

Rachel S. Bergmans, MPH, PhD
Research Investigator, Chronic Pain & Fatigue Research Center
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Education and Training

Education

08/2007-12/2009	BA, Department of Kinesiology, Hope College, Holland, Michigan
08/2011-05/2013	MPH, Department of Environmental Health Sciences, School of Public Health, University of Michigan, Ann Arbor, Michigan
08/2013-08/2017	PhD, Department of Population Health Sciences, School of Medicine and Public Health, University of Wisconsin, Madison, Wisconsin

Postdoctoral Training

07/2017-06/2020	Fellowship, Department of Psychiatry, Michigan Medicine, Ann Arbor, Michigan
06/2020-08/2021	Fellowship, Institute for Social Research, University of Michigan, Ann Arbor, Michigan
09/2021-present	Fellowship, Department of Rheumatology, Michigan Medicine, Ann Arbor, Michigan

Research Interests

Chronic pain and autoimmune disorders, comorbid mood disorders, and the influence of social and environmental factors on health inequities in these conditions.

Grants

Active

Title of Study: University of Michigan BACPAC Mechanistic Research Center - Janevic/Bergmans Supplement

Grant #: NOT-NS-21-025

Sponsor: National Institute of Arthritis and Musculoskeletal and Skin Diseases

Role: Co-Investigator (Multiple Principal Investigators: Daniel Clauw, Afton Hassett)

Title of Study: Ancestry Dependent Mapping of Skin at a Single Cell Level UCI-CZI

Sponsor: University of California, Irvine and the Chan Zuckerberg Initiative

Role: Multiple Principal Investigator (Multiple Principal Investigators: Johann Gudjonsson, J Michelle Kahlenberg, Lam Tsoi, Rachel Bergmans, Allison Billi)

Previous

Title of Study: Enhancing Retrospective Life History Data in the Health and Retirement Study

Grant #: R01AG051142

Date: 09/2014-06/2024

Sponsor: National Institute on Aging

Role: Postdoctoral Research Fellow (Principal Investigator: Jacqui Smith)

Title of Study: Targeting the Gut Microbiome to Improve Psychiatric Treatment Paradigms
Date: 07/2018-05/2018
Sponsor: Michigan Institute for Clinical & Health Research
Role: Postdoctoral Research Fellow (Principal Investigator: Melvin McInnis)

Submitted

Title of Study: Promoting equity in lupus care and research through community engagement
Sponsor: QSR International (Americas) Inc.
Role: Principal Investigator

Honors and Awards

Honors

09/2013	Elliot Dick Fellowship, Department of Population Health Sciences, School of Medicine and Public Health, University of Wisconsin, Madison, Wisconsin
09/2015	Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) Doctoral Training Fellowship (T32), Center for Demography and Ecology, University of Wisconsin, Madison, Wisconsin
06/2018	National Institute of Mental Health (NIMH) Post-Doctoral Training Fellowship (T32), Department of Psychiatry, Medical School, University of Michigan, Ann Arbor, Michigan
07/2018	National Institute of Mental Health (NIMH) Research Career Institute in Mental Health of Aging Fellowship (CIMA), Mental Health and Aging Research Network
06/2019	Michigan Center for Urban African American Aging Research (MCUAAAR) Summer Workshop Fellow, Wayne State University, Lansing, Michigan
09/2021	Fellowship (T32), Department of Rheumatology, Medical School, University of Michigan, Ann Arbor, Michigan

Awards

04/2014	40 Chances Seed Grant: National Agricultural Innovation Prize, Howard G. Buffet Foundation
04/2014	Wisconsin Energy and Sustainability Challenge Award, Office of Sustainability, University of Wisconsin, Madison, Wisconsin
09/2015	Climate Quest Award, Office of Sustainability, University of Wisconsin, Madison, Wisconsin
02/2016	Ira and Ineva Reilly Baldwin Wisconsin Idea Endowment Award, Office of the Provost, University of Wisconsin, Madison, Wisconsin
08/2018	Annual Conference Travel Award, National Network of Depression Centers (NNDC), Ann Arbor, Michigan
08/2018	Oscar Stern Strategic Translational Research (STAR) Award, Depression Center, University of Michigan, Ann Arbor, Michigan
10/2018	National Institutes of Health (NIH) Loan Repayment Program (LRP) Clinical Research Award, National Center for Advancing Translational Sciences

