Curriculum Vitae: Cole Brokamp, Ph.D.

Personal Data

- Name: Richard "Cole" Brokamp, Ph.D.
- Position: Associate Professor, University of Cincinnati College of Medicine
- Mailing Address: Division of Biostatistics and Epidemiology Cincinnati Children's Hospital Medical Center 3333 Burnet Avenue, MLC 5041 Cincinnati, OH 45229-3039
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Research Interests

- Place-based data science
- Environmental epidemiology
- Population health
- Causal inference machine learning methods
- Fairness in precision medicine

Education

Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio USA
Postdoctoral Research Fellow, Division of Biostatistics & Epidemiology, 2016 - 2017
Advisor: Dr. Patrick Ryan

University of Cincinnati College of Medicine, Cincinnati, Ohio USA
Ph.D., Department of Environmental Health, Division of Biostatistics and Bioinformatics, 2016
Advisor: Dr. M.B. Rao

University of Cincinnati, Cincinnati, Ohio USA
B.S., Biomedical Engineering, 2010

Academic Appointments

- November 2017 - October 2020: Non-Tenure Track Research Assistant Professor, University of Cincinnati College of Medicine Department of Biostatistics and Epidemiology
- November 2020 – June 2022: Tenure Track Assistant Professor, University of Cincinnati College of Medicine Department of Biostatistics and Epidemiology
- July 2022 – present: Tenure Track Associate Professor, University of Cincinnati College of Medicine Department of Biostatistics and Epidemiology

Grants and Contracts

Current

All Families Thrive
Harmony Foundation N/A, PI: Kahn R
Active. $835,800. 1/1/20 - 6/30/24.

Enhanced Injury Surveillance Using Near Real-Time Reporting among Healthcare Workers
NIH/NIOSH R01OH011581, PI: Daraiseh N, Macaluso M
Active. $2,544,000. 9/1/21 - 9/30/25.

Epigenome-wide variations and socio-environmental exposures in African American asthmatic children
NIH/NHGRI R01HG011411, PI: Mersha T
Active. $3,318,702. 9/1/21 - 6/30/26.

Achieving Pediatric Health Equity by Responding to Identified Sociomedical risks with Effective Unified Purpose – Co-design and Evaluation of the RISEUP System
AHRQ , PI: Beck A
Active. $1,995,559. 11/1/21 - 10/31/26.

Longitudinal Impact of Air Pollution on Mental Health and Neuroimaging Outcomes during Adolescence in the Cincinnati Combined Childhood Cohorts (C4)
NIH/NIEHS R01ES031621, PI: Yolton K, Ryan P, Cecil K
Active. $5,319,812. 3/3/21 - 12/31/25.

A Framework for Automated and Reproducible Geomarker Curation and Computation at Scale
NIH/NLM R01LM013222, PI: Brokamp C
Active. $1,351,500. 8/1/20 - 7/31/24.

Epigenetics, Air Pollution, and Childhood Mental Health
NIH/NIEHS R01ES031054, PI: Brunst K
Active. $1,249,527. 7/1/20 - 4/29/25.

Mapping environmental contributions to rapid lung disease progression in cystic fibrosis
NIH/NHLBI R01HL141286, PI: Szczesniak R
Active. $2,286,948. 1/18/19 - 12/31/23.

Selected Previous (Brokamp, PI)

Updated Model Identifying Geographic Areas in Ohio for Blood Lead Testing
Ohio Department of Health CSP, PI: Brokamp C
Completed. $65,000. 4/01/23 - 6/30/23.

Model Identifying Geographic Areas in Ohio for Blood Lead Testing
Ohio Department of Health CSP907820, PI: Brokamp C
Completed. $72,500. 4/01/20 - 9/30/20.

Using machine learning to supplement electronic health record databases with individual socioeconomic status
Center for Clinical & Translational Science & Training Processes and Methods Award, PI: Brokamp C
Completed. $44,990. 9/1/17 - 6/30/19.

Assessing Exposure to Air Pollution Across Time and Space
Cincinnati Children's Research Foundation Arnold W. Strauss Fellowship Award, PI: Brokamp C
Completed. $10,000. 7/1/16 - 6/30/17.

