCID: PMC4274222.
c. **Setiawan VW**, Yang HP, Pike MC, McCann SE, Yu H, Xiang YB, et al. Type I and II endometrial cancers: have they different risk factors? *Journal of clinical oncology* : official journal of the American Society of Clinical Oncology. 2013;31(20):2607-18. PMCID: PMC3699726.
d. **Setiawan VW**, Virnig BA, Porcel J, Henderson BE, Le Marchand L, Wilkens LR, et al. Linking data from the multiethnic cohort study to medicare data: linkage results and application to chronic disease research. *American journal of epidemiology*. 2015;181(11):917-9. PMCID: PMC4445395.

B. Positions and Honors

Positions and Employment

1995-1996 Laboratory Assistant II, Department of Neurology, UCLA, Los Angeles, CA
1996-1998 Hospital Laboratory Technician II, Clinical Microbiology Laboratory, UCLA, Los Angeles, CA
1998-2002 Staff Research Associate II, Department of Epidemiology, UCLA, Los Angeles, CA
2002-2003 Research Fellow in Medicine, Channing Laboratory-Harvard Medical School, Boston, MA
2005-2006 Research Associate, Zilkha Neurogenetic Institute, University of Southern California, Los Angeles, CA
2006-2010 Assistant Professor of Research, Department of Preventive Medicine, Keck School of Medicine, University of Southern California, Los Angeles, CA
2010-2017 Assistant Professor of Preventive Medicine –Tenure Track, Keck School of Medicine, University of Southern California, Los Angeles, CA
2017- Associate Professor of Preventive Medicine –Tenured, Keck School of Medicine, University of Southern California, Los Angeles, CA
2019- Co-Leader, Cancer Research Program, Southern California Environmental Health Science Center
2020- Associate Director for Population Sciences, USC Research Center for Liver Diseases
2020- Co-Leader, Cancer Epidemiology Program, USC Norris Comprehensive Cancer Center

Other Experience and Professional Memberships

1998- Active Member, American Association for Cancer Research (AACR)
1998- Member, Molecular Epidemiology Working Group, American Association for Cancer Research
2006- Executive Member, NCI Epidemiology of Endometrial Cancer Consortium (E2C2)
2008- Member, Southern California Environmental Health Sciences Center
2009 NIH/NCI Peer Review Committee: Small Grants in Cancer Epidemiology, ad hoc reviewer
2009-2010 Breast Cancer Research Program (BCRP) for the Department of Defense Congressionally Directed Medical Research Programs (CDMRP), ad hoc reviewer
2010- Full Member, USC Norris Comprehensive Cancer Center
2012 NIH/NCI Peer Review Committee: Research answers to NCI's provocative questions (R01 and R21), ad hoc reviewer
2015- Member, NCI's Hepatocellular Carcinoma Epidemiology Consortium (HCCEC)
2014- Associate Editor, Cancer Causes and Controls
2014-2017 Editorial board member, Cancer Epidemiology, Biomarkers and Prevention
2016- NIH/NCI Peer Review Committee: Transition to Independence (K99/R00, R25), ad hoc reviewer
2018- NIH/NCI Subcommittee J - Career Development (K applications) study section, standing member
2018- Editorial board member, the Journal of the National Cancer Institute
2019 NIH/NCI Peer Review Committee: ZCA1 RPRB-L Feasibility and Planning Studies for SPOREs to Investigate Cancer Health Disparities (P20), ad hoc reviewer

Honors

1998-2002 NIH Cancer Epidemiology Training Program, Predoctoral Fellowship
1999 UCLA Raymond Goodman Scholarship for Academic Excellence
1999 Special Training Award Internship, International Agency for Research on Cancer, Lyon, France
2000 Public Health Honor Society, Delta Omega Society, Iota Chapter
2000 AACR Award to attend Pathobiology of Cancer Workshop, Keystone, CO
2000 Molecular Epidemiology Symposia Funded Scholarship, Taos, New Mexico
2001 AACR-AstraZeneca Scholar in Training Award
2002 UCLA Ruth F. Richard's Outstanding Student Award
2002 American Society for Preventive Oncology (ASPO) New Investigator Award
2002-2005 NIH Cancer Epidemiology Training Program, Postdoctoral Fellowship
2004-2005 The USC Center of Excellence in Genome Science Pilot Project Award ($25K)
2005 AACR-Aflac Scholar in Training Award

