

Stanford



Linda Kachuri

Assistant Professor of Epidemiology and Population Health

Bio

ACADEMIC APPOINTMENTS

- Assistant Professor, Epidemiology and Population Health
- Member, Stanford Cancer Institute

HONORS AND AWARDS

- Scholar in Training Award (AACR WICR), American Association for Cancer Research (2016)
- Gordon Cressy Student Leadership Award, University of Toronto (2017)
- Charles J. Epstein Trainee Award for Excellence in Human Genetics Research, American Society of Human Genetics (2019)
- Scholar in Training Award (AACR MEG), American Association for Cancer Research (2020)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Scientific Program Committee, International Genetic Epidemiology Society (2022 - present)

PROFESSIONAL EDUCATION

- Postdoc, University of California San Francisco (2022)
- PhD, Dalla Lana School of Public Health, University of Toronto (2018)
- MPH, Dalla Lana School of Public Health, University of Toronto (2012)
- BSc, McGill University (2010)

Teaching

COURSES

2023-24

- Genetic Epidemiology: EPI 224, GENE 230 (Win)

2022-23

- Genetic Epidemiology: EPI 224, GENE 230 (Win)

STANFORD ADVISEES

Med Scholar Project Advisor

Taishi Nakase

Doctoral Dissertation Reader (AC)

Ibtihal Elfaki, Page Goddard, Kate Lawrence

Doctoral Dissertation Co-Advisor (NonAC)

Karen Feng

Master's Program Advisor

Joseph Myrie

Publications

PUBLICATIONS

- **Genetically adjusted PSA levels for prostate cancer screening.** *Nature medicine*
Kachuri, L., Hoffmann, T. J., Jiang, Y., Berndt, S. I., Shelley, J. P., Schaffer, K. R., Machiela, M. J., Freedman, N. D., Huang, W. Y., Li, S. A., Easterlin, R., Goodman, P. J., Till, et al
2023
- **Gene expression in African Americans, Puerto Ricans and Mexican Americans reveals ancestry-specific patterns of genetic architecture.** *Nature genetics*
Kachuri, L., Mak, A. C., Hu, D., Eng, C., Huntsman, S., Elhawary, J. R., Gupta, N., Gabriel, S., Xiao, S., Keys, K. L., Oni-Orisan, A., Rodríguez-Santana, J. R., LeNoir, et al
2023
- **Genetic determinants of blood-cell traits influence susceptibility to childhood acute lymphoblastic leukemia.** *American journal of human genetics*
Kachuri, L., Jeon, S., DeWan, A. T., Metayer, C., Ma, X., Witte, J. S., Chiang, C. W., Wiemels, J. L., de Smith, A. J.
2021; 108 (10): 1823-1835
- **Pan-cancer analysis demonstrates that integrating polygenic risk scores with modifiable risk factors improves risk prediction.** *Nature communications*
Kachuri, L., Graff, R. E., Smith-Byrne, K., Meyers, T. J., Rashkin, S. R., Ziv, E., Witte, J. S., Johansson, M.
2020; 11 (1): 6084
- **Genome-wide Polygenic Risk Scores Predict Risk of Glioma and Molecular Subtypes.** *Neuro-oncology*
Nakase, T., Guerra, G. A., Ostrom, Q. T., Ge, T., Melin, B. S., Wrensch, M., Wiencke, J. K., Jenkins, R. B., Eckel-Passow, J. E., Bondy, M. L., Francis, S. S., Kachuri, L.
2024
- **Ambient air pollution and urological cancer risk: A systematic review and meta-analysis of epidemiological evidence.** *Nature communications*
Li, J., Deng, Z., Soerensen, S. J., Kachuri, L., Cardenas, A., Graff, R. E., Leppert, J. T., Langston, M. E., Chung, B. I.
2024; 15 (1): 5116
- **Transcriptome-Wide Association Analysis Identifies Candidate Susceptibility Genes for Prostate-Specific Antigen Levels in Men Without Prostate Cancer.** *HGG advances*
Chen, D. M., Dong, R., Kachuri, L., Hoffmann, T., Jiang, Y., Berndt, S. I., Shelley, J. P., Schaffer, K. R., Machiela, M. J., Freedman, N. D., Huang, W. Y., Li, S. A., Lilja, et al
2024: 100315
- **The full spectrum of SLC22 OCT1 mutations illuminates the bridge between drug transporter biophysics and pharmacogenomics.** *Molecular cell*
Yee, S. W., Macdonald, C. B., Mitrovic, D., Zhou, X., Koleske, M. L., Yang, J., Buitrago Silva, D., Rockefeller Grimes, P., Trinidad, D. D., More, S. S., Kachuri, L., Witte, J. S., Delemotte, et al
2024
- **Polygenic risk score for ulcerative colitis predicts immune checkpoint inhibitor-mediated colitis.** *Nature communications*
Middha, P., Thummalapalli, R., Betti, M. J., Yao, L., Quandt, Z., Balaratnam, K., Bejan, C. A., Cardenas, E., Falcon, C. J., Faleck, D. M., Gubens, M. A., Huntsman, S., Johnson, et al
2024; 15 (1): 2568
- **A noncoding regulatory variant in IKZF1 increases acute lymphoblastic leukemia risk in Hispanic/Latino children.** *Cell genomics*
de Smith, A. J., Wahlster, L., Jeon, S., Kachuri, L., Black, S., Langie, J., Cato, L. D., Nakatsuka, N., Chan, T. F., Xia, G., Mazumder, S., Yang, W., Gazal, et al
2024: 100526
- **Characterizing prostate cancer risk through multi-ancestry genome-wide discovery of 187 novel risk variants.** *Nature genetics*