05/2020	Michigan Lifestage and Environmental Exposures and Disease (M-LEEaD) Center Scientist Award, National Institute of Environmental Health Sciences M-LEEaD Center, University of Michigan, Ann Arbor, Michigan
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Memberships in Professional Societies

2016-2017	Population Association of America
2020-2021	Geriatric Society of America
2021-present	International Society of Environmental Epidemiology

Editorial Positions, Boards, and Peer-Review Service

Journal Reviewer

2017-2018	British Journal of Nutrition
2018	British Medical Journal Open
2018, 2020	Public Health Nutrition
2019-2020	Preventive Medicine
2019	Diabetes Care
2020-2021	Social Psychiatry & Psychiatric Epidemiology
2020	Aging & Society
2020	Journals of Gerontology: Social Sciences
2021	Journal of Epidemiology and Community Health
2021	American Journal of Public Health
2021	Environmental Research
2021	Journal of Clinical Rheumatology

Teaching and Mentoring

Undergraduate Students

09/2019-Present	Riley Wegryn-Jones, College of Literature, Science, and the Arts, University of Michigan, Ann Arbor, Michigan Major: Undeclared
06/2020-Present	Emma Loewenstein, College of Literature, Science, and the Arts, University of Michigan, Ann Arbor, Michigan Major: Psychology
09/2020-08/2021	Grace Schaefer, College of Literature, Science, and the Arts, University of Michigan, Ann Arbor, Michigan Major: Biology, Health, & Society/Pre-Med
09/2020-Present	Christine Yu, College of Literature, Science, and the Arts, University of Michigan, Ann Arbor, Michigan Major: Undeclared
09/2020-Present	Lillian Xiao, College of Pharmacy, University of Michigan, Ann Arbor Major: Pharmaceutical Sciences
09/2020-Present	Tasfia Chowdhury, College of Literature, Science, and the Arts, University of Michigan, Ann Arbor, Michigan Major: Undeclared

04/2020-Present	Samantha Dell'Imperio, College of Literature, Science, and the Arts, University of Michigan, Ann Arbor, Michigan Major: Undeclared
10/2021-Present	Deena Aboul-Hassan, College of Literature, Science, and the Arts, University of Michigan, Ann Arbor, Michigan Major: Undeclared
10/2021-Present	Nikki Farahani, College of Literature, Science, and the Arts, University of Michigan, Ann Arbor, Michigan Major: Undeclared
10/2021-Present	Bhaavna Yalavarthi, College of Literature, Science, and the Arts, University of Michigan, Ann Arbor, Michigan Major: Undeclared

Graduate Students

08/2017-08/2020	Kristen Kelly, Department of Epidemiology, University of Michigan, Ann Arbor, Michigan Degree: Doctor of Philosophy
09/2018-05/2020	Erica Bennion, Department of Epidemiology, University of Michigan, Ann Arbor, Michigan Degree: Master of Public Health
09/2018-05/2020	Ashley Rapp, Department of Epidemiology, University of Michigan, Ann Arbor, Michigan Degree: Master of Public Health
07/2020-Present	Alan Fossa, Department of Epidemiology, University of Michigan, Ann Arbor, Michigan Degree: Pre-Doctoral Candidate

Medical Students

05/2021-07/2021	Lauren Henderson, Michigan Medicine, Ann Arbor, Michigan
12/2021-present	Kourtney Pony, Michigan Medicine, Ann Arbor, Michigan

Research Fellows

06/2021-present	Meriah Moore, Michigan Medicine, Ann Arbor, Michigan
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Institutional

