

# Nathan Lothrop

*Curriculum Vitae*

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## EDUCATION

UNIVERSITY OF ARIZONA

Ph.D., Environmental Health Sciences, 2020

Advisor: Dr. Paloma I. Beamer

Dissertation: *Estimating the Relationships between Early-life Air Pollution Exposures and Wheezing from Birth into Adulthood*

M.S., Geographic Information Systems Technology, 2012

M.S., Environmental and Regional Planning, 2011

NEW YORK UNIVERSITY

B.A., Anthropology, Photography, 2008

## RESEARCH EXPERIENCE

UNIVERSITY OF ARIZONA

- Asst. Research Professor, Mel and Enid Zuckerman College of Public Health, 2023-Present
- Associate Director, Western Environmental Science Technical Assistance Center for Environmental Justice (WEST EJ Center), Mel and Enid Zuckerman College of Public Health, 2023-Present
- Postdoctoral Research Associate, Asthma and Airways Disease Research Center, 2020-2022
  - Analyzed relationships between biomarkers and COVID-19 severity
- Research Specialist and Project Manager, 2011-2020
  - Developed air pollution, climate, and socio-economic exposure estimates for consortium of 12 US birth cohorts for NIH ECHO Children's Respiratory and Environment Workgroup
  - Measured and modeled air pollution exposures in Tucson, AZ metro, 1980-2016 using land use regression and dispersion modeling
  - Analyzing relationships between air pollution and other environmental exposures and respiratory outcomes
  - Coordinated environmental health studies with interdisciplinary teams on air pollutants and communicated study results to audiences with varying backgrounds

ICF

- Senior Epidemiologist, 2022-2023
  - Systematic review for TSCA contaminants

## HONORS & AWARDS

- JESEE Young Investigator Award, International Society of Exposure Science, 2019
- Community Engaged Scholarship and Practice Award, University of Arizona, 2015
- Science Communication Fellowship, University of Arizona, 2015

## PUBLICATIONS

1. Van Horne YO, Carroll SR, Chief K, **Lothrop N**, Richards JR, Begay MG, et al. Using environmental health dialogue in a Diné-centered approach for individualized results reporting in an environmental exposure study following the Gold King Mine Spill. *Environ Res.* 2023;231.
2. **Lothrop N**, Lopez-Galvez N, Canales RA, O'Rourke MK, Guerra S, Beamer P. Sampling Low Air Pollution Concentrations at a Neighborhood Scale in a Desert U.S. Metropolis with Volatile Weather Patterns. *Int J Environ Res Public Health.* 2022;19(6).
3. Zanobetti A, Ryan PH, Coull B, Brokamp C, Datta S, Blossom J, **Lothrop N**, et al. Childhood Asthma Incidence, Early and Persistent Wheeze, and Neighborhood Socioeconomic Factors in the ECHO/CREW Consortium. *JAMA Pediatr.* 2022;176(8):759–67.
4. Beamer PI, **Lothrop N**. Before the First Breath: Prenatal Ultrafine Particulate Exposure and Incident Asthma. *Am J Respir Crit Care Med.* 2021;204(7):747–8.
5. Ryan PH, Brokamp C, Blossom J, **Lothrop N**, Miller RL, Beamer PI, et al. A distributed geospatial approach to describe community characteristics for multisite studies. *J Clin Transl Sci.* 2021;5(1).
6. Teufel-Shone NI, Chief C, Richards JR, Clausen RJ, Yazzie A, Begay MA, **Lothrop N**, et al. Development of a culturally anchored qualitative approach to conduct and analyze focus group narratives collected in diné (Navajo) communities to understand the impacts of the gold king mine spill of 2015. *Int J Environ Res Public Health.* 2021;18(17).
7. Van Horne YO, Chief K, Charley PH, Begay MG, **Lothrop N**, Bell ML, et al. Impacts to Diné activities with the San Juan River after the Gold King Mine Spill. *J Expo Sci Environ Epidemiol* [Internet]. 2021; Available from: <http://dx.doi.org/10.1038/s41370-021-00290-z>
8. Lee AA, Ingram M, Quijada C, Yubeta A, Cortez I, **Lothrop N**, et al. Responsibility for chemical exposures: perspectives from small beauty salons and auto shops in southern metropolitan Tucson. *BMC Public Health.* 2021;21(1):1–12.
9. Beamer PI, Furlong M, **Lothrop N**, Guerra S, Billheimer D, Stern DA, et al. CC16 Levels into Adult Life are Associated with Nitrogen Dioxide Exposure at Birth [Internet]. *American Journal of Respiratory and Critical Care Medicine.* 2019. rccm. 201808-1488OC. Available from: <https://www.atsjournals.org/doi/10.1164/rccm.201808-1488OC>