- Wang, A., Shen, J., Rodriguez, A. A., Saunders, E. J., Chen, F., Janivara, R., Darst, B. F., Sheng, X., Xu, Y., Chou, A. J., Benlloch, S., Dadaev, T., Brook, et al
2023
- **Clinical consequences of a genetic predisposition toward higher benign prostate-specific antigen levels.** *EBioMedicine*
Shi, M., Shelley, J. P., Schaffer, K. R., Tosoian, J. J., Bagheri, M., Witte, J. S., Kachuri, L., Mosley, J. D.
2023; 97: 104838
 - **Principles and methods for transferring polygenic risk scores across global populations.** *Nature reviews. Genetics*
Kachuri, L., Chatterjee, N., Hirbo, J., Schaid, D. J., Martin, I., Kullo, I. J., Kenny, E. E., Pasaniuc, B., Witte, J. S., Ge, T.
2023
 - **Inherited polymorphisms in the Human Leukocyte Antigen Region modify the association between varicella-zoster virus antibody reactivity and glioma prognosis.** *Neuro-oncology*
Francis, S. S., Guerra, G., Hansen, H. M., Wendt, G., Kachuri, L., Wiencke, J. K., Wrensch, M.
2023
 - **Development and testing of a polygenic risk score for breast cancer aggressiveness.** *NPJ precision oncology*
Shieh, Y., Roger, J., Yau, C., Wolf, D. M., Hirst, G. L., Swigart, L. B., Huntsman, S., Hu, D., Nierenberg, J. L., Middha, P., Heise, R. S., Shi, Y., Kachuri, et al
2023; 7 (1): 42
 - **Common genetic variations in telomere length genes and lung cancer: a Mendelian randomisation study and its novel application in lung tumour transcriptome.** *eLife*
Cortez Cardoso Penha, R., Smith-Byrne, K., Atkins, J. R., Haycock, P. C., Kar, S., Codd, V., Samani, N. J., Nelson, C., Milojevic, M., Gabriel, A. A., Amos, C., Brennan, P., Hung, et al
2023; 12
 - **A Polygenic Risk Score for Prostate Cancer Risk Prediction.** *JAMA internal medicine*
Schaffer, K. R., Shi, M., Shelley, J. P., Tosoian, J. J., Kachuri, L., Witte, J. S., Mosley, J. D.
2023
 - **Inverted genomic regions between reference genome builds in humans impact imputation accuracy and decrease the power of association testing.** *HGG advances*
Sheng, X., Xia, L., Cahoon, J. L., Conti, D. V., Haiman, C. A., Kachuri, L., Chiang, C. W.
2023; 4 (1): 100159
 - **Assessment of genetic susceptibility to multiple primary cancers through whole-exome sequencing in two large multi-ancestry studies.** *BMC medicine*
Cavazos, T. B., Kachuri, L., Graff, R. E., Nierenberg, J. L., Thai, K. K., Alexeeff, S., Van Den Eeden, S., Corley, D. A., Kushi, L. H., Hoffmann, T. J., Ziv, E., Habel, L. A., Jorgenson, et al
2022; 20 (1): 332
 - **Cross-ancestry genome-wide meta-analysis of 61,047 cases and 947,237 controls identifies new susceptibility loci contributing to lung cancer.** *Nature genetics*
Byun, J., Han, Y., Li, Y., Xia, J., Long, E., Choi, J., Xiao, X., Zhu, M., Zhou, W., Sun, R., Bossé, Y., Song, Z., Schwartz, et al
2022
 - **The immunogenetics of viral antigen response is associated with subtype-specific glioma risk and survival.** *American journal of human genetics*
Guerra, G., Kachuri, L., Wendt, G., Hansen, H. M., Mack, S. J., Molinaro, A. M., Rice, T., Bracci, P., Wiencke, J. K., Kasahara, N., Eckel-Passow, J. E., Jenkins, R. B., Wrensch, et al
2022
 - **Genetic analysis of lung cancer and the germline impact on somatic mutation burden.** *Journal of the National Cancer Institute*
Gabriel, A. A., Atkins, J. R., Penha, R. C., Smith-Byrne, K., Gaborieau, V., Voegelé, C., Abedi-Ardekani, B., Milojevic, M., Olaso, R., Meyer, V., Boland, A., Deleuze, J. F., Zaridze, et al
2022
 - **Long telomeres in need of a SNP: Germline contributions of telomere maintenance to glioma.** *Neuro-oncology*
Kachuri, L., Walsh, K. M.
2022; 24 (2): 182-183
 - **Investigating the effect of sexual behaviour on oropharyngeal cancer risk: a methodological assessment of Mendelian randomization.** *BMC medicine*