06/2014-10/2014	Course Development, PHS 650: Introduction to Environmental Health A Systems Science Approach, University of Wisconsin, Madison, Wisconsin
10/2014-05/2015	Teaching Assistant, PHS 650: Introduction to Environmental Health A Systems Science Approach, Department of Population Health Sciences, School of Medicine & Public Health, University of Wisconsin, Madison, Wisconsin
04/2015, 04/2016	Invited Speaker, PHS 798: Introduction to Environmental Health Perspectives, Department of Population Health Sciences, School of Medicine and Public Health, University of Wisconsin, Madison, WI

11/2015	Panelist, A New Politics of Human Rights: Crossing Disciplines, Regions, and Issues (Conference), “Panel 3: Climate Change and Human Rights: Mitigation, Adaptation, and Vulnerable Communities”, University of Wisconsin, Madison, Wisconsin
02/2016	Invited Speaker, PHS 820: Graduate Seminar, Department of Population Health Sciences, School of Medicine and Public Health, University of Wisconsin, Madison, Wisconsin
10/2018	Invited Speaker, Center for Social Epidemiology and Population Health Seminar Series, “Environmental Health: Can targeting food insecurity improve mental health within the context of diabetes care?”, Department of Epidemiology, School of Public Health, University of Michigan, Ann Arbor, Michigan
03/2020	Invited Speaker, PUBHLTH 309: Hunger in America: Building Skills to Feed Communities, School of Public Health, University of Michigan, Ann Arbor, Michigan
09/2019-05/2020	Teaching Assistant, EPID 604: Applications of Epidemiology, Department of Epidemiology, School of Public Health, University of Michigan, Ann Arbor, Michigan
12/2021	Invited Speaker, Lupus Conference, Division of Rheumatology, Internal Medicine, Medical School, University of Michigan, Ann Arbor, Michigan

Regional

04/2016	Invited Speaker, BIOL 298: Human Health and Sustainable Nutrition, University of Wisconsin-Platteville Baraboo Sauk County, Baraboo, Wisconsin
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Committee, Organization, and Volunteer Service

Committee

07/2020-Present	Dissertation Committee Member, Alan Fossa, Department of Epidemiology, University of Michigan, Ann Arbor, Michigan
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Institutional

09/2011-05/2013	Organization Member, Public Health Action Support Team, Ann Arbor, Michigan
08/2013-05/2017	Chair and Co-Chair, University of Wisconsin Population Health Sciences Student Organization, Madison, Wisconsin
09/2017-05/2018	Peer Mentor, Women in Science and Engineering, University of Michigan, Ann Arbor, Michigan
09/2019-present	Mentor, Undergraduate Research Opportunity Program, University of Michigan, Ann Arbor, Michigan

Regional

08/2012-02/2013	Manuscript Reviewer, University Network for Health Information Dissemination and Exchange, Ann Arbor, Michigan
09/2015-05/2016	Foodbank Distribution, Affordable and Healthy Cooking Program, Lussier Community Education Center, Madison, Wisconsin
09/2015-05/2017	Program Founder and Coordinator, West Madison Community Kitchen Program, Madison, Wisconsin

Volunteer

01/2010-08/2010	Literacy Tutor, Literacy Center of West Michigan, Grand Rapids, Michigan
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Presentations

