

Maria E. Kamenetsky, Ph.D., M.S.

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Education

- 2022 **Ph.D., Epidemiology**, *University of Wisconsin-Madison*
Department of Population Health Sciences
Minor: Computer Sciences
Dissertation: Regularized and Multi-Model Methods for Detecting Spatial and Spatio-Temporal Clusters with Applications in Epidemiology
Advisors: Ronald Gangnon, Ph.D. (Population Health Sciences; Biostatistics & Medical Informatics)
Jun Zhu, Ph.D. (Statistics)
- 2016 **M.S., Statistics**, *University of Wisconsin-Madison*
Department of Statistics
- 2011 **B.A., Economics, Political Science, International Studies**
Comprehensive Honors in Liberal Arts, *University of Wisconsin-Madison*.

Research Experience

- 2022–present **Postdoctoral Fellow**, *National Cancer Institute (NCI), National Institutes of Health (NIH)*
Division of Cancer Epidemiology & Genetics (DCEG),
Occupational & Environmental Epidemiology Branch (OEEB)/Biostatistics Branch (BB)
Rockville, MD
Mentors: Alexander Keil, Ph.D. & Paul Albert, Ph.D
- 2022–2024 **Honorary Fellow**, *University of Wisconsin-Madison*
Nelson Institute for Environmental Studies,
Environmental Observation & Informatics Program
Madison, Wisconsin
- 2016–2022 **Statistical Consultant**, *University of Wisconsin-Madison*
College of Agricultural and Life Sciences (CALS) Statistical Consulting Group,
Department of Computing & Biometry
Madison, Wisconsin
- 2021 **Biostatistics Consultant**, *University of Wisconsin-Madison*
School of Medicine and Public Health,
Path of Distinction in Public Health Program
Madison, Wisconsin
- 2020–2021 **Statistical Consultant**, *Wisconsin Department of Health Services*
Madison, Wisconsin
- 2017–2018 **Statistical Consultant**, Madison Water Utility
Madison, Wisconsin
- 2016 **Data Science Fellow**, *University of Chicago, Center for Data Science & Public Policy*
Eric & Wendy Schmidt Data Science for Social Good Fellowship
Chicago, Illinois

2015 **Graduate Research Assistant**, *University of Wisconsin-Madison*
Center for Demography & Ecology
Madison, Wisconsin

2011-2014 **Research Professional**, *University of Chicago, Accounting Research Center*
University of Chicago Booth School of Business
Chicago, Illinois

Honors & Awards

- 2025 Navigating Next Steps (NNS) Leadership and Career Program,
National Cancer Institute
- 2023 StatsForward Leadership Fellowship,
American Statistical Association
- 2021 Poster Winner: UW Women's Health And Health Equity Research Lecture & Symposium,
Department of Obstetrics and Gynecology, University of Wisconsin-Madison
- 2021 RStudio::Global(2021) Diversity Scholar
University of Wisconsin-Madison
- 2020 American Statistical Association (ASA) Wisconsin Chapter Student Virtual Travel Award
- 2020 Catherine Allen Outstanding Student Poster Award,
Department of Population Health Sciences, University of Wisconsin-Madison

Research Grants

Active Support

- 2024-present **Intramural Research Award (IRA) Grant**, NIH/NCI/DCEG (\$25,000)
Title: "The Role of Mixtures on Bladder Cancer Risk Across Space: An Examination Using Flexible Bayesian Quantile G-Computation"
Role: Principal Investigator

Past Support

- 2020 **Robert F. and Jean E. Holtz Center for Science and Technology Studies Grant**, (\$300)
University of Wisconsin-Madison
- 2019 **Student Research Travel Grant**, (\$1,200)
University of Wisconsin-Madison
- 2016 **Outstanding New Student Scholarship**, (\$2,000)
Department of Population Health Sciences, University of Wisconsin-Madison
- 2016 **Eric & Wendy Schmidt Data Science for Social Good Fellowship**, (\$16,000)
University of Chicago Center for Data Science & Public Policy

Research Publications

Peer-Reviewed

- 12 **Kamenetsky, M.**, Keil, A.P. (2025)“(Re-)Match: Adjusting for Matching Factors in Case-Control Studies Can Be Unnecessary or Insufficient”, *American Journal of Epidemiology*, 10.1093/aje/kwaf116, PMID: 40481657, *In press*.

