

## M Luke Smith

Social Science Research Institute  
The Pennsylvania State University  
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### Education

*PhD student, Epidemiology, University of Minnesota, Twin Cities.*

Fall 2016 - Present

- School of Public Health, Division of Epidemiology & Community Health
- Thesis question: *Are thunderstorms and pollen associated with serious asthma events in Minnesota*
- Advanced to Candidacy: May 2020
- Expected defense date: Fall 2021
- Advisors: Jesse Berman & Rich MacLehose
- Minor in Population Studies, and Population Studies Trainee at Minnesota Population Center

*Master of Public Health, University of Minnesota, Twin Cities*

Fall 2014- Spr. 2016

- School of Public Health, Division of Epidemiology & Community Health
- Thesis title: *Effect of heat waves on the probability of death due to ischemic heart disease in the seven-county metropolitan Minneapolis - St. Paul area, 1998-2014*
- Advisor: Pam Schreiner

*Epidemiology coursework, East Tennessee State University*

Fall 2013

*M.A. in Teacher Education, Eastern Oregon University*

2002 - 2003

*Bachelor of Arts, University of Georgia, Athens*

1992 - 1996

- History Major

Additional undergraduate coursework:

- Brenau University, Gainesville, Georgia 1991
  - The University of the South, Sewanee, Tennessee 1987 - 1990
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### Manuscripts

Rachel R. Hardeman, Tongtan Chantarat, **M. Luke Smith**, J'Mag Karbeah, David C. Van Riper, Dara D. Mendez. Association of Residence in High Police Contact Neighborhoods with Preterm Birth Among Black and White Women in Minneapolis. *JAMA Network Open*. Accepted for publication.

**Smith ML**, Hardeman RR. Association of Summer Heatwaves and the Probability of Preterm Birth: An exploration of the Intersection of Race and Education. *International Journal of Environmental Research and Public Health*. 2020; 17(17): 6391.

Chi G, Gao J, Wang D, Hagedorn A, Kelgenbaeva K, **Smith ML**, Henebry GM. Agricultural Production at the Oblast Level in Post-Soviet Kyrgyzstan, 1990–2014: Implications of Demographic and Climate Changes. *Research in Globalization*. Accepted for publication.

### Lectures and Seminars

*Measuring the Association Between Thunderstorms in the Presence of High Pollen and Risk of Severe Asthma in Minneapolis-St. Paul, MN, USA, 2007-2018*. Guest presentation, UMN Environmental Health Science Student Seminar. March 27, 2021.

*Police exposure as a determinant of structural racism: An exploration of the association between preterm birth in neighborhoods with high police exposure*. Rachel R. Hardeman, Tongtan Chantarat, **M. Luke Smith**, J'Mag Karbeah, David C. Van Riper, Dara D. Mendez. AcademyHealth Annual Research Meeting. June 2020 (Presented by Tongtan Chantarat).

*Background, theory, and practical application of meta-analysis, meta-regression, and publication bias*. April 2020 (Graduate course lecture in Advanced Epidemiologic Methods: Applications).

*Tools for Effective Data Visualization for Non-Technical Users*. March 2019 (Guest lecture for undergraduate class).

*Data Visualizations: Plot.ly, Inkscape, and Tableau*. Minnesota Population Center. February 2019 (Seminar Presentation).

*Effect of Summer Heat Waves on the Probability of Preterm Birth in Minnesota, 1998-2015*. **M. Luke Smith**. Population Association of America, May 2018.

*Use of Common Online Data Analysis Platform (CODAP) using Minnesota Population Center Data*. July 2016 & July 2015. (Day-long seminar for educators across grades, and curriculum areas for summer continuing education).

### Posters

*Alaskan Wildfires are Associated with Higher Prevalence of Asthma, 2000-2017*. **M. Luke Smith**, Guangqing Chi. Population Association of America. May 2021.

*Increased Risk of Preterm Birth in Neighborhoods with High Police Exposure in Minneapolis, Minnesota*. Rachel R. Hardeman, Tongtan Chantarat, **M. Luke Smith**, J'Mag Karbeah, David C. Van Riper, Dara D. Mendez. Population Association of America. May 2019.