Extramural Invited Presentations

06/2014	SXSW Eco 2015: Addressing the Challenges of Our Time, “Entomophagy 101: Small Bugs, Big Gains”, Austin, Texas
10/2014	International Cancer Education Conference: Building Global Bridges, Providing Quality Cancer Education, “Career Epidemiology and Career Development in Cancer Education”, Clearwater, Florida
03/2017	Children’s Health Research Institute of Manitoba Research Rounds, “Food insecurity and its effect on adult and child health: The role of dietary inflammatory potential”, University of Manitoba, Winnipeg, Manitoba, Canada
09/2018	Michigan Violent Deaths Reporting System, “Air quality and aeroallergens as risk factors for completed suicide and depression severity”, Michigan Department of Health and Human Services, Lansing, Michigan
08/2019	Michigan Lifestage Environmental Exposures and Disease Center (M-LEEaD) Stakeholder Advisory Board Meeting, “Aeroallergens, air quality, and suicide”, Detroit, Michigan
06/2021	Healthy Flint Research Coordinating Center (HFRCC) Community Academic Research Seminar (CARES) Series, “Tailoring a pain and fatigue self-management intervention for Long COVID in partnership with stakeholders from Black communities”, Flint, Michigan (Virtual Presentation)

Bibliography

Peer Reviewed Publications

*Maiden name

1. Peterson JW, **Burkhart RS***, Shaw DC, Schuiling AB, Haserodt MJ, Seymour M. Experimental determination of ampicillin adsorption to nanometer-size Al₂O₃ in water. *Chemosphere* 80(11), 1268-1273. Sept 2010

2. Peterson JW, Petrasky LJ, Seymour MD, **Burkhart RS***, Schuiling AB. Adsorption and breakdown of penicillin antibiotic in the presence of titanium oxide nanoparticles in water. *Chemosphere* 87(8), 911-917 May 2012
3. **Bergmans RS**, Soliman AS, Ruterbusch J, Meza R, Hirko K, Graff J, Schwartz K. Cancer Incidence among Arab Americans in California, Detroit, and New Jersey SEER Registries. *Am J Public Health* 146(6), e83-e91. Jun 2014
4. Peterson JW, Petrasky LJ, Seymour M, **Bergmans RS**. Laboratory Investigation of Antibiotic Interactions with Fe₂O₃ Nanoparticles in Water. *J Environ Eng* 142(5), 04016015. May 2016
5. Saiz AM, Aul AM, Malecki KM, Bersch AJ, **Bergmans RS**, LeCaire TJ, Nieto FJ. Food Insecurity and Cardiovascular Health: Findings from a Statewide Population Health Survey in Wisconsin. *Prev Med* 93:1-6. Dec 2016
6. **Bergmans RS**, Malecki K. The association of dietary inflammatory potential with depression and mental well-being among U.S. adults. *Prev Med* 99:313-319. Jun 2017
7. Malecki KCM, Schultz AA, **Bergmans RS**. Neighborhood Perceptions and Cumulative Impacts of Low-Level Chronic Exposure to Fine Particulate Matter (PM_{2.5}) on Cardiopulmonary Health. *Int. J. Environ. Res. Publ. Health* 15(1) pii: E84. Jan 2018
8. **Bergmans RS**, Berger L, Palta M, Robert S, Ehrental DB, Malecki KM. Participation in the Supplemental Nutrition Assistance Program and maternal depressive symptoms: Effect modification by program perception. *Soc Sci Med* 197:1-8. Jan 2018
9. **Bergmans RS**, Palta M, Robert SA, Berger LM, Ehrental DB, Malecki KM Associations between food security status and dietary inflammatory potential within lower-income adults from the United States National Health and Nutrition Examination Survey (NHANES), cycles 2007 to 2014. *J Acad Nutr Diet* 118(6):994-1005. 2018
10. Stull VJ, Finer E, **Bergmans RS**, Febvre HP, Longhurst C, Manter DK, Patz JA, Weir TL. Impact of Edible Cricket Consumption on Gut Microbiota in Healthy Adults, a Double-blind, Randomized Crossover Trial. *Scientific Reports* 8:10762. 2018
11. Stull VJ, Wamulume M, Mwalukanga MI, Banda A, **Bergmans RS**, Bell MM. Aug 2018. "We like insects here": entomophagy and society in a Zambian village. *Agric Hum Values* 35(4):867-883. Aug 2018
12. **Bergmans RS**, K Zivin, B Mezuk. Depression, food insecurity and diabetic morbidity: Evidence from the Health and Retirement Study. *J Psychosom Res.* 117:22-29. Feb 2019
13. **Bergmans RS**, Kelly KM, Mezuk B. Inflammation as a unique marker of suicide ideation distinct from depression among U.S. adults. *J Affect Disord* 245: 1052-1060. Feb 2019

