Innovation in Breast Cancer

iBC 2024

15th • 16th Feb 2024

VIRTUAL FORMAT

Jacob K. Kresovich

H. Lee Moffitt Cancer Center & Research Institute, Tampa, USA

Education

2017	Ph.D. (Epidemiology), School of Public Health, University of Illinois at Chicago
2012	M.P.H. (Epidemiology), Mailman School of Public Health, Columbia University
2008	B.S. (Human Development), College of Human Ecology, Cornell University

Chronology of Employment

2022-current	Assistant Member, Department of Cancer Epidemiology & Department of Breast Oncology, H. Lee Moffitt Cancer Center and Research Institute
2022-current	Adjunct Assistant Professor, Department of Oncologic Sciences, Morsani College of Medicine, University of South Florida
2017-2022	Postdoctoral Research Fellow, Molecular & Genetic Epidemiology Group, Epidemiology Branch, National Institute of Environmental Health Sciences
2016	Graduate Research Assistant, Department of Ophthalmology, University of Illinois at Chicago
2015-2017	Research Intern, Center for Population Epigenetics, Northwestern University Feinberg School of Medicine
2015-2017	Predoctoral Fellow, National Cancer Institute Cancer Education and Career Development Program, University of Illinois at Chicago
2012-2015	Graduate Research Assistant, Division of Epidemiology and Biostatistics, University of Illinois at Chicago
2011-2012	Data Analyst, Department of Epidemiology, Columbia University
2010-2011	Research Support Specialist, Genome Resource Core, Weill Cornell Medical College
2008-2010	Lab Technician, Microarray Core Facility, Cornell University

Honors and Scientific Recognition

NIEHS Intramural Paper of the Month (Kresovich et al., JNCI), 2023
NIEHS Intramural Paper of the Month (Kresovich et al., Hypertension), 2023
NIEHS Intramural Paper of the Month (Kresovich et al., Hypertension), 2022
NIH Fellows Award for Research Excellence, 2021
NIEHS Three-Minute Communication Challenge, Talk Award, 2020
NIEHS Epidemiology Branch Science Day, People's Choice Award, 2019
NIEHS Intramural Paper of the Month (Kresovich et al., JNCI), 2019
NIH Summer Research Mentor Award, 2019
NIEHS Science Day, selected as Epidemiology Branch Representative, 2018, 2019
UIC Haenszel Award for Excellence in Research, 2017
Northwestern University Feinberg School of Medicine Research Day, Poster Award, 2017
UIC Health Professional Student Council Travel Award, 2017
UIC Chancellor's Student Service Award, 2016
UIC School of Public Health Research Day, Poster Award, 2016
AACR Integrative Molecular Epidemiology Workshop, Selected Trainee, 2015
UIC Chancellor's Graduate Research Award, 2015
Golden Key International Honor Society, 2013

Memberships

American Association for Cancer Research

Society for Epidemiologic Research

Research Interests

Molecular epidemiology, genetics & epigenetics, health disparities, breast cancer, environmental & reproductive risk factors, biology of aging

Research Funding

Current

2023 – 2024
Methylation-based Aging Predictors of Anthracycline-related Cardiotoxicity
Florida Breast Cancer Foundation
PI: Kresovich JK
Amount: $100,000

2023 – 2025
The Effects of Breast Cancer on Rates of Epigenetic Aging: A Longitudinal Study
NIH X01
PI: Kresovich JK

2022 – 2024
DNA Methylation Age Acceleration as a Novel Predictor for Cardiovascular Health in a Large Prospective Cohort of Breast Cancer Survivors
NIH X01
PI: Kresovich JK

2023 – 2024
Deep Phenotypic Characterization of Colorectal Cancer Patients to Identify Novel Predictors of Disease Recurrence
Moffitt Team Science
MPI: Kresovich JK/Siegal E/Stewart P
Amount: $149,998

2023 – 2024
Epigenetic Changes in Cervical Cancer Driving Immune Evasion, Progression, and Aging
CIIRC Pilot Project
PI: Ahmed K

Pending

2024 – 2029
The Effects of Breast Cancer on Trajectories of Epigenetic Aging: A Longitudinal Study
NIH R01
PI: Kresovich, JK
Amount: $2,612,485

2023 – 2028
Impact of Targeted Therapy on Cancer-Related Cognitive Impairment
NIH R01
MPI: Gonzalez/Janelsins

