BIOGRAPHICAL SKETCH

NAME: Kurian, Allison W.

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

POSITION TITLE: Professor of Medicine and of Epidemiology & Population Health

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	Completion Date	FIELD OF STUDY
Stanford University, Stanford, CA	B.A.	06/1995	Human Biology, Honors
Harvard Medical School, Boston, MA	M.D.	06/1999	Medicine
Massachusetts General Hospital, Boston, MA	Residency	06/2002	Internal Medicine
Harvard School of Public Health, Boston, MA		08/2000	Clinical Effectiveness
Stanford University School of Medicine, Stanford, CA	Fellowship	06/2005	Medical Oncology
Stanford University School of Medicine, Stanford, CA	M.Sc.	12/2006	Epidemiology

A. Personal Statement: My professional goal is to improve breast and gynecologic cancer outcomes through clinically-oriented research on the genetic epidemiology, prevention, and treatment of these cancers. I co-lead the Population Sciences Program at the Stanford University Cancer Institute. As Director of the Stanford Women's Clinical Cancer Genetics Program, I maintain an active clinical practice caring for women diagnosed with and at high risk for developing breast and gynecologic cancers. I serve on the National Comprehensive Cancer Network Panels for Genetic Risk of Breast/Ovarian/Pancreatic Cancer and Breast Cancer Risk Reduction, developing evidence-based practice guidelines. I have led decision analyses to optimize breast and ovarian cancer outcomes, culminating in an online decision tool for patients (Kurian et al., *J Clin Oncol* 2012). I have led high-impact studies using Surveillance, Epidemiology and End Results (SEER) registry data, including one showing that bilateral mastectomy does not improve survival for most breast cancer patients (Kurian et al., *JAMA* 2014). I lead the Stanford/Sutter Health Oncoshare project, a breast cancer research initiative that integrates data from electronic medical records and the SEER registry, funded by an award from the Breast Cancer Research Foundation. I lead an ancillary study in the Women's Health Initiative that defined the contribution of inherited cancer risk genes to breast cancer diagnosed in post-menopausal women (Kurian et al., *JAMA* 2020). I lead a large, R01-funded population-based study, "Genetic testing, treatment use, and mortality after diagnosis of breast and ovarian cancer: the Georgia-California GeneLINK Initiative" (R01 CA225697, A. Kurian, PI), of genetic testing results linked to SEER data, studying the epidemiology, treatment and survival implications of cancer risk gene mutations (Kurian et al., *J Clin Oncol* 2021). I co-lead a randomized clinical trial of approaches to population-based cascade genetic testing of family members, funded by the NCI Cancer Moonshot Initiative (U01 CA254822). I serve as a Komen Scholar and lead a study of circulating tumor DNA analysis for early breast cancer detection, funded by a 2022 Komen Leadership Award.

Ongoing projects that I would like to highlight include:

R01 CA225697, NCI
Kurian (PI)
03/01/2018 – 02/28/2023
Genetic testing, treatment use, and mortality after diagnosis of breast and ovarian cancer: The Georgia-California GeneLINK Initiative

U01 CA254822, NCI
Kurian (PI)
09/01/2020 – 08/31/2025

A population-based virtual solution to reduce gaps in genetic risk evaluation and management in families at high risk for hereditary cancer syndromes: the Georgia-California GeneLINK trial

ACEDFR3_0620I124PR004, International Alliance for Cancer Early Detection
Kurian (PI)
09/01/2020 – 08/31/2023
Stratifying risk for early detection in hereditary breast and ovarian cancer

Susan G. Komen for the Cure Leadership Award
Kurian (PI)
09/30/2022-09/29/2025
Early Detection of Primary and Recurrent Breast Cancer Using cfDNA Liquid Biopsy

Breast Cancer Research Foundation
Kurian (PI)
10/01/2022 – 09/30/2023 (annually renewable)
The changing face of metastatic breast cancer: using informatics to understand and improve outcomes

P30 CA124435, NIH/NCI
Artandi (PI), Role: Program Co-leader
06/04/2007 – 05/31/2027
Stanford Cancer Institute

