Kenneth J. Nieser

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Research interests
social epidemiology, mental health, algorithmic bias

Education

2018-2023 (expected)	Ph.D. Epidemiology, Minor in Statistics University of Wisconsin-Madison, School of Medicine and Public Health Advisor: Amy Cochran, PhD
2009-2013	B.A. Physics and Mathematics, High Honors Swarthmore College

Awards and fellowships

2020	Rankin/Skatrud Travel Award
2019	Biology and Medicine through Mathematics (BAMM!) Travel Award
2019	Student Research Grants Competition – Conference Presentation Funds
2018-2019	New Graduate Student Fellowship

Professional experience

2020-present	Research Assistant, *University of Wisconsin-Madison*
2019-2020	Project Assistant, *University of Wisconsin-Madison* UW Madison Center for Human Genomics and Precision Medicine Seed Grant (PI: Amy Cochran). Gene-set enrichment with mathematical biology.
2017-2018	Senior Analyst, *Healthgrades,* Madison, WI
2015-2017	Market Analyst, *Healthgrades,* Madison, WI
2014-2015	Healthcare Data Analyst, *HP Enterprise Services,* Madison, WI
2013-2014	Technical Services Analyst, *Epic,* Verona, WI

Peer-reviewed publications

1. Nieser, K. J., Cochran, A. L. Addressing heterogeneous populations in latent variable settings through robust estimation. *Psychological Methods*. Advance online publication. https://doi.org/10.1037/met0000413

2. Cochran, A. L., Nieser, K. J., Forger, D. B., Zöllner, S., & McInnis, M. G. (2020). Gene-set Enrichment with Mathematical Biology (GEMB). *GigaScience, 9*(10), giaa091. https://doi.org/10.1093/gigascience/giaa091

Liquid crystals (research done as an undergraduate)

1. Collings, P. J., Goldstein, J. N., Hamilton, E. J., Mercado, B. R., Nieser, K. J., & Regan, M. H. (2015). The nature of the assembly process in chromonic liquid crystals. *Liquid Crystals Reviews, 3*(1), 1-27. https://doi.org/10.1080/21680396.2015.1025305

2. Mercado, B. R., Nieser, K. J., & Collings, P. J. (2014). Cooperativity of the assembly process in a low concentration chromonic liquid crystal. *The Journal of Physical Chemistry. B, 118*(46), 13312–13320. https://doi.org/10.1021/jp510025j

Works in progress

1. Nieser, K. J., Stowe, Z. N., Cochran, A. L. Detecting differential patterns of depressive symptoms in the postpartum period.

Conference presentations and posters

1. Optimizing for whom? The role of robustness in equitable algorithms. 2021 Machine Learning Day, Arizona State University (virtual talk).

2. Detecting Inequity in the Analysis of Mental Health. 2021 Data Science Research Bazaar: *Data Science for the Social Good*, University of Wisconsin-Madison (virtual lightning talk).

3. Bias Analysis of Depression Rate Comparisons between Racial/Ethnic Groups. Society for Epidemiologic Research Annual Meeting 2020 (virtual poster).

4. Addressing Heterogeneity in Mental Illnesses through Robust Estimation. Population Health Sciences Annual Poster Session 2020, University of Wisconsin-Madison (poster).

5. Robust estimation for factor loadings with application to postpartum depression. Biology and Medicine through Mathematics (BAMM!) 2019, Virginia Commonwealth University (poster).

6. Kinetics of Assembly and Dis-assembly of Structures Forming a Chromonic Liquid Crystal at Low Concentrations. American Physical Society March Meeting 2013, Baltimore, MD (talk).

Teaching

Teaching Associate, Swarthmore College

Spring 2013	General Physics II
Spring 2012	General Physics II with Biomedical Applications
Fall 2011	General Physics I
Fall 2011-12	Spacetime, Quanta & Cosmology

Tutor, Swarthmore College

Spring 2013	General Physics II
Spring 2012	General Physics II with Biomedical Applications
Fall 2011-12	General Physics I