C. Contributions to Science

1. Racial/ethnic disparities in cancer and chronic disease incidence. My research identified significant racial/ethnic disparities in endometrial cancer incidence. Whites and Native Hawaiians have the highest overall incidence rates, while African Americans and Latinas have the highest incidence of advanced and more

aggressive cancer. I showed that ethnic differences in the prevalence of known endometrial cancer risk factors do not account for the observed interethnic differences in endometrial cancer incidence to any significant extent. These findings not only underscore the need for earlier detection in African Americana and Latinos, but also highlight that more studies are needed to identify other environmental and genetic risk factors for this malignancy. While incidence and mortality rates have declined for most cancers in the US, hepatocellular carcinoma (HCC) rates have tripled; it is now the fastest rising cause of cancer deaths. My research revealed striking racial/ethnic differences in HCC incidence with Latinos having the highest incidence followed by Native Hawaiians, African Americans, Japanese Americans, and whites. Compared to whites, the other ethnic groups have at least a two-fold higher risk of HCC. For reasons not well understood, US-born Latinos, particularly men, are at greater risk of HCC than foreign-born Latinos that cannot be explained by known differences in risk factors (*i.e.* alcohol intake, diabetes, obesity, hepatitis C/B infection). These results have significant public health implications and provide the groundwork for futures studies to elucidate the unidentified risk factors that account for health disparities between Latinos born in the US and abroad. I showed ethnic variations in the prevalence of chronic liver disease (CLD) by underlying etiology. NAFLD is the most common cause of CLD and cirrhosis. By ethnicity, NAFLD is the most common cause of cirrhosis in Japanese Americans, Latinos, and Native Hawaiians. An unexpectedly high NAFLD prevalence is observed in Japanese Americans and Native Hawaiians.

a. **Setiawan VW,** Pike MC, Kolonel LN, Nomura AM, Goodman MT, Henderson BE. Racial/ethnic differences in endometrial cancer risk: the multiethnic cohort study. *Am J Epidemiol* 2007;165(3): 262-70. PMID: 17090617.
b. **Setiawan VW,** Hernandez BY, Lu SC, Stram DO, Wilkens LR, Le Marchand L, Henderson BE: Diabetes and racial/ethnic differences in hepatocellular carcinoma risk: the Multiethnic Cohort. *J Natl Cancer Inst.* 2014 Oct 18;106 (12). PMCID: PMC4334798.
c. **Setiawan VW,** Wei PC, Hernandez BY, Lu SC, Monroe KR, Le Marchand L, Yuan JM: Disparity in Liver Cancer Incidence and Chronic Liver Disease Mortality by Nativity in Hispanics: The Multiethnic Cohort. *Cancer* 2016;122:1444-1452. PMCID: PMC4840042.
d. **Setiawan VW**, Stram DO, Porcel J, Lu SC, Le Marchand L, Noureddin M. Prevalence of chronic liver disease and cirrhosis by underlying cause in understudied ethnic groups: the Multiethnic Cohort, *Hepatology*. 2016 Jun 15. PMID: 27301913.

2. **Endometrial cancer etiology.** I showed that heavy alcohol consumption and adult weight gain are important endometrial cancer risk factors, and that the risks associated with weight gain vary across ethnic groups. I also found a significant inverse association between soy consumption and risk of developing endometrial cancer. I led a large collaborative effort to harmonize and analyze data from 24 endometrial cancer studies and showed that a late age at last birth significantly decreases the risk of endometrial cancer independent of parity and other known risk factors. I also showed that estrogen-related risk factors are associated with the rare and clinically aggressive type II tumors (mainly serous tumors) suggesting that the etiology of type-II tumors may not be completely estrogen-independent as previously believed. This is an important finding that challenges the prevailing paradigm in endometrial cancer.

a. **Setiawan VW,** Monroe KR, Goodman MT, Kolonel LN, Pike MC, Henderson BE. Alcohol consumption and endometrial cancer risk: the multiethnic cohort. *Int J Cancer* 2008;122(3): 634-8. PMCID: PMC2667794.
b. Park SL, Goodman MT, Zhang ZF, Kolonel LN, Henderson BE, **Setiawan VW.** Body size, adult BMI gain and endometrial cancer risk: the multiethnic cohort. *Int J Cancer* 2010;126(2): 490-9. PMCID: PMC2795089.
c. **Setiawan VW,** Pike MC, Karageorgi S, et al. Age at last birth in relation to risk of endometrial cancer: pooled analysis in the epidemiology of endometrial cancer consortium. *Am J Epidemiol* 2012;176(4): 269-78. PMCID: PMC3491967.
d. **Setiawan VW,** Yang HP, Pike MC, et al. Type I and II Endometrial Cancers: Have They Different Risk Factors? *J Clin Oncol* 2013 Jul 10;31(20):2607-18. PMCID: PMC3699726.

