BIOGRAPHICAL SKETCH

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NAME: Mooney, Stephen

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

POSITION TITLE: Associate Professor, Epidemiology

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
Yale University, New Haven, CT	B.S	05/1998	Computer Science
Columbia University, New York, NY	M.S.	05/2012	Epidemiology
Columbia University, New York, NY	Ph.D.	08/2016	Epidemiology
Harborview Injury Prevention & Research Center, University of Washington, Seattle, WA	Post-doctoral	07/2018	Injury Prevention

A. Personal Statement

I am an Associate Professor in the Department of Epidemiology at the University of Washington. My research focuses on the intersection of place and health, with particular emphasis on epidemiologic methods (Mooney 2018), social determinants of health (Mooney 2022), and conceptualizing and measuring inequity in urban spaces (Mooney 2019, Mooney 2021).

I will serve as lead investigator for the PHI SODA-SOAP evaluation proposal, and will lead the analysis for Aim 2, drawing on my experience with spatial analysis, big data, and causal methods.

Citations

1. Mooney SJ, Shev AB, Keyes KM, Tracy M, Cerdá M. 2022. G-Computation and Agent-Based Modeling for Social Epidemiology: Can Population Interventions Prevent Posttraumatic Stress Disorder? Am J Epidemiol. 2022 Jan 1;191(1):188-197. doi: 10.1093/aje/kwab219. PMID: 34409437; PMCID: PMC8897987.
2. Mooney SJ, Hosford K, Howe B, Yan A, Winters M, Bassok A, Hirsch JA. Freedom from the station: Spatial equity in access to dockless bike share. Journal of transport geography. 2019 Jan 1;74:91-6. PMID: 31548761; PMCID: PMC6756758
3. Mooney SJ, Song L, Drewnowski A, Buskiewicz J, Mooney SD, Saelens BE, Arterburn DE. From the clinic to the community: Can health system data accurately estimate population obesity prevalence? Obesity (Silver Spring). 2021 Nov;29(11):1961-1968. doi: 10.1002/oby.23273. Epub 2021 Oct 4. PMID: 34605194; PMCID: PMC8571026.
4. Mooney SJ, Magee C, Dang K, Leonard JC, Yang J, Rivara FP, Ebel BE, Rowhani-Rahbar A, Quistberg DA. "Complete Streets" and Adult Bicyclist Fatalities: Applying G-Computation to Evaluate an Intervention That Affects the Size of a Population at Risk. Am J Epidemiol. 2018 Sep 1;187(9):2038-2045. doi: 10.1093/aje/kwy100. PMID: 29767676; PMCID: PMC6118069.

Positions and Scientific Appointments
2024-   Associate Professor, University of Washington, Seattle, WA
2019-2024   Assistant Professor, University of Washington, Seattle, WA

2018-2023	Research Core Associate Director, Harborview Injury Prevention & Research Center, Seattle, WA
2018-2019	Acting Assistant Professor, University of Washington, Seattle, WA
2016-2018	Postdoctoral Research Fellow, University of Washington, Seattle, WA
2011-2012	Research Assistant, Columbia University, New York City, NY
2008-2011	Generalist Programmer, AdNectar, Palo Alto, CA
2004-2008	Lead Developer, Pure Networks, Seattle, WA
1998-2004	Software Design Engineer, Microsoft, Redmond, WA

Honors

2016   Gelman Award for Excellence in Epidemiology Columbia University, New York, NY
2016   Haddon Award for Excellence in Injury Epidemiology, Columbia University, New York, NY
2014   Donald Gemson Memorial Scholarship for Epidemiology
2012   Gelman Award for Excellence in Epidemiology, Columbia University, New York, NY
1994   National Merit Scholar

C. Contributions to Science

1. Assessment of built and social environment conditions requires both advanced data wrangling skills and attention to statistical and inferential complexities. I led development of the Automatic Context Measurement Tool, a software package to spatially link hundreds of publicly available data sources to any location in the continental United States (Mooney 2020) and pioneered the Neighborhood Environment-Wide Association Study (NE-WAS) design to generate hypotheses with such data (Mooney 2017). Building on this work, my students have explored latent profile analysis-derived typologies (Zewdie 2024) and bioinformatic pipeline approaches (Xie 2023) to better profile the geospatial roots of health disparties