- 11 **Kamenetsky, M.**, Welch, B., Bommarito, P., Buckley, J., O'Brien, K., White, A., McElrath, T., Cantonwine, D., Ferguson, K., Keil, A. (2025) "Partial Effects in Environmental Mixtures - Evidence and Guidance on Methods and Implications", *Environmental Health Perspectives* 133(5), 10.1289/EHP14942, PMID: 40145898.
- 10 Remigio, R.V., Buller, I.D., Bogel, M.S., **Kamenetsky, M.E.**, Ammons, S., Bell, J.E., Fisher, J.A., Freedman, N.D., Jones, R.R. (2025) "Geographic patterns in wildland fire exposures and county-level lung cancer mortality in the United States", *International Journal of Health Geographics*, 24(8), 10.1186/s12942-025-00394-x, PMID: 40217528.
- 9 **Kamenetsky, M.**, Bailey, E., Lowry, A., Gangnon, R., Staifel, B., Hoppe, K. (2024) "The Role of Neighborhood in Individual and Disparity-Level Factors and Birth Weight in Dane County, Wisconsin" *Wisconsin Medical Journal* 123(6): 422-426.
- 8 He, X., Tomasallo, C., Li, Z., Schultz, A., **Kamenetsky, M.**, Sjodin, A., Botelho, J., Jarrett, J., Meiman, J. (2022) "Fish consumption, awareness of fish advisories, and body burden of contaminants among the Milwaukee urban anglers: A biomonitoring study." *Journal of Toxicology and Environmental Health Sciences* 14(2): 20-35, 10.5897/JTEHS2022.0506
- 7 **Kamenetsky, M.**, Trentham-Dietz, A., Newcomb, P., Zhu, J., Gangnon, R.E.(2022) "A Flexible Method for Identifying Spatial Clusters of Breast Cancer Using Individual-Level Data." *Annals of Epidemiology* 73: 9-16, 10.1016/j.annepidem.2022.06.006, PMID: 35772615.
- 6 Gatti, R.C., Reich, P.B., Gamarra, J.G.P. [and 145 others, including **Kamenetsky, M.**] (2022) "The Number of Tree Species on Earth." *Proceedings of the National Academy of Sciences* 119(6):e2115329119, 10.1073/pnas.2115329119, PMID: 35101981.
- 5 **Kamenetsky, M.**, Lee, J., Zhu, J., Gangnon, R. (2022) "Regularized Spatial and Spatio-Temporal Cluster Detection." *Spatial and Spatio-Temporal Epidemiology* 41(1877-5845): 100462, 10.1016/j.sste.2021.100462, PMID: 35691644.
- 4 Lee, J., **Kamenetsky, M.**, Zhu, J., Gangnon, R. (2021). "Clustered spatio-temporal varying coefficient regression model." *Statistics in Medicine*. 40(2): 465-480, 10.1002/sim.8785, PMID: 33103247.
- 3 **Kamenetsky, M.**, Chi, G., Wang, D., Zhu, J. (2019). "Spatial Regression Analysis of Poverty in R." *Spatial Demography* 7(2-3): 1-35, 10.1007/s40980-019-00048-0, PMID: 31737778.
- 2 Mallinson, D., **Kamenetsky, M.**, Hagen, E., Peppard, P. (2019). "Subjective sleep measurement: comparing sleep diary to questionnaire." *Nature and Science of Sleep* 11: 197-206, 10.2147/NSS.S217867, PMID: 31686932.
- 1 Skarlupka, J., **Kamenetsky, M.**, Jewell, K., Suen, G. (2019). "The ruminal bacterial community in lactating dairy cows has limited variation on a day-to-day basis." *Journal of Animal Science and Biotechnology* 10: 66, 10.1186/s40104-019-0375-0.

In Progress

Under Revision

- 1 **Kamenetsky, M.**, Zhu, J., Gangnon, R.E. "Spatial and Spatio-Temporal Cluster Detection Using Stacking."

Invited Talks

Aug. 2025 A Flexible Bayesian Quantile G-Computation Approach for Modeling Environmental Mixtures Over Space

Kamenetsky, M.

Joint Statistical Meetings (JSM)

Nashville, TN

Jul. 2025 Bayesian Quantile G-Computation: A Flexible Mixtures Approach to Spatial Analysis

Kamenetsky, M.

Geographical Analysis Working Group

National Cancer Institute (NCI)

National Institutes of Health (NIH)

Virtual

Dec. 2023 Spatial Methods in Cluster Detection and Environmental Mixtures

Kamenetsky, M.

Office of Biostatistics Research (OBR)

National Heart, Lung, & Blood Institute (NHLBI)

National Institutes of Health (NIH)

Rockville, MD

Oct. 2023 Spatial Methods in Cluster Detection and Environmental Mixtures

Kamenetsky, M.