*Effect of heat waves on the probability of death due to ischemic heart disease in the seven-county metropolitan Minneapolis - St. Paul area, 1998-2014*. **M. Luke Smith**, Matteo Convertino, Pam Schreiner, and Ben Capistrant. Population Association of America. May 2017.

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## Relevant Tools

- *Statistical languages:* SAS, R, Stata
  - *GIS packages:* ArcGIS, Tableau
  - *Environmental data:* Extracting, merging, and summarizing
  - *MS Office:* Word, Excel, Powerpoint
  - *Basic website development:* Wordpress, iWeb, & HTML
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## Relevant Coursework/Training

Clinical Trials, Epidemiologic Methods I, II, III (6340 series), Biostats 6450 & 6451, Correlated Data Analysis, Advanced Epidemiologic Methods Concepts, Advanced Epi Applications, Synthesis and Application of Methods for Epi Research, Fundamentals of Biostatistical Inference, Spatial Analysis of Infectious Disease, Grant Writing

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## Employment

Research Associate, Social Science Research Institute, Penn State University (July 2020- Present)

- Develop research questions in coordination with PI (Guangqing Chi) and advance work towards publication.
- Assist in other research, and writing in support of group goals on varied projects

*Graduate Research Assistant*, Minnesota Population Center (June 2014 – August 2020)

- Minnesota Population Data Base Project – support project working with state agencies to link administrative data, environmental, community characteristics, and health outcomes. Geocoding, linking birth records across generations, literature reviews, statistical analysis.
- Research Assistant at large: Assist with short-term research projects: literature reviews, research extracts, data analysis in Stata and GIS.
- Data harmonization for IPUMS projects, code testing, data quality checks and other work as needed for FDA and HigherEd projects.
- Developing educational projects using TerraPopulus data in an NSF funded project. In collaboration with the Concord Consortium used a novel platform (Common Online Data Analysis Platform) to demonstrate how data can be used by students. Participated in classroom testing.

*Teaching Assistant*, University of Minnesota  
Fundamentals of Social and Behavioral Science  
Epidemiology I

(May-Aug. 2019)  
(Sept.-Dec. 2015)

- Assist professors with courses for Epidemiology program.
- Grading and office hours.

*Internship/Field Experience*, Minnesota Department of Health (June-Nov. 2015)

- Geocoded (GIS) wellhead locations for Waterborne Disease Unit surveillance research
- Developed and documented protocol for collection of temperature and precipitation data across sites statewide to support Waterborne Disease Unit

*Social Studies Teacher*, Summit High School (Aug. 2004 – June 2014)

- Designed and implemented curriculum for 180-200 students per day
- Taught courses ranging from Advanced Placement US Government and Politics to Comparative Religions
- Built educational blogs for information and communication.
- Year-round coaching

*Substitute Teacher*, Bend-La Pine School District (Dec 2003 – June 2004)

*Project Manager*, Jerry Fulks Incorporated. Seattle, WA (Jan 1997 – May 2002)

- Created budgets, schedules, contracts, and subcontracts for high-end residential construction projects with budgets up to \$2.5 million.
- Chief point of contact for owner, architect, and subcontractors

### **Coaching experience**

<i>Assistant Nordic Coach</i> , Minneapolis South High School	2017 - 2020
<i>Assistant Ultimate Frisbee Coach</i> , Minneapolis South High	2016 - 2020
<i>Assistant Cross-Country Coach</i> , Summit High School	2004 - 2013
<i>Assistant Nordic Coach</i> , Summit High School	2004 - 2014
<i>Head Ultimate Frisbee Coach</i> , Summit High School	2004 - 2014

- Created team; Grew to over 100 athletes; Multiple state titles

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### **References**

Rich Maclehose,  
Associate Professor, UMN. Ph: (612) 624-1932. Email: [macl0029@umn.edu](mailto:macl0029@umn.edu)

Jesse Berman  
Assistant Professor, UMN. Ph: (612) 626-0923. Email: [berma186@umn.edu](mailto:berma186@umn.edu)

Dave Hacker  
Associate Professor, UMN. Ph (612) 624 – 9043. Email: [hacke010@umn.edu](mailto:hacke010@umn.edu)

Katie Genadek,  
Faculty Associate, CU. Ph (303) 492-8147. Email: [katie.genadek@colorado.edu](mailto:katie.genadek@colorado.edu)