1. Mooney SJ, Hurvitz PM, Moudon AV, Zhou C, Dalmat R, Saelens BE. Residential neighborhood features associated with objectively measured walking near home: Revisiting walkability using the Automatic Context Measurement Tool (ACMT). Health Place. 2020 May;63:102332. doi: 10.1016/j.healthplace.2020.102332. Epub 2020 Apr 24. PMID: 32543423; PMCID: PMC7306420.
2. Mooney SJ, Joshi S, Cerdá M, Kennedy GJ, Beard JR, Rundle AG. Contextual Correlates of Physical Activity among Older Adults: A Neighborhood Environment-Wide Association Study (NE-WAS). Cancer Epidemiol Biomarkers Prev. 2017 Apr;26(4):495-504. doi: 10.1158/1055-9965.EPI-16-0827. Epub 2017 Feb 2. PMID: 28154108; PMCID: PMC5380580.
3. Zewdie HY, Robinson JR, Adams MA, Hajat A, Hirsch JA, Saelens BE, Mooney SJ. A tale of many neighborhoods: Latent profile analysis to derive a national neighborhood typology for the US. Health Place. 2024 Mar;86:103209. doi: 10.1016/j.healthplace.2024.103209. Epub 2024 Feb 25. PMID: 38408408; PMCID: PMC10998688.
4. Xie SJ, Kapos FP, Mooney SJ, Mooney S, Stephens KA, Chen C, Hartzler AL, Pratap A. Geospatial divide in real-world EHR data: Analytical workflow to assess regional biases and potential impact on health equity. AMIA Jt Summits Transl Sci Proc. 2023 Jun 16;2023:572-581. PMID: 37350875; PMCID: PMC10283143.

2. Methodological challenges arise when using case-control and case-only study designs, particularly when using secondary data for which sampling populations are unknown (Garber 2023). These designs which are particularly common in injury research. I and my collaborators and mentees have led research investigating these methodological issues (Garber 2021) and making suggestions for how best to resolve them (Ratanatharathorn 2023, Rundle 2022).

1. Ratanatharathorn A, Mooney SJ, Rybicki BA, Rundle AG. A flexible matching strategy for matched nested case-control studies. Ann Epidemiol. 2023 Oct;86:49-56.e3. doi: 10.1016/j.annepidem.2023.06.023. Epub 2023 Jul 7. PMID: 37423269; PMCID: PMC10538416.
2. Rundle AG, Bader MDM, Branas CC, Lovasi GS, Mooney SJ, Morrison CN, Neckerman KM. Causal Inference with Case-Only Studies in Injury Epidemiology Research. Curr Epidemiol Rep. 2022 Dec;9(4):223-232. doi: 10.1007/s40471-022-00306-8. Epub 2022 Sep 29. PMID: 37152190; PMCID: PMC10161782.

3. Garber MD, Watkins KE, Flanders WD, Kramer MR, Lobelo RLF, Mooney SJ, Ederer DJ, McCullough LE. Bicycle infrastructure and the incidence rate of crashes with cars: A case-control study with Strava data in Atlanta. J Transp Health. 2023 Sep;32:101669. doi: 10.1016/j.jth.2023.101669. Epub 2023 Aug 11. PMID: 38196814; PMCID: PMC10773466.
4. Garber MD, McCullough LE, Mooney SJ, Kramer MR, Watkins KE, Lobelo RLF, Flanders WD. At-risk-measure Sampling in Case-Control Studies with Aggregated Data. Epidemiology. 2021 Jan;32(1):101-110. doi: 10.1097/EDE.0000000000001268. PMID: 33093327; PMCID: PMC7707160.

3. Working with emerging technologies, including machine learning (Rundle 2022), natural language processing/large language models (Zhou 2023, MacPhaul 2023), and 'Big Data' (Fadda 2022) poses unique technical, inferential, and ethical challenges and opportunities. I have led both conceptual and practical investigations to identify and overcome these challenges.

1. Zhou W, Prater LC, Goldstein EV, Mooney SJ. Identifying Rare Circumstances Preceding Female Firearm Suicides: Validating A Large Language Model Approach. JMIR Ment Health. 2023 Oct 17;10:e49359. doi: 10.2196/49359. PMID: 37847549; PMCID: PMC10618876.
2. MacPhaul E, Zhou L, Mooney SJ, Azrael D, Bowen A, Rowhani-Rahbar A, Yenduri R, Barber C, Goralnick E, Miller M. Classifying Firearm Injury Intent in Electronic Hospital Records Using Natural Language Processing. JAMA Netw Open. 2023 Apr 3;6(4):e235870. doi: 10.1001/jamanetworkopen.2023.5870. PMID: 37022685; PMCID: PMC10080369.
3. Rundle AG, Bader MDM, Mooney SJ. Machine Learning Approaches for Measuring Neighborhood Environments in Epidemiologic Studies. Curr Epidemiol Rep. 2022;9(3):175-182. doi: 10.1007/s40471-022-00296-7. Epub 2022 Jun 30. PMID: 35789918; PMCID: PMC9244309.
4. Fadda M, Sykora M, Elayan S, Puhan MA, Naslund JA, Mooney SJ, Albanese E, Morese R, Gruebner O. Ethical issues of collecting, storing, and analyzing geo-referenced tweets for mental health research. Digit Health. 2022 Apr 12;8:20552076221092539. doi: 10.1177/20552076221092539. PMID: 35433020; PMCID: PMC9008807.

Complete List of Published Work in MyBibliography:
https://www.ncbi.nlm.nih.gov/sites/myncbi/stephen.mooney.1/bibliography/47772813/public/?sort=date&direction=ascending