R01 CA222512, NCI
Li (PI), Role: Co-investigator
02/01/2018 – 01/31/2023
Multiregional imaging phenotypes and molecular correlates of aggressive versus indolent breast cancer

RSG-20-025-02-CPHPS, American Cancer Society
Katz (PI), Role: Co-Investigator
07/01/2019 – 06/30/2023
Gaps in genetic risk evaluation and prevention in breast cancer patients and their family members

R01 CA241125, NCI
Gomez (PI), Role: Co-Investigator
06/08/2020 – 05/31/2025
Insights from Asian populations into disparities in breast cancer prognosis and outcomes

U01 CA253911, NCI
Trentham-Dietz (PI), Role: Co-investigator
09/01/2020 – 08/31/2025
Comparative modeling of precision breast cancer control across the translational continuum

R01 CA249893, NCI
Hargreaves (PI), Role: Co-Investigator
09/01/2020 – 08/31/2025
Abbreviated non-contrast breast MRI for breast cancer screening

W81XWH2110143, Department of Defense Breast Cancer Research Program
Angelo (PI), Role: Co-Investigator
02/1/2021 – 01/31/2026
Relating the interplay of tumor function and host response to clinical outcome in triple-negative breast cancer

Citations:

1. **Kurian, A.W.**, Munoz, D.F., Rust, P., et al. (2012). Online tool to guide decisions for *BRCA1/2* mutation carriers. *Journal of Clinical Oncology*, 30(5), 497-506. PMCID: PMC3295552

2. **Kurian, A.W.**, Lichtensztajn, D.Y., Keegan, T. H., et al. (2014). Use of and mortality after bilateral mastectomy compared with other surgical treatments for breast cancer in California, 1998-2011. *JAMA*, 312(9), 902-914. PMCID: PMC5747359
3. **Kurian A.W.**, Bernhisel R., Larsen K., et al. (2020). Prevalence of pathogenic variants in cancer susceptibility genes among women with postmenopausal breast cancer. *JAMA*, 323(10), 995-997. PMID: 32154851
4. **Kurian A.W.**, Ward K.C., Abrahamse P. et al. (2021). Time trends in germline genetic testing use and results for women diagnosed with breast cancer or ovarian cancer in Georgia and California, 2012-2019. *Journal of Clinical Oncology*, 39(15), 1631-1640. PMCID: PMC8274804

B. Positions, Scientific Appointments, and Honors

Positions

2020 – present	Co-Leader, Population Sciences Program, Stanford Cancer Institute
2020 – present	Associate Chief for Academic Affairs, Division of Oncology, Stanford University
2020 – present	Professor of Medicine and of Epidemiology & Population Health, Stanford University
2015 – 2020	Associate Professor of Medicine and Epidemiology & Population Health, Stanford University
2008 – present	Director, Stanford Women's Clinical Cancer Genetics Program
2008 – 2015	Assistant Professor of Medicine and Health Research & Policy, Stanford University
2006 – 2007	Instructor of Medicine, Division of Oncology, Stanford University School of Medicine
2002 – 2005	Post-Doctoral Fellow, Division of Oncology, Stanford University School of Medicine
1999 – 2002	Intern and Resident in Internal Medicine, Massachusetts General Hospital