2023 – 2028
Biopsychosocial Impacts of Natural Disasters on Cancer Survivors
NIH R61/33
MPI: Gonzalez B/Tworoger SS

2024 – 2029
DNA Methylation Age Acceleration as a Novel Predictor for Cardiovascular Health in a Large Prospective Cohort of Breast Cancer Survivors
NIH R01
PI: Kresovich JK
Amount: $4,059,274

Completed

2022 – 2023
Leveraging DNA methylation to discover proteomic biomarkers and enhance risk prediction of breast cancer
Miles for Moffitt pilot fund
PI: Kresovich JK
Amount: $58,599

2017 – 2022
Genetic Susceptibility and the Environment in Cancer Risk
National Institute of Environmental Health Sciences (ZIAES049033)
PI: Taylor JA

2017 – 2022 Environmental Exposure and DNA Damage
National Institute of Environmental Health Sciences (ZIAES049032)
PI: Taylor JA

2016 Ocular Biomarkers of Microvascular, Neural and Metabolic Function in Diabetes
National Institute of Diabetes and Digestive and Kidney Diseases (1DP3DK104393)
PI: Shahidi M

2015 – 2017 Chancellor's Graduate Research Fellowship
University of Illinois at Chicago
PI: Kresovich JK
Amount: $8,000.00

2015 – 2017 Cancer Education and Career Development
National Cancer Institute (R25 CA057699)
PI: Fitzgibbon M

2015 – 2016 Toxic Heavy Metals and Smoking Exposures on Breast Cancer Characteristics
National Institute for Occupational Safety and Health (T42OH008672-10)
PI: Kresovich JK
Amount: $19,986.90

2012 – 2015 Centers for Population Health and Health Disparities
National Cancer Institute (P50CA106743-06)
PI: Warnecke RB/Calhoun EA

Teaching Activities

Mentorship

Moffitt Cancer Center

Mackenzie Gittinger, USF Medical Student, 2023-present
Stefanie Palfi, USF Medical Student, 2023-present
Jamila Mammadova, USF Medical Student, 2022-present

National Institute of Environmental Health Sciences

Emma Garval, NIH Summer Internship Program Fellow, 2019
Alexandra Martinez Lopez, NIH College Summer Opportunities to Advance Research Fellow, 2019

Teaching Assistant

University of Illinois at Chicago

EPID403: Introduction to Epidemiology: Principles and Methods, 2013-2016
EPID406: Epidemiologic Computing, 2016
EPID501: Advanced Quantitative Methods in Epidemiology, 2014-2016

Professional Activities and Service

Study Section Member, Moffitt American Cancer Society Institutional Research Grant, 2023
Panelist, Finding a Faculty Position, NCI Cancer Education & Career Development T32, 2023
Postdoctoral Recruitment Task Force, Moffitt Cancer Center, 2022-2023
Selection Committee, NIEHS Mentor of the Year Award, 2020
Awards Committee, Society for Epidemiology Research, 2020-2023
Panelist, Finding Postdoc Position, NCI Cancer Education & Career Development T32, 2021
Cohort Database Subcommittee, Telomere Research Network, 2020
Organizing Committee, NIEHS Epidemiology Branch Retreat, 2020
Chair, Sister Study Data User Meeting, 2019-2020
Poster Judge, NIEHS Summer Internship Program, 2018, 2019
Organizing Committee, NIEHS Epidemiology Branch Science Day, 2018
Abstract Reviewer, Society for Epidemiologic Research, 2018, 2020, 2021, 2022
Student Director, UIC Division of Epidemiology and Biostatistics Journal Club, 2015-2016
Graduate Editor, UIC Interdisciplinary Undergraduate Research Journal, 2016
Graduate Reviewer, UIC Interdisciplinary Undergraduate Research Journal, 2015

Ad Hoc Reviewer (selected)

Aging Cell
Aging Research Reviews
Annals of Epidemiology
Biological Trace Elemental Research
Biomedical and Environmental Research
Cancer Management and Research
Clinical Epigenetics
Environment International
Environmental Research
Environmental Science and Pollution Research
Epigenetics
Epigenomics
Frontiers in Oncology
Genetics & Epigenetics
International Journal of Cancer
JAMA Network Open
Journal of the Academy of Nutrition and Dietetics
Journals of Gerontology: Series A
The Lancet: Healthy Longevity
Mechanisms in Ageing & Development
Nature Cancer
Nature Communications
PLoS One
Proceedings of the National Academy of Sciences
Scientific Reports