SLAM (Survival, Longitudinal, and Multivariate Data) Working Group

Johns Hopkins University

Baltimore, MD

Aug. 2023 Regularized and Multi-Model Methods for Spatial and Spatio-Temporal Cluster Detection

Kamenetsky, M.

Joint Statistical Meetings (JSM)

Toronto, Canada

- Aug. 2023 Regularized Spatial and Spatio-Temporal Cluster Detection: Applications to Breast Cancer
Kamenetsky, M., Lee, J., Zhu, J., Gangnon, R.
International Conference on Econometrics and Statistics (EcoSta) Tokyo, Japan (Hybrid)
- Jun. 2023 Partial Effects in Environmental Mixtures: Guidance on Methods, Assumptions, and Implications
Kamenetsky, M., Keil, A.
 Environmental Mixtures Working Group
National Institute of Environmental Health Sciences (NIEHS)
National Institutes of Health (NIH) Virtual
- Jan. 2023 Novel Spatial Methods in Cancer Surveillance and Environmental Mixtures
Kamenetsky, M.
 Department of Population Health Sciences
University of Wisconsin-Madison Madison, WI
- Jun. 2022 Quantifying wildfire smoke exposure in California school children
Kamenetsky, M., Velasquez, E., Kiang, M.
Society for Epidemiologic Research (SER) Annual Meeting Chicago, IL
- Mar. 2022 Spatial and Spatio-Temporal Clustering
Kamenetsky, M.
 Toronto Data Workshop
University of Toronto Virtual
- Dec. 2021 Spatial and Spatio-Temporal Cluster Detection: Methods and Applications
Kamenetsky, M.
 Keck School of Medicine - Environmental Health Division
University of Southern California Virtual

Contributed Oral Presentations

* indicates presenter.

- Aug. 2024 The Association Between Metal and Metalloids and Bladder Cancer Risk in the New England Bladder Cancer Study
Kamenetsky, M.*
Society for Epidemiologic Research (SER) Annual Meeting Boston, MA
- Aug. 2024 A Latent Spatial Model for Predicting a (Semi-)Metals Mixture in Private Wells
Kamenetsky, M.*, Kim, S.D., Albert, P., Keil, A.P.
International Society for Environmental Epidemiology (ISEE) Santiago, Chile (Hybrid)
- Aug. 2022 Cell-Wise Uncertainty Quantification of Spatial Clusters
Kamenetsky, M.*, Zhu, J., Gangnon, R.
Joint Statistical Meeting (JSM) Washington, DC
- Jun. 2022 Detecting Spatial and Spatio-Temporal Clusters of Disease Using Stacking
Kamenetsky, M.*, Zhu, J., Gangnon, R.

- Mar. 2021 Identifying Spatial Clusters of Breast Cancer Risk: A Lasso Approach to the Wisconsin Women's Health Study
Kamenetsky, M.*, Trentham-Dietz, A., Newcomb, P., Zhu, J., Gangnon, R.
ENAR Spring Meeting *Virtual*
- Dec. 2020 Identification of Breast Cancer Spatial Structures Based on the Wisconsin Women's Health Study
Kamenetsky, M.*, Trentham-Dietz, A., Newcomb, P., Gangnon, R.
Society for Epidemiologic Research (SER) Annual Meeting *Virtual*
- Aug. 2020 Detecting Disease Clusters Across Space and Time Using Model Averaging
Kamenetsky, M.*, Gangnon, R.
Joint Statistical Meetings (JSM) *Virtual*
- Sep. 2019 Statistical Analysis of Madison Water Utility Main Breaks
Kamenetsky, M.*, McClure, S.*
Wisconsin Section of the American Water Works Association *Madison, WI*
- Aug. 2016 Predicting Enforcement of Pollution and Hazardous Waste Violations in New York State
Potash, E., Jin, J., **Kamenetsky, M.***, Magee, D., Van der Boor, P., Ghani, R.
Data Science for Social Good Conference *Chicago, IL*

Poster Presentations

* indicates presenter.

- Jun. 2025 Old Tools to Address Persistent Problems: Assessing Health Disparities and Differences with Attributable Fractions
Keil, A.*, **Kamenetsky, M.**, Spaur, M., Madrigal, J.M., Robinson, W.R.
Society for Epidemiologic Research *Boston, MA*
- Jun. 2024 Partial Effects in Environmental Mixtures - Guidance on Methods, Assumptions, and Implications
Kamenetsky, M., Welch, B., Bommarito, P., Buckley, J., O'Brien, K., White, A., McElrath, T., Cantonwine, D., Ferguson, K., Keil, A.*
Society for Epidemiologic Research (SER) *Portland, OR*
- Jun. 2024 The Power of Mixtures
Keil, A.*, **Kamenetsky, M.**, Choi, G., Jones, R.R., Buckley, J.P.
Society for Epidemiologic Research (SER) *Portland, OR*
- Mar. 2024 Urinary and Fecal Metal Concentrations Affect Adult Human Gut Microbiome Composition in a Sample of the Wisconsin Population
Teffer, M.Y.*, **Kamenetsky, M.**, Berres, M., Bradfield, C., Malecki, K., Ronnekleiv-Kelly, S.
Society of Toxicology Meeting *Salt Lake City, UT*