- Gormley, M., Dudding, T., Kachuri, L., Burrows, K., Chong, A. H., Martin, R. M., Thomas, S. J., Tyrrell, J., Ness, A. R., Brennan, P., Munafò, M. R., Pring, M., Boccia, et al
2022; 20 (1): 40
- **Genetic Factors Associated with Prostate Cancer Conversion from Active Surveillance to Treatment.** *HGG advances*
Jiang, Y., Meyers, T. J., Emeka, A. A., Cooley, L. F., Cooper, P. R., Lancki, N., Helenowski, I., Kachuri, L., Lin, D. W., Stanford, J. L., Newcomb, L. F., Kolb, S., Finelli, et al
1800; 3 (1)
 - **A Large-Scale Association Study Detects Novel Rare Variants, Risk Genes, Functional Elements, and Polygenic Architecture of Prostate Cancer Susceptibility.** *Cancer research*
Emami, N. C., Cavazos, T. B., Rashkin, S. R., Cario, C. L., Graff, R. E., Tai, C. G., Mefford, J. A., Kachuri, L., Wan, E., Wong, S., Aaronson, D., Presti, J., Habel, et al
2021; 81 (7): 1695-1703
 - **Cross-cancer evaluation of polygenic risk scores for 16 cancer types in two large cohorts.** *Nature communications*
Graff, R. E., Cavazos, T. B., Thai, K. K., Kachuri, L., Rashkin, S. R., Hoffman, J. D., Alexeeff, S. E., Blatchins, M., Meyers, T. J., Leong, L., Tai, C. G., Emami, N. C., Corley, et al
2021; 12 (1): 970
 - **Insecticide use and risk of non-Hodgkin lymphoma subtypes: A subset meta-analysis of the North American Pooled Project.** *International journal of cancer*
Kachuri, L., Beane Freeman, L. E., Spinelli, J. J., Blair, A., Pahwa, M., Koutros, S., Hoar Zahm, S., Cantor, K. P., Weisenburger, D. D., Pahwa, P., Dosman, J. A., McLaughlin, J. R., Demers, et al
2020; 147 (12): 3370-3383
 - **The landscape of host genetic factors involved in immune response to common viral infections.** *Genome medicine*
Kachuri, L., Francis, S. S., Morrison, M. L., Wendt, G. A., Bosse, Y., Cavazos, T. B., Rashkin, S. R., Ziv, E., Witte, J. S.
2020; 12 (1): 93
 - **Pan-cancer study detects genetic risk variants and shared genetic basis in two large cohorts.** *Nature communications*
Rashkin, S. R., Graff, R. E., Kachuri, L., Thai, K. K., Alexeeff, S. E., Blatchins, M. A., Cavazos, T. B., Corley, D. A., Emami, N. C., Hoffman, J. D., Jorgenson, E., Kushi, L. H., Meyers, et al
2020; 11 (1): 4423
 - **Pesticide use and risk of Hodgkin lymphoma: results from the North American Pooled Project (NAPP).** *Cancer causes & control : CCC*
Latifovic, L., Freeman, L. E., Spinelli, J. J., Pahwa, M., Kachuri, L., Blair, A., Cantor, K. P., Zahm, S. H., Weisenburger, D. D., McLaughlin, J. R., Dosman, J. A., Pahwa, P., Koutros, et al
2020; 31 (6): 583-599
 - **Silica and asbestos exposure at work and the risk of bladder cancer in Canadian men: a population-based case-control study.** *BMC cancer*
Latifovic, L., Villeneuve, P. J., Parent, M. É., Kachuri, L., Harris, S. A.
2020; 20 (1): 171
 - **Immune-mediated genetic pathways resulting in pulmonary function impairment increase lung cancer susceptibility.** *Nature communications*
Kachuri, L., Johansson, M., Rashkin, S. R., Graff, R. E., Bossé, Y., Manem, V., Caporaso, N. E., Landi, M. T., Christiani, D. C., Vineis, P., Liu, G., Scelo, G., Zaridze, et al
2020; 11 (1): 27
 - **Exposure to crystalline silica in Canadian workplaces and the risk of kidney cancer.** *Occupational and environmental medicine*
Peters, C. E., Bogaert, L., Latifovic, L., Kachuri, L., Harris, S. A., Parent, M. E., Villeneuve, P. J.
2019; 76 (9): 668-671
 - **Association of imputed prostate cancer transcriptome with disease risk reveals novel mechanisms.** *Nature communications*
Emami, N. C., Kachuri, L., Meyers, T. J., Das, R., Hoffman, J. D., Hoffmann, T. J., Hu, D., Shan, J., Feng, F. Y., Ziv, E., Van Den Eeden, S. K., Witte, J. S.
2019; 10 (1): 3107
 - **Investigation of Leukocyte Telomere Length and Genetic Variants in Chromosome 5p15.33 as Prognostic Markers in Lung Cancer.** *Cancer epidemiology, biomarkers & prevention : a publication of the American Association for Cancer Research, cosponsored by the American Society of Preventive Oncology*
Kachuri, L., Helby, J., Bojesen, S. E., Christiani, D. C., Su, L., Wu, X., Tardón, A., Fernández-Tardón, G., Field, J. K., Davies, M. P., Chen, C., Goodman, G. E., Shepherd, et al
2019; 28 (7): 1228-1237