Invited & Contributed Presentations

2017	Assessment of Breast Cancer Development and Aggressiveness with Heavy Metal Exposures in Illinois. Invited talk: NIEHS Epidemiology Branch Seminar. Research Triangle Park, NC; March 3.
	Assessment of Breast Cancer Development and Aggressiveness with Heavy Metal Exposures in Illinois. Invited talk: Haenszel Award Ceremony. University of Illinois at Chicago, School of Public Health. Chicago, IL; April 14.
2018	Epigenetic Age Predicts Breast Cancer. Contributed talk: NIEHS Science Day. Research Triangle Park, NC; November 1.
2019	Circulating Immune Cell Composition and Breast Cancer Risk. Contributed talk: Society for Epidemiologic Research Annual Meeting. Cancer Epidemiology. Minneapolis, MN; June 17.
	Prediagnostic Immune Cell Profiles and Breast Cancer Incidence. Contributed talk: NIEHS Science Days. Research Triangle Park, NC; November 7.
	DNA methylation and Breast Cancer: Signals of Mechanism and Risk. Invited talk: Hollins Cancer Center Research Seminar. Medical University of South Carolina, Charleston, SC; November 14.
2020	Molecular Phenotypes of Aging: Linking the Blood Epigenome to Breast Cancer. Invited talk: Translational Gerontology Branch Research Seminar. National Institute on Aging. [Virtual]; July 16.
	Epigenetic Predictors: Linking the Blood Epigenome to Breast Cancer. Invited talk: Center for Environmental Health and Susceptibility and the Cancer Epidemiology Research Seminar. University of North Carolina at Chapel Hill. [Virtual]; September 25.
	Blood DNA Methylation Profiles and Breast Cancer Prediction. Contributed talk: NIEHS Epidemiology Branch Science Day. [Virtual]; December 4.
	mBCRS: A Methylation-Based Risk Score for Breast Cancer. Contributed talk: Society for Epidemiologic Research Annual Meeting. Genetic Epidemiology. [Virtual]; December 13.
2021	CH3 Marks the Spot: Understanding Breast Cancer through DNA Methylation. Invited talk: Environmental and Occupational Health Seminar. University of Pittsburgh. [Virtual]; March 9.
	Methyl Marks the Spot: Understanding Breast Cancer through DNA Methylation. Invited talk: Special Seminar in Epidemiology. University of New Mexico Comprehensive Cancer Center. [Virtual]; June 11.
	Healthy Eating Patterns and Epigenetic Measures of Biological Age. Contributed Talk: Society for Epidemiologic Research Annual Meeting. Nutrition, Obesity, and Inflammation. [Virtual]; June 17.
	Methyl Marks the Spot: Understanding Breast Cancer through DNA Methylation. Invited talk: Special Seminar in Epidemiology. University of Florida Cancer Center. [Virtual]; July 17.
	Methyl Marks the Spot: Understanding Breast Cancer through DNA Methylation. Invited talk: Department of Cancer Epidemiology Seminar. Moffitt Comprehensive Cancer Center. [Virtual]; August 18.
	Methyl Marks the Spot: Understanding Breast Cancer through DNA Methylation. Invited talk: Epidemiology Grand Rounds. Vanderbilt University Medical Center. [Virtual]; October 11.
	Dietary Patterns and Epigenetic Measures of Biological Age. Invited Talk: NIH Nutrition Research Coordinating Committee Meeting. National Institute of Health. [Virtual]; December 2.
2023	DNA Methylation, Aging, and Breast Cancer. Invited Talk: Digital Aging and Cancer Center Retreat, Moffitt Comprehensive Cancer Center. Tampa, FL; February 9.
	Changes in Methylation Aging in Women Who Do and Do Not Develop Breast Cancer. Contributed talk: American Association for Cancer Research Annual Meeting. Survivorship and Biomarkers of Prognosis Mini-symposium. Orlando, FL; April 18.
	Methyl (CH3) Marks the Spot: Using DNA Methylation to Improve Prediction of Breast Cancer Incidence and Survival Outcomes. Invited Talk: Health Outcomes and Behaviors Program Meeting, Moffitt Comprehensive Cancer Center. Tampa, FL; June 1.
	Epigenetic Age Acceleration is a Predictor of Colorectal Cancer Recurrence. Invited Talk: ColoCare Annual Investigators Meeting, Heidelberg, Germany [Virtual]; November 2.