10. **Lothrop N**, Bright K, Sexton J, Reynolds KA, Verhougstraete MP. Optimal strategies for monitoring irrigation water quality and the development of guidelines for the irrigation of food crops. *Agric Water Manag J* [Internet]. 2018;199:86–92. Available from: <http://dx.doi.org/10.1016/j.agwat.2017.12.018>
11. **Lothrop N**, Hussaini K, Billheimer D, Beamer PI. Community-level characteristics and environmental factors of child respiratory illnesses in Southern Arizona. *BMC Public Health* [Internet]. 2017 [cited 2018 Feb 10];17(1). Available from: <https://bmcpublihealth.biomedcentral.com/track/pdf/10.1186/s12889-017-4424-3?site=bmcpublihealth.biomedcentral.com>
12. Ramirez-Andreotta M, Brody J, **Lothrop N**, Loh M, Beamer P, Brown P. Improving Environmental Health Literacy and Justice through Environmental Exposure Results Communication. *Int J Environ Res Public Health* [Internet]. 2016;13(7):690. Available from: <http://www.mdpi.com/1660-4601/13/7/690>
13. Beamer PI, Klimecki WT, Loh M, Van Horne YO, Sugeng AJ, **Lothrop N**, et al. Association of children’s urinary CC16 levels with arsenic concentrations in multiple environmental media. *Int J Environ Res Public Health*. 2016;13(5):1–16.
14. Ramirez-Andreotta MD, Brody JG, **Lothrop N**, Loh M, Beamer PI, Brown P. Reporting back environmental exposure data and free choice learning. *Environ Health* [Internet]. 2016 Jan 9 [cited 2016 Jan 11];15(1):2. Available from: <http://www.ehjournal.net/content/15/1/2>
15. Ramirez-Andreotta MD, **Lothrop N**, Wilkinson ST, Root RA, Artiola JF, Klimecki W, et al. Analyzing patterns of community interest at a legacy mining waste site to assess and inform environmental health literacy efforts. *J Environ Stud Sci*. 2016;6(3):543–55.
16. **Lothrop N**, Wilkinson S, Verhougstraete M, Sugeng A, Loh M, Klimecki W, et al. Home Water Treatment Habits and Effectiveness in a Rural Arizona Community. *Water* [Internet]. 2015;7(3):1217–31. Available from: <http://www.mdpi.com/2073-4441/7/3/1217/>
17. Beamer PI, **Lothrop N**, Stern D, Billheimer D, Wright AL, Martinez, et al. Increased wheezing risk with diesel exposure among children of younger mothers. *Eur Respir J* [Internet]. 2015;46(3):853–5. Available from: <http://erj.ersjournals.com/lookup/doi/10.1183/09031936.00227214>
18. Beamer PI, **Lothrop N**, Zhenqiang L, Ascher R, Ernst K, Stern DA, et al. Spatial Clusters of Child Lower Respiratory Illnesses Associated with Community-Level Risk Factors. *Pediatr Pulmonol*. 2015;51(6):633–42.
19. Beamer PI, Sugeng AJ, Kelly MD, **Lothrop N**, Klimecki W, Wilkinson ST, et al. Use of dust fall filters as passive samplers for metal concentrations in air for communities near contaminated mine tailings. *Environ Sci Process Impacts*. 2014;16(6).