Scientific Appointments

2022 - present	American Society of Clinical Oncology (ASCO) Germline Mutation Testing in Breast Cancer Guideline Development Panel
2022 - present	Data and Data Governance Committee, ShareForCures, Susan G. Komen for the Cure
2022 – present	External Scientific Advisory Board, Basser Center for BRCA, University of Pennsylvania
2019	NCCN Representative, American College of Obstetrics and Gynecology Evidence Review
2019	ASCO Hereditary Breast Cancer Guidelines Panel
2018 – present	Co-Investigator, Northern California Breast Cancer Family Registry
2018	Faculty Member, William Guy Forbeck Foundation Forum on Cancer Predisposition
2016 – present	ASCO Breast Cancer Advisory Panel, Specialty Editor
2016 – present	ClinGen Hereditary Cancer Clinical Domain Working Group, Executive Committee
2015 – present	ASCO Cancer.Net Editorial Board, Special Editor for Hereditary Breast Cancer Syndromes
2015 – 2020	Board of Directors, FORCE Advocacy Group for Hereditary Cancer Syndromes
2015	External Advisory Board, Princess Margaret Cancer Genomics Centre, Toronto, Canada
2013 – present	NCCN Clinical Practice Guidelines Development Panel for Breast Cancer Risk Reduction
2013 – 2014	Track Leader, Cancer Prevention and Epidemiology, ASCO Scientific Program Committee
2012 – 2016	ASCO Quality Care Symposium Scientific Program Committee
2011 – present	Scientific Advisory Board, FORCE Advocacy Group for Hereditary Cancer Syndromes
2011 – 2016	American Cancer Society Board of Directors, Santa Clara County Chapter
2009 – present	NCCN Clinical Practice Guidelines Development Panel for Genetic/Familial High Risk
2008 – 2011	ASCO Career Development Committee
2008 – 2011	ASCO Annual Meeting Planning Committee, Professional Development Track
2005, 2015	Certified, Medical Oncology, American Board of Internal Medicine
2004 – present	Manuscript Reviewer, *Annals of Internal Medicine, Breast Cancer Research, Breast Cancer Research and Treatment, Cancer, Cancer Epidemiology Biomarkers and Prevention, Cancer Prevention Research, Cancer Research, Carcinogenesis, Clinical Cancer Research, European Journal of Cancer, International Journal of Cancer, JAMA, JAMA Oncology, Journal of Clinical Oncology, JCO Precision Oncology, New England Journal of Medicine*

Honors

2022	Leadership Award, Susan G. Komen for the Cure
2022	Komen Scholar, Susan G. Komen for the Cure
2022	Invited Researcher, Breast Cancer Research Foundation
2021	Impact Award, National Coalition of Breast Centers
2020	Elected Member, American Society of Clinical Investigation
2019	Saul Rosenberg Faculty Teaching Award, Stanford Oncology Division

2017 Elizabeth Mayers Award for Outstanding Research, BRCA Foundation
2014 Stanford University Oncology Division Teaching Award
2013 Suzanne Pride Bryan Breast Cancer Research Award, Stanford Cancer Institute
2012 One of the 12 best publications funded by the NCI's Epidemiology and Genomics Program
2011 New Clinical Investigator Award, Stanford Cancer Institute
2010 California Breast Cancer Research Program Translational Research Award
2008 Robert Wood Johnson Foundation Physician Faculty Scholars Award
2008 Jan Weimer Faculty Chair for Breast Oncology, Stanford Cancer Institute
2007 Cornelius L. Hopper Research Impact Award, California Breast Cancer Research Program
2006 NIH Building Interdisciplinary Research Careers in Women's Health K12 Award
2005 American Society of Clinical Oncology Young Investigator Award
2005 Cancer Research and Prevention Foundation Post-Doctoral Fellowship Award
2005 California Breast Cancer Research Program Post-Doctoral Fellowship Award
2004 American Society of Clinical Oncology Merit Award for Research Abstract
2003 Award for best research abstract, Division of Oncology, Stanford University
1995 Phi Beta Kappa, Stanford University