- Feb. 2022 A Spatial Approach to Examining Individual and Disparity-Level Factors and Hypertensive Disorders of Pregnancy
Bailey, E.*, **Kamenetsky, M.**, Lowry, A., Gangnon, R., Hoppe, K.
Society of Maternal-Fetal Medicine Annual Pregnancy Meeting Kissimmee, FL
- Feb. 2022 A Spatial Approach to Examining Individual and Disparity-Level Factors and Birth Outcomes
Lowry, A.*, **Kamenetsky, M.**, Bailey, E., Gangnon, R., Hoppe, K.
Society of Maternal-Fetal Medicine Annual Pregnancy Meeting Kissimmee, FL
- Oct. 2021 A Spatial Approach to Examining Individual and Disparity-Level Factors and Hypertensive Disorders of Pregnancy
Bailey, E.*, **Kamenetsky, M.**, Lowry, A., Gangnon, R., Hoppe, K.
UW Women's Health And Health Equity Research Lecture & Symposium Madison, WI
- Mar. 2020 Space and Space-Time Cluster Detection Using the LASSO
Kamenetsky, M.*, Lee, J., Zhu, J., Gangnon, R.
UW-Madison Department of Population Health Sciences Annual Poster Session Madison, WI
- Jan. 2020 Space and Space-Time Cluster Detection Using the LASSO
Kamenetsky, M.*, Lee, J., Zhu, J., Gangnon, R.
UW-Madison Data Science Hub: Data Science Research Bazaar Madison, WI
- Jun. 2019 Space and Space-Time Cluster Detection Using the LASSO
Kamenetsky, M.*, Lee, J., Zhu, J., Gangnon, R.
Society for Epidemiologic Research (SER) Annual Meeting Minneapolis, MN

Teaching Experience

Co-Instructor

- Feb 2025 "Causal Inference Workshop" *Division of Cancer Epidemiology & Genetics (DCEG)
National Cancer Institute (NCI)*

Guest Lecturer

- Spring 2023 "Introduction to Spatial Analysis for Public Health" *George Mason University*

Instructor

- Spring 2022, 2021, 2020, 2019 Spatial Statistics for Lattice Data (STAT 679-III) *University of Wisconsin-Madison*

Teaching Assistant

- Fall 2014 Introductory Statistics (STAT 301) *University of Wisconsin-Madison*

Workshops

- 2021 R/Medicine 2021
- *Teaching Assistant: Mapping Spatial Health Data (Instructor: Marynia Kolak) (Aug. 2021)*
- 2021 A Crash Course on Git & GitHub
- *Instructor (Apr. 2021)*

- 2021 Introduction to Git
 - *Helper* (Mar. 2021)
- 2021 RStudio::Global(2021) Conference Workshop:
 - *Teaching Assistant*: Introduce Yourself Online (Instructor: Alison Hill) (Jan. 2021)
- 2019-21 Geospatial Carpentry
 - *Instructor*: Raster Data (Jul. 2019, Jul. 2020, Jul. 2021)
- 2020 Reproducible Research: Practical Tools & Applications Workshop
 - *Instructor*: Reproducible Visualization
- 2019 R for Researchers Workshop Series
 - *Instructor*: Introduction to the Unix Shell (Nov. 2019)
 - *Helper*: Visualization with ggplot2, Data Wrangling with dplyr (Mar. 2019)
- 2019 Data Carpentry: Health Sciences Workshop
 - *Instructor*: Introduction to ggplot2 (Jun. 2019)
 - *Instructor*: Introduction to RMarkdown (Jun. 2019)
- 2018-2019 Data Carpentry: Ecology Workshop
 - *Instructor*: Introduction to R (Jun. 2018, Aug. 2018)
 - *Instructor*: Introduction to ggplot2 (Jan. 2019)
 - *Instructor*: Introduction to RMarkdown (Jan. 2019)
- 2017-2020 Software Carpentry: Unix Shell, Python, & Git
 - *Helper*: (Aug. 2017, Jan. 2018, Apr. 2020)