## PRESENTATIONS

1. **Lothrop N**, Canales RA, O'Rourke MK, Guerra S, Beamer PI (2020). Effects of Number of Monitoring Sites on Predictive Capacity in Land Use Regression Models. Conference for International Society of Exposure Science, Virtual.
2. **Lothrop N**, Beamer PI, Guerra S, Canales RA, O'Rourke MK, Stern DA, Billheimer D, Wright A, Martinez FD (2020). Exposure to Low Levels of Ambient Air Pollution in Early Life and the Risk of Wheezing from Birth into Adulthood. Conference for International Society of Exposure Science, Virtual.
3. **Lothrop N**, Sandoval F, Cortez I, Wagoner R, Lopez-Galvez N, Parra K, Wolf AM, Wertheim BC, Lee A, Griffin S, Bell M, Carvajal S, Ingram M, Beamer PI (2019). The Feasibility of Identifying and Quantifying Worker Exposures to Volatile Organic Chemicals in Beauty Salons and Auto Shops in the Southwestern USA. Joint Conference for International Society of Indoor Air Quality and Climate/International Society of Exposure Science, Kaunas, Lithuania.
4. **Lothrop N**, Lopez-Galvez N, Brown H, Guerra S, O'Rourke MK, Beamer PI (2018). ESCAPE to America: Adapting European Study for Cohorts for Air Pollution Effects (ESCAPE) Methods to the Desert Southwestern US. Joint Conference for International Society of Environmental Epidemiology/International Society of Exposure Science, Ottawa, Canada.
5. **Lothrop N**, Bell M, Brown H, Furlong M, Guerra S, O'Rourke MK, Beamer P (2017). Modeling Air Pollution Concentrations with Land Use Regression in Tucson, AZ. Conference for International Society of Exposure Science, Research Triangle, NC.
6. **Lothrop N**, Hussaini K, Billheimer D, Beamer P (2017). Community-level Characteristics and Environmental Factors of Child Respiratory Illnesses in Southern Arizona. Conference for International Society of Exposure Science, Research Triangle, NC.
7. **Lothrop N**, Hussaini K, Billheimer D, Beamer P (2014). Respiratory illness prevalence and geographic risk factors in Southern Arizona. Conference of International Society for Exposure Science, Cincinnati, OH.
8. **Lothrop N**, Wilkinson ST, Klimecki W, Beamer PI, Sugeng A, Loh M (2014). Developing community-engaged results report-back materials for an environmental exposure study in a rural Arizona community near a Superfund Site. Conference for International Society of Exposure Science, Cincinnati, OH.
9. **Lothrop N**, Wilkinson ST, Ramirez MD, Sugeng A, Beamer PI, Loh M (2014). Community engagement and research translation at the Iron King Mine and Humboldt Smelter Superfund Site in Dewey-Humboldt, Arizona. Presented at the Society for Applied Anthropology Annual Meeting, Albuquerque, NM.
10. **Lothrop N**, Sugeng A, Beamer PI, Klimecki W, Cox, M, Wilkinson ST, Loh M (2013).

Relationship between arsenic concentration in residential yard soil, home location, and topography in a community near a Superfund Site. Presented at the Joint Conference for International Society of Exposure Science, International Society of Environmental Epidemiology, and International Society of Indoor Air Quality, Basel Switzerland.

## **SCHOLARSHIPS & FUNDING**

- 2019** Student Conference Travel Award, International Society of Exposure Science
- 2019** Graduate Student Travel Grant, University of Arizona
- 2018** Student Travel Award, Mel and Enid Zuckerman College of Public Health, University of Arizona
- 2018** Graduate Student Travel Grant, University of Arizona
- 2017** Student Travel Award, Mel and Enid Zuckerman College of Public Health, University of Arizona
- 2017** Graduate Student Travel Grant, University of Arizona

## **MENTORSHIP**

### **UNDERGRADUATE INTERNS**

- Victoria Davis, 2016
- Oscar Parra, Spring 2016
- Deidre Kruckenberg, Spring 2016
- Jay Pacheco-Chino, Fall 2017
- David Flores, Fall 2017
- Mayela Gillan, Summer 2018
- Francisco Sepulveda, Summer 2018
- Joshua Doty, Summer 2018
- Kimberly Rasey, Summer 2018
- Marvin Chaires, Spring 2019
- Marisol Verdugo, Spring 2019
- Aimee Velde, Intern, Summer 2019
- Gabrielle Vosburgh, Fall 2019
- Cameron Miller, Fall 2019
- Cody Weeks, Spring 2020

## **COMMITTEES**

**2015-2020** Community Engaged Practice and Scholarship Committee, Mel and Enid Zuckerman College of Public Health, University of Arizona

## **SOCIETY MEMBERSHIP**

**2017-Present** International Society of Exposure Science

## **AD HOC REVIEWER**

**2015-Present** Journal of Exposure Science and Environmental Epidemiology; BMC Pulmonary Medicine; Environmental International; PLOS One; Human and Ecological Risk Assessment; Journal of Asthma and Allergy; Research in Nursing & Health; Research in Social & Administrative Pharmacy; Water

## **SOFTWARE**

R, STATA, ArcGIS, QGIS, InDesign, Photoshop, Office Suite