C. Contributions to Science

1. **Characterizing hereditary breast cancer risk across diverse populations.** My work has contributed significantly to the understanding of inherited breast cancer risk, with a special focus on racially diverse populations. In early work, I studied the performance of models that predict carriage of inherited *BRCA1* and *BRCA2* (*BRCA1/2*) gene mutations across different racial/ethnic groups; these articles demonstrated substantial differences in the performance of clinical risk prediction tools across racial/ethnic groups, with significant implications for patient care (Kurian et al., *J Clin Oncol* 2008). In collaboration with the multi-national Breast Cancer Family Registry (BCFR), I led a study that estimated breast cancer risks among women who tested negative for an identified familial mutation in *BRCA1/2*. We discovered that there is no significant increase in breast cancer risk among non-carriers of a familial *BRCA1/2* mutation; this publication was highlighted by an editorial and news release, and it was selected as one of the 12 best publications funded by the National Cancer Institute's Epidemiology and Genomics Research Program (Kurian et al., *J Clin Oncol* 2011). I also led a study of genetic testing results of multiple-gene sequencing among a cohort of 1,483 racially diverse patients: we discovered a substantial racial disparity in the prevalence of uncertain results of genetic testing (Caswell-Jin et al, *Genet Med* 2018). More recently, I led an ancillary study within the Women's Health Initiative which found that pathogenic variants in cancer susceptibility genes are more prevalent than previously believed among women diagnosed with breast cancer after menopause (Kurian et al, *JAMA* 2020). Therefore, my research has substantially enhanced knowledge of hereditary cancer risk among diverse patient populations and families.
   a. **Kurian, A.W.**, Gong, G.D., Chun, N.M., et al. (2008). Performance of *BRCA1/2* mutation prediction models in Asian Americans. *Journal of Clinical Oncology*, 26(29), 4752-8. PMCID: PMC2653135
   b. **Kurian, A.W.**, Gong, G.D., John, E.M., et al. (2011). Breast cancer risk for non-carriers of family-specific *BRCA1* and *BRCA2* mutations: findings from the Breast Cancer Family Registry. *Journal of Clinical Oncology*, 29(34), 4505-9. PMCID: PMC3236651
   c. Caswell-Jin J.L., Gupta T., Hall E., Petrovchich I.M., Mills M.A., Kingham K.E., Koff R., Chun N.M., Levonian P., Lebensohn A.P., Ford J.M., **Kurian A.W.** (2018). Racial/ethnic differences in multiple-gene panel testing for hereditary cancer risk. *Genetics in Medicine*, 20:234-239. PMID: 28749474
   d. **Kurian A.W.**, Bernhisel R., Larsen K., et al. (2020). Prevalence of pathogenic variants in cancer susceptibility genes among women with postmenopausal breast cancer. *JAMA*, 323(10), 995-997. PMID: 32154851

2. **Informing decisions about the prevention and treatment of women's cancers.** I have conducted many studies that aim to inform and facilitate the difficult choices that women face about managing their cancer risks. Together with colleagues in the NCI-funded Cancer Intervention and Surveillance Modeling Network (CISNET), I have led decision analyses of cancer risk reduction options for high-risk women. We first estimated the cost-effectiveness of screening breast magnetic resonance imaging (MRI) for *BRCA1/2* mutation carriers, a publication that was cited by the practice guidelines of the American Cancer Society and honored by the 2007 Research Impact Award of the California Breast Cancer Research Program. We built on this work to compare the survival of *BRCA1/2* mutation carriers after various available options for cancer risk reduction, using a computer simulation model. Notably, we discovered that intensive breast

screening incorporating MRI offers comparable survival probability to that of prophylactic mastectomy, an invasive procedure that many patients wish to avoid. This work resulted in a high-impact publication that was cited in statements by the American and Canadian Colleges of Surgeons (Kurian et al., *J Clin Oncol* 2010). We subsequently provided the simulation model online for clinical use as a decision support tool, and it is publicly available to patients and doctors at http://brcatool.stanford.edu (Kurian et al., *J Clin Oncol* 2012). I recently partnered with CISNET investigators to model optimal breast MRI screening strategies in women with other cancer susceptibility gene mutations (*ATM, CHEK2* and *PALB2*), and our finding of a 50% reduction in breast cancer mortality when screening breast MRI is initiated at age 30-35 has informed clinical practice guidelines (Lowry et al., *JAMA Oncol* 2022). I also led a SEER-based study of the surgical choices and outcomes of nearly 190,000 Californian breast cancer patients. Despite a dramatic rise in the use of double mastectomy over time, no patient subgroup gained any survival benefit from this highly invasive procedure. This definitive observational study answered an urgent clinical question – do women gain any better survival if they remove both breasts – which patients and physicians consider unethical to address with a randomized clinical trial (Kurian et al., *JAMA* 2014).