3. **Liver cancer etiology.** My study revealed that diabetes is a strong independent risk factor for HCC in all ethnic groups and that eliminating diabetes could potentially reduce HCC incidence in all groups with the largest potential benefit in Latinos. I showed sex and ethnic disparities in the relationship between obesity as measured by BMI and HCC incidence. BMI is associated with a greater risk of HCC more so in men than in women, and more so in Latino, Japanese-American, and white men, than in African-American men. My research showed that although BMI correlates well with total fat mass as measured by DXA in men and women and in all ethnic groups, the correlations of BMI with visceral or liver fat as measured by MRI are weaker in African-American men and in women. This finding is important as visceral and liver fat are thought to be more important predictors of HCC risk

than total adiposity. For lifestyle factors, I showed that increasing coffee consumption is associated, in a dose-dependent manner, with lower HCC risk. The inverse association is observed consistently in across ethnic groups. Prior to my study, prospective data on coffee and liver cancer in US minority populations were nonexistent.

a. **Setiawan VW,** Hernandez BY, Lu SC, Stram DO, Wilkens LR, Le Marchand L, Henderson BE: Diabetes and racial/ethnic differences in hepatocellular carcinoma risk: the Multiethnic Cohort. *J Natl Cancer Inst.* 2014 Oct 18;106 (12). PMCID: PMC4334798.
b. **Setiawan VW,** Wilkens LR, Lu SC, Hernandez BY, Le Marchand L, Henderson BE: Association of Coffee Intake with Reduced Incidence of Liver Cancer and Death from Chronic Liver Disease in the US Multiethnic Cohort. *Gastroenterology.* 2015 Jan;148(1):118-25; quiz e15. PMCID: PMC4274222.
c. **Setiawan VW,** Lim U, Lipworth L, Lu SC, Shepherd J, Ernst T, Wilkens LR, Henderson BE, Le Marchand L: Sex and racial/ethnic differences in the association of obesity with risk of hepatocellular carcinoma. *Clin Gastroenterol Hepatol.* 2015 Sep 21. PMCID: PMC4334798.
d. **Setiawan VW**, Porcel J, Wei P, Stram DO, Noureddin N, Lu SC, Le Marchand L, Noureddin M. Coffee Drinking and Alcoholic and Nonalcoholic Fatty Liver Diseases and Viral Hepatitis in the Multiethnic Cohort. *Clin Gastroenterol Hepatol.* 2017 Aug;15(8):1305-1307. Epub 2017 Mar 11. PMCID: PMC5522625.

4. **Pancreatic cancer etiology.** While disparity in pancreatic cancer incidence between blacks and whites has been observed, few studies have examined disparity in other ethnic minorities. We reported striking differences in pancreatic cancer incidence, with high incidence observed in Native Hawaiians and Japanese Americans. We showed a substantial fraction of pancreatic cancers (~20%) could be attributed to smoking, adiposity and red meat intake. The greater risks in Native Hawaiians and Japanese Americans are new findings and elucidating the causes of these high rates may improve our understanding and prevention of pancreatic cancer. We showed individuals with recent-onset diabetes (within ≤3 years of pancreatic cancer diagnosis) had a greater risk compared with those with long-term diabetes in understudied minorities. Diabetes was associated with more than a 2-fold higher risk of pancreatic cancer, but recent-onset diabetes was associated with a 2.3-fold greater increase in risk of pancreatic cancer than long-standing diabetes. These findings support the hypothesis that recent-onset diabetes is a manifestation of pancreatic cancer and that long-standing diabetes is a risk factor for this malignancy. We extended this research to a cohort of Southern California Kaiser Permanente members (~1.5M participants) and anal included analysis of metabolic profiles associated with pancreatic cancer Compared to patients without diabetes, individuals with recent-onset diabetes have an almost 7-fold increase in pancreatic cancer risk. In patients with recent-onset diabetes, those who developed pancreatic cancer have steeper increases in levels of glucose, HbA1c and weight loss during the time prior to diabetes, and these longitudinal changes in metabolism markers are more pronounced in specific racial/ethnic groups.