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- **Non-Hodgkin lymphoma risk and organophosphate and carbamate insecticide use in the north American pooled project.** *Environment international*
Koutros, S., Harris, S. A., Spinelli, J. J., Blair, A., McLaughlin, J. R., Zahm, S. H., Kim, S., Albert, P. S., Kachuri, L., Pahwa, M., Cantor, K. P., Weisenburger, D. D., Pahwa, et al
2019; 127: 199-205
 - **Elevated Platelet Count Appears to Be Causally Associated with Increased Risk of Lung Cancer: A Mendelian Randomization Analysis.** *Cancer epidemiology, biomarkers & prevention : a publication of the American Association for Cancer Research, cosponsored by the American Society of Preventive Oncology*
Zhu, Y., Wei, Y., Zhang, R., Dong, X., Shen, S., Zhao, Y., Bai, J., Albanes, D., Caporaso, N. E., Landi, M. T., Zhu, B., Chanock, S. J., Gu, et al
2019; 28 (5): 935-942
 - **Personalized Prostate Cancer Screening Based on a Single Midlife Prostate-specific Antigen Measurement.** *European urology*
Graff, R. E., Kachuri, L., Witte, J. S.
2019; 75 (3): 408-409
 - **Occupational Exposure to Diesel and Gasoline Engine Exhausts and the Risk of Kidney Cancer in Canadian Men.** *Annals of work exposures and health*
Peters, C. E., Parent, M. É., Harris, S. A., Bogaert, L., Latifovic, L., Kachuri, L., Villeneuve, P. J.
2018; 62 (8): 978-989
 - **Workplace exposure to asbestos and the risk of kidney cancer in Canadian men.** *Canadian journal of public health = Revue canadienne de sante publique*
Peters, C. E., Parent, M. É., Harris, S. A., Kachuri, L., Latifovic, L., Bogaert, L., Villeneuve, P. J.
2018; 109 (4): 464-472
 - **Mendelian Randomization and mediation analysis of leukocyte telomere length and risk of lung and head and neck cancers.** *International journal of epidemiology*
Kachuri, L., Saarela, O., Bojesen, S. E., Davey Smith, G., Liu, G., Landi, M. T., Caporaso, N. E., Christiani, D. C., Johansson, M., Panico, S., Overvad, K., Trichopoulou, A., Vineis, et al
2018
 - **Large-scale association analysis identifies new lung cancer susceptibility loci and heterogeneity in genetic susceptibility across histological subtypes.** *Nature genetics*
McKay, J. D., Hung, R. J., Han, Y., Zong, X., Carreras-Torres, R., Christiani, D. C., Caporaso, N. E., Johansson, M., Xiao, X., Li, Y., Byun, J., Dunning, A., Pooley, et al
2017; 49 (7): 1126-1132
 - **Cancer risks in a population-based study of 70,570 agricultural workers: results from the Canadian census health and Environment cohort (CanCHEC).** *BMC cancer*
Kachuri, L., Harris, M. A., MacLeod, J. S., Tjepkema, M., Peters, P. A., Demers, P. A.
2017; 17 (1): 343
 - **Systematic Review of Genetic Variation in Chromosome 5p15.33 and Telomere Length as Predictive and Prognostic Biomarkers for Lung Cancer.** *Cancer epidemiology, biomarkers & prevention : a publication of the American Association for Cancer Research, cosponsored by the American Society of Preventive Oncology*
Kachuri, L., Latifovic, L., Liu, G., Hung, R. J.
2016; 25 (12): 1537-1549
 - **Pesticide exposures and the risk of multiple myeloma in men: An analysis of the North American Pooled Project.** *International journal of cancer*
Presutti, R., Harris, S. A., Kachuri, L., Spinelli, J. J., Pahwa, M., Blair, A., Zahm, S. H., Cantor, K. P., Weisenburger, D. D., Pahwa, P., McLaughlin, J. R., Dosman, J. A., Freeman, et al
2016; 139 (8): 1703-14
 - **Workplace exposure to diesel and gasoline engine exhausts and the risk of colorectal cancer in Canadian men.** *Environmental health : a global access science source*
Kachuri, L., Villeneuve, P. J., Parent, M. É., Johnson, K. C., Harris, S. A.
2016; 15: 4
 - **Fine mapping of chromosome 5p15.33 based on a targeted deep sequencing and high density genotyping identifies novel lung cancer susceptibility loci.** *Carcinogenesis*
Kachuri, L., Amos, C. I., McKay, J. D., Johansson, M., Vineis, P., Bueno-de-Mesquita, H. B., Boutron-Ruault, M. C., Johansson, M., Quirós, J. R., Sieri, S., Travis, R. C., Weiderpass, E., Le Marchand, et al
2016; 37 (1): 96-105