14. **Bergmans RS**, Coughlin L, Wilson T, Malecki K. Cross-sectional associations of food insecurity with smoking cigarettes and heavy alcohol use in a population-based sample of adults. *DAD*. 205: 107646. 2019
15. **Bergmans RS**. Food insecurity transition and smoking behavior among older adults who smoke. *Prev Med*. 126(105784). 2019
16. **Bergmans RS**, B Mezuk, K Zivin. Food insecurity and geriatric hospitalization. *Int J Environ Res Public Health*. 16(2294):1-10. 2019
17. Stull VJ, Kersten M, **Bergmans RS**, Patz JA, Paskewitz S. Crude protein, amino acid, and iron content of *Tenebrio molitor* reared on an agricultural byproduct from maize production: An exploratory study. *Ann Entomol Soc Am* saz024. Sept 2019
18. **Bergmans RS**, Sadler R, Wolfson JA, Jones AD, Kruger D. Moderation of the Association Between Individual Food Security and Poor Mental Health by the Local Food Environment Among Adult Residents of Flint, Michigan. *Health Equity*. 3(1): 264-274. 2019
19. Gronlund CJ, Yang AJ, Conlon KC, **Bergmans RS**, Le HQ, Batterman SA, Wahl RL, Cameron L, O'Neill MS. Total and direct associations between high temperatures and preterm births in Detroit, Michigan. *BMJ Open* 10(2): e032476. 2020
20. **Bergmans RS**, Jannausch M, Ilgen M. Prevalence of suicide ideation, planning and attempts among Supplemental Nutrition Assistance Program participants in the United States. *JAD*. 277:99-103. 2020
21. **Bergmans RS**, Wegryn-Jones R. Examining associations of food insecurity with major depression among older adults in the wake of the Great Recession. *Soc Sci Med*. 258: 113033. 2020
22. **Bergmans RS**, Nikodemova M, Stull VJ, Rapp A, Malecki KMC. Comparison of cricket diet with peanut-based and milk-based diets in the recovery from protein malnutrition in mice and the impact on growth, metabolism, and immune function. *PLOS ONE*. 15(6): e0234559. 2020
23. **Bergmans RS**, Rapp A, Weiss D, Kelly KM, Mezuk B. Understanding the relationship between type 2 diabetes and depression: Lessons from genetically informative study designs. *Diab Med*. e14399. 2020
24. **Bergmans RS**, Larson PS. Suicide attempt and intentional self-harm during the earlier phase of the COVID-19 pandemic in Washtenaw County, Michigan. *J Epidemiology Community Health*. doi: 10.1136/jech-2020-215333 [Epub ahead of print]. 2021
25. **Bergmans RS**, Kelly KM, Wegryn-Jones R. Healthy Debate: Major Depression among Older Immigrants and the United States 2016 Election. *J Immigr Minor Health*. <https://doi.org/10.1007/s10903-021-01217-4>. 2021.

26. **Bergmans RS**, Larson PS, Bennion E, Mezuk B, Wozniak MC, Steiner AL, Gronlund CJ. Short-term exposures to atmospheric evergreen, deciduous, grass, and ragweed aeroallergens and the risk of suicide in Ohio, 2007-2015: Exploring disparities by age, gender, and education level. *Environ Res.* 200: 111450. 2021.
27. **Bergmans RS**, Smith J. Associations of mental health and chronic physical illness during childhood with major depression in later life. *Aging Ment Health.* <https://doi.org/10.1080/13607863.2021.1958143>. 2021.
28. **Bergmans RS**, Zivin K, Mezuk B. Perceived sleep quality, coping behavior and associations with major depression among older adults. *J Health Psychol.* 26(11): 1913-1925. 2021.
29. Larson PS, **Bergmans RS**. Impact of the COVID-19 pandemic on temporal patterns of mental health and substance abuse related mortality in Michigan: An interrupted time series analysis. *The Lancet Regional Health-Americas*. [In Press].