a. Huang BZ, Stram DO, Le Marchand L, Haiman CA, Wilkens LR, Pandol SJ, Zhang ZF, Monroe KR, **Setiawan VW**. Interethnic differences in pancreatic cancer incidence and risk factors: The Multiethnic Cohort. *Cancer Med.* 2019 Jul;8(7):3592-3603. PMID: 31066497; PMCID: PMC6601579.
b. **Setiawan VW**, Stram DO, Porcel J, Chari ST, Maskarinec G, Le Marchand L, Wilkens LR, Haiman CA, Pandol SJ, Monroe KR. Pancreatic Cancer Following Incident Diabetes in African Americans and Latinos: The Multiethnic Cohort. *J Natl Cancer Inst.* 2019 Jan 1;111(1):27-33. PMID: 29917105; PMCID: PMC6335114.
c. Huang BZ, Pandol SJ, Jeon CY, Chari ST, Sugar CA, Chao CR, Zhang ZF, Wu BU, **Setiawan VW.** New-onset diabetes and interethnic variation in metabolic markers for pancreatic cancer risk. *Clin Gastro Hep* 2019 Dec 3.
d. Liu L, Zhang J, Deapen D, Stern MC, Sipin A, Pandol SJ, **Setiawan VW**. Differences in Pancreatic Cancer Incidence Rates and Temporal Trends Across Asian Subpopulations in California (1988-2015). Pancreas. 2019 Aug;48(7):931-933. PMID: 31180980; PMCID: PMC6629494.

Complete List of Published Work in myBibliography:
https://www.ncbi.nlm.nih.gov/myncbi/veronica.setiawan.1/bibliography/public/

D. ACTIVE Research Support:

R01 CA228589 **Setiawan (PI)** **03/06/18-2/28/22**
NIH/NCI
Understanding the Determinants of Racial/Ethnic Disparities in Liver Cancer and Chronic Liver Disease in Understudied and High-Risk Populations

The goal of this study is to identify genetic, lifestyle and neighborhood social factors associated with liver cancer and non-alcoholic liver disease in high-risk minority populations.

R01CA209798 Setiawan (PI) 06/06/17-05/31/21
NIH/NCI
Investigating the cause of racial/ethnic disparity in pancreatic cancer incidence
The focus of study is to examine differences in pancreatic cancer incidence across racial/ethnic groups, in African Americans in two large US cohorts, and between Japanese Americans and Japanese in Japan. Factors associated with these differences will be investigated.

R01CA209798-02S1 Setiawan (PI) 06/01/18-05/31/20
NIH/NCI
Investigating the cause of racial/ethnic disparity in pancreatic cancer incidence
(CRCHD supplement)

R01CA227133 Setiawan/Shu (MPI) 01/01/19-12/31/23
NIH/NCI
Use of Circulating MicroRNAs for Early Detection and Risk Assessment for Pancreatic Cancer
The goal is to examine the utility of microRNAs as possible markers for early detection markers for pancreatic cancer.

RSG-16-250-01-CPHPS Setiawan (PI) 01/01/17-06/30/20
American Cancer Society
Determinants of racial/ethnic disparities in pancreatic cancer incidence
The goal of this study to examine whether known and suspected genetic and lifestyle factors account for racial/ethnic disparity in pancreatic cancer incidence in the Multiethnic Cohort Study.

U01CA164973 Le Marchand/Wilkens/Haiman (MPI) 09/01/17-08/31/22
NIH/NCI
Understanding Ethnic Differences in Cancer: The Multiethnic Cohort Study
This grant supports the infrastructure of the Multiethnic Cohort (MEC) Study, which was established in Hawaii and southern California between 1993 and 1996 to study risk factors for cancer and other chronic diseases.
Role: Co-I

R01CA207260-A1 Schildkraut (PI) 04/01/17-03/31/21
NIH/NCI
E*xploring factors related to racial disparities in ovarian cancer incidence and survival: the OCWAA consortium*
The goal of this study is assess factors associated with ovarian cancer incidence and survival in African-American women in the OCWAA consortium.
Role: Co-I

R01ES026171 Cheng/Wu (MPI) 09/01/16-08/31/20
NIH/NCI
A cohort study of air pollution, lung cancer, and COPD in Los Angeles County
The goal of this study is to evaluate the relationship between traffic related air pollutants and lung cancer and COPD risk among Los Angeles residents of the Multiethnic Cohort Study.
Role: Co-I

U54CA233465 Carpten/Stern (MPI) 09/19/18-08/31/23
NIH/NCI
Florida-California Cancer Research, Education and Engagement (CARE2) Health Equity Center
The long term goals of the CaRE2 center are to reduce cancer disparities in Blacks and Latinos, to train and increase the pool of underrepresented Black and Latino scientists conducting health disparity research, to increase research capacity at FAMU, and to increase cancer disparity research at UF and USC-NCCC.
Role: Co-I

R01CA229815 Loo/Cheng (MPI) 04/01/19-03/31/24
NIH/NCI
The Role of 27-hydroxycholesterol in Breast Cancer: A Population-Based Multiethnic Study
The goal is to examine the role of 27-hydroxycholesterol in breast cancer etiology and outcome in an ethnically diverse population.
Role: Co-I