Mentoring

- 2023-24 Ph.D. Candidate, *Molecular & Environmental Toxicology, University of Wisconsin-Madison*
- 2023 Summer Volunteer, *Biostatistics Branch, National Cancer Institute*
- 2020 MS Student, Environmental Observation & Informatics, *University of Wisconsin-Madison*
- 2020 Women in Scientific Education and Research, *University of Wisconsin-Madison*
- 2019, 2020 Population Health Sciences Peer Connections, *University of Wisconsin-Madison*

Service

Institutional

- 2024 DCEG Grants and Grantsmanship: Tips on Applying for Grant Funding
 - Panelist
- 2023 OEEB Branch Concept Study Review, *National Cancer Institute*
 - Reviewer
- 2022-2023 DCEG Fellows' Committee, *National Cancer Institute*
 - Biostatistics Branch Representative
- 2022-2024 DCEG Fellows Writing & Accountability Group, *National Cancer Institute*
 - Founder, Facilitator
- 2020-2022 Population Health Sciences Writing Group, *University of Wisconsin-Madison*
 - Organizer
- 2017-2022 Population Health Sciences Student Organization, *University of Wisconsin-Madison*

- Social Media Chair (2020-21)
- Curriculum Committee Representative (Epidemiology) (2020-21; 2018-19)
- Admissions Committee Representative (2019-20)
- Social Chair (2017-18)

Reviewer

International Journal of Health Geographics

Statistics in Medicine

American Journal of Epidemiology

The R Journal

Computational Statistics and Data Analysis

Environmental Health Perspectives

Annals of Epidemiology

BMC Public Health

Computational Statistics

Cancers

Journal of Computational and Graphical Statistics

Biostatistics

Professional

- 2025 Session Chair, Joint Statistical Meetings (JSM) - Nashville
- 2023 Session Chair, Joint Statistical Meetings (JSM) - Toronto
- 2021-2024 Communications Committee, *Society for Epidemiologic Research (SER)*
- 2021, 2022 Abstract Reviewer, *Society for Epidemiologic Research (SER)*
- 2021 Awards Committee, *American Statistical Association (ASA)*, *Statistics in Epidemiology Section*
- 2021 Session Chair, ENAR Spring Meeting

Volunteering & Outreach

- 2021 UW-Madison Carpentries Instructor Development Meeting: "Teaching Debugging to Learners", *University of Wisconsin-Madison*
- 2021 Pathogen Dynamics Lab: "A Crash Course on Git & GitHub", *University of Cambridge*
- 2021 useR Boston Meetup: "Self-Assessment with learnR"
- 2019 Biostatistics Tutor, *University of Wisconsin-Madison*
- 2014 Statistics Tutorial Lab, *University of Wisconsin-Madison*

--- **Software Development**

- 2022 *clustack*, an R package for detecting and mapping spatial and spatio-temporal clusters using stacking (maintainer & developer: M. Kamenetsky)
- 2021 *clusso*, an R package for detecting and mapping spatial and spatio-temporal clusters using the LASSO (maintainer & developer: M. Kamenetsky)
- 2020 *strm*, an R package that fits a spatio-temporal regression model based on Chi & Zhu *Spatial Regression Models for the Social Sciences* (2020) (maintainer & developer: M. Kamenetsky). Available on CRAN.

2020 `coefclust`, an R package for detecting spatial clusters in regression coefficients (developer: J. Lee; maintainer: M. Kamenetsky)

■ Certification

2018 Certified Instructor - Data, Software, and Library Carpentry (The Carpentries)

■ Professional Society Membership

2022–present International Biometric Society (East North American Region)

2018–present Society for Epidemiologic Research

2016–present American Statistical Association

■ Additional Training

2023 Speaking with the Media
National Cancer Institute

2023 Ethics in Research
National Institutes of Health

2023 Mental Health First Aid Kit
National Institutes of Health

2022 Grant-Writing Workshop
National Institute on Aging, NIH

2022 Grants and Grantsmanship Workshop Series
National Cancer Institute, NIH

2022 Scientists Teaching Science Workshop
National Institutes of Health

■ Skills

Statistical R (advanced), SAS (advanced), STATA (intermediate)
Scripting Python (intermediate), Unix Shell (intermediate), C++ (beginner)
Databases PostgreSQL (beginner), MySQL (beginner)
Markup Markdown (advanced), $\LaTeX$ (intermediate)
VersionControl Git (intermediate)
OS Unix/Linux (Ubuntu, RedHat), MacOS, MS Windows
Other SaTScan (advanced), QGIS (beginner), Inkscape (intermediate), GIMP (beginner)
Languages Russian (fluent), Spanish (intermediate), English (native language)