Abstract/Poster Presentations

*Maiden name

1. **Burkhart RS***, Shaw DC, Schuiling AB, Peterson JW, Wang W, Gu B. Ampicillin adsorption to nanometer-size Al₂O₃ in water: Macroscopic experiments and mechanistic investigations. *The Geological Society of America*. Poster Presentation. Portland, Oregon, October 2009.
2. Schuiling AB, **Burkhart RS***, Shaw DC, Peterson, JW. Antibiotic adsorption to nanometer-size Fe₂O₃ and TiO₂. *The Geological Society of America*. Poster Presentation. Portland, Oregon, October 2009.
3. **Burkhart RS***, Ruterbusch J, Soliman A, Meza R, Hirko K, Graff J, Schwartz K. Cancer incidence among Arab Americans in California, Detroit, and New Jersey SEE registries, 2000. *Fifth American association for Cancer Research Conference on the Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved*. Poster Presentation. San Diego, California, October 2012.
4. Stull VJ, **Bergmans RS**. Small bugs, big gains: Improving food security in rural southern African communities through microlivestock farming. *Entomological Society of America: Insects as Sustainable and Innovative Sources of Food and Feed Production Symposium*. Speaker. Portland, Oregon, November 2014.
5. Malecki KMC, Schultz A, **Bergmans RS**, Lecaie TF, Palta M. Cumulative health impacts of chronic exposure to fine particulate matter and neighborhood perceptions of crime on pulmonary health: Results from the Survey of the Health of Wisconsin. *International Society for Environmental Epidemiology*. Poster Presentation. New Orleans, Louisiana, February 2015.

6. **Bergmans RS**, Rey F, Stull VJ, Malecki KMC. Biological pathways by which insect consumption may alleviate moderate acute malnutrition using a mouse model. *Eating Insects Detroit*. Poster Presentation. Detroit, Michigan, May 2016.
7. **Bergmans RS**, Berger L, Palta M, Robert S, Ehrental DB, Malecki KMC. Participation in the Supplemental Nutrition Assistance Program and maternal depressive symptoms: Effect modification by program perception. *American Public Health Association*. Poster Presentation. Denver, Colorado, October 2016.
8. Curtis KJ, **Bergmans RS**, Hicks A, Egan-Robertson D. The influence of sea level rise on internal migration and the redistribution of Florida's future coastal population: An agent-based model approach. *Population Association of America*. Poster Presentation. Chicago, Illinois, April 2017.
9. **Bergmans RS**, K Zivin, B Mezuk. Depression, food insecurity and diabetic morbidity: Evidence from the Health and Retirement Study. *National Network of Depression Centers Annual Conference*. Poster Presentation. Baltimore, Maryland, October 2018.
10. **Bergmans RS**, D'Souza J, Fossa A, Szpiro A, Young MT, Mendes de Leon CF, Kaufman J, Hirth R, Adar SD. Long-Term Air Pollution Exposures and Major Depression in Older Adults: The United States Health and Retirement Study. *International Society of Environmental Epidemiology*. Lightning Talk (Virtual). New York City, New York, August 2021.
11. **Bergmans RS**, DeJonkheere M, Chambers-Peeple K, Clauw D, Williams DA. Tailoring a pain and fatigue self-management intervention for post-acute sequelae of SARS-CoV-2 infection (PASC) in partnership with stakeholders from Black communities. Oral Presentation (Virtual). Ann Arbor, Michigan, September 2021.
12. **Bergmans RS**, Smith J. Associations of mental health and chronic physical illness during childhood with major depression in later life. *Gerontological Society of America*. Individual Symposium Presentation. Phoenix, Arizona, November, 2021.