- **Bladder cancer and occupational exposure to diesel and gasoline engine emissions among Canadian men.** *Cancer medicine*
Latifovic, L., Villeneuve, P. J., Parent, M. É., Johnson, K. C., Kachuri, L., Harris, S. A.
2015; 4 (12): 1948-62
- **Authors' response.** *Chronic diseases and injuries in Canada*
De, P., Kachuri, L., Ellison, L. F., Semenciw, R.
2014; 34 (4): 271
- **Occupational exposure to crystalline silica and the risk of lung cancer in Canadian men.** *International journal of cancer*
Kachuri, L., Villeneuve, P. J., Parent, M. É., Johnson, K. C., Harris, S. A.
2014; 135 (1): 138-48
- **Multiple pesticide exposures and the risk of multiple myeloma in Canadian men.** *International journal of cancer*
Kachuri, L., Demers, P. A., Blair, A., Spinelli, J. J., Pahwa, M., McLaughlin, J. R., Pahwa, P., Dosman, J. A., Harris, S. A.
2013; 133 (8): 1846-58
- **Cancer incidence, mortality and survival trends in Canada, 1970-2007.** *Chronic diseases and injuries in Canada*
Kachuri, L., De, P., Ellison, L. F., Semenciw, R.
2013; 33 (2): 69-80