a. **Kurian, A.W.**, Sigal, B.M., & Plevritis, S.K. (2010). Survival analysis of cancer risk reduction strategies for *BRCA1/2* mutation carriers. *Journal of Clinical Oncology*, 28(2), 222-31. PMCID: PMC2815712
b. **Kurian, A.W.**, Munoz, D.M., Rust, P., et al. (2012). Online tool to guide decisions for *BRCA1/2* mutation carriers. *Journal of Clinical Oncology*, 30(5), 497-506. PMCID: PMC3295552
c. Lowry K.P., Geuzinge H.A., Stout N.K., Alagoz O., Hampton J., Kerlikowske K., Miglioretti D., Schechter C.B., Sprague B.L., Tosteson A.N.A., Trentham-Dietz A., van Ravesteyn N., Yaffe M., Yeh J., Couch F.J., Kraft P., Polley E.C., Mandelblatt J.S.*, **Kurian A.W.***, Robson M.E*. *Co-senior authors (2022). Breast screening strategies for women with *ATM, CHEK2* and *PALB2* pathogenic variants: a comparative modeling analysis. *JAMA Oncology*, 8(4), 587-596. PMCID: PMC8855312
d. **Kurian, A.W.**, Lichtensztajn, D.Y., Keegan, T. H., et al. (2014). Use of and mortality after bilateral mastectomy compared with other surgical treatments for breast cancer in California, 1998-2011. *JAMA*, 312(9), 902-914. PMCID: PMC5747359

3. **Clinical translation of emerging genomic technologies**. I have contributed substantially to the translation of genomic technologies for cancer diagnosis and treatment. My early work included the first cost-effectiveness analysis of a molecularly targeted therapy for early breast cancer, trastuzumab. I have recently focused on translating next-generation sequencing panels of multiple cancer-risk associated genes into clinical practice: in 2014, I led the first clinical study of next-generation sequencing for breast cancer risk assessment. We found that a substantial proportion of high-risk women carry mutations in genes other than *BRCA1/2,* a discovery that enabled early cancer detection and offers evidence of benefit from this new genetic technology. This innovative study was published as a rapid communication due to its clinical relevance, was chosen by ASCO as one of the best original articles of 2014 and informed the National Comprehensive Cancer Network's practice guidelines (Kurian et al., *J Clin Oncol* 2014). Working with the Cancer Surveillance and Outcomes Research Team on NCI P01 3003080504 (S. Katz, P.I.) and R01 CA225697 (A. Kurian, P.I.), I have led analyses of the use and outcomes of genetic testing in a large, population-based sample of breast cancer patients from the California and Georgia SEER registries (Kurian et al., *JAMA* 2017; Kurian et al., *JAMA Oncology* 2020; Kurian et al., *J Clin Oncol* 2021). My contributions have been recognized by the 2021 National Coalition of Breast Centers Impact Award.
   a. **Kurian, A.W.**, Hare, E.E., Mills, M.A., et al. (2014). Clinical evaluation of a multiple-gene sequencing panel for hereditary cancer risk assessment. *Journal of Clinical Oncology*, 32(19), 2001-2009. PMCID: PMC4067941
   b. **Kurian A.W.**, Griffith K.A., Hamilton A.S., et al. (2017). Genetic testing and counseling among patients with breast cancer. *JAMA*, 317(5), 531-534. PMCID: PMC5530866
   c. **Kurian A.**W., Ward K.C., Abrahamse P, et al. (2020). Association of germline genetic testing results with locoregional and systemic therapy in patients with breast cancer. *JAMA Oncology*, 6(4), e196400. PMCID: PMC7042883
   d. **Kurian A.W.**, Ward K.C., Abrahamse P. et al. (2021). Time trends in germline genetic testing use and results for women diagnosed with breast cancer or ovarian cancer in Georgia and California, 2012-2019. *Journal of Clinical Oncology*, 39(15), 1631-1640. PMCID: PMC8274804

Complete List of Published Work in MyBibliography (from >260 peer-reviewed publications):
https://www.ncbi.nlm.nih.gov/myncbi/1-smniWZI_dAM/bibliography/public/