Validating a Geocoding Approach for Multi-Site Studies
Center for Clinical & Translational Science & Training Processes and Methods Award, PI: Brokamp C
Completed. $5,000. 1/24/17 - 6/30/17.

Publications

Patrick Ryan, Chris Wolfe, Allison Parsons, **Cole Brokamp**, Ashley Turner, Sherrill Ingram, Erin Haynes. Report-Back of Personal Air Sampling Results and Study Participants' Perceived Knowledge, Attitudes, and Awareness of Air Pollution. *Environmental Health Perspectives.* 131:11. 2023.

Anushka Palipana, Andrew Vancil, Emrah Gecili, Erika Rasnick, Daniel Ehrlich, Teresa Pestian, Eleni-Rosalina Andrinopoulou, Pedro Afonso, Ruth Keogh, Yizhao Ni, Judith Dexheimer, John Clancy, Patrick Ryan, **Cole Brokamp**, Rhonda Sczcesniak. Social-environmental phenotypes of rapid cystic fibrosis lung disease progression in adolescents and young adults living in the United States. *Environmental Advances.* 14:100449. 2023.

Julia Smith, Chunyan Liu, Andrew Beck, Lin Fei, **Cole Brokamp**, Syeda Meryum, Kaitlin G Whaley, Philip Minar, Jennifer Hellmann, Lee A Denson, Peter Margolis, Jasbir Dhaliwal. Racial Disparities in Pediatric Inflammatory Bowel Disease Care: Differences in Outcomes and Health Service Utilization Between Black and White Children. *Journal of Pediatrics.* 260:113522. 2023.

Jack Reifenberg, Emrah Gecili, Teresa Pestian, Eleni-Rosalina Andrinopoulou, Patrick H Ryan, **Cole Brokamp**, Joseph M Collaco, Rhonda D Szczesniak. Lung function and secondhand smoke exposure among children with cystic fibrosis: A Bayesian meta-analysis. *Journal of Cystic Fibrosis.* S1569-1993(23)00126-1. 2023.

Nidhi Iyanna, Kimberly Yolton, Grace LeMasters, Bruce P Lanphear, Kim M Cecil, Joel Schwartz, **Cole Brokamp**, Erika Rasnick, Yingying Xu, Melinda C. MacDougall, Patrick Ryan. Air Pollution Exposure and Social Responsiveness in Childhood: The Cincinnati Combined Childhood Cohorts. *International Journal of Hygiene and Environmental Health.* In Press. 2023.

Patrick H Ryan, Christopher Wolfe, Allison Parsons, **Cole Brokamp**, Ashley Turner, Erin Haynes. Participant Engagement to Develop Report-Back Materials for Personal Air Sampling. *Journal of Clinical and Translational Science.* In Press. 2023.

Emrah Gecili, **Cole Brokamp**, Erika Rasnick, Pedro M Afonso, Eleni-Rosalina Andrinopoulou, Judith W Dexheimer, John P Clancy, Ruth H Keogh, Yizhao Ni, Anushka Palipana, Teresa Pestian, Andrew Vancil, Grace Chen Zhou, Weiji Su, Christopher Siracusa, Patrick Ryan, Rhonda D Szczesniak. Built environment factors predictive of early rapid lung function decline in cystic fibrosis. *Pediatric Pulmonology.* In Press. 2023.

Erika Rasnick, Patrick Ryan, Jeff Blossom, Heike Luttmann-Gibson, Nathan Lothrop, Rima Habre, Diane R Gold, Andrew Vancil, Joel Schwartz, James E Gern, **Cole Brokamp**. High Resolution and Spatiotemporal Place-Based Computable Exposures at Scale. *AMIA Summits on Translational Science Proceedings.* 2023:62-70. 2023.

Clara Zundel, Patrick Ryan, **Cole Brokamp**, Autumn Heeter, Yaoxian Huang, Jeffrey Strawn, Hilary Marusak. Air Pollution, Depressive and Anxiety Disorders, and Brain Effects: A Systematic Review. *NeuroToxicology.* In Press. 2022.

Andrew Vancil, Jeffrey R Strawn, Erika Rasnick, Amir Levine, Heidi K Schroeder, Ashley M Specht, Ashley L Turner, Patrick H Ryan, **Cole Brokamp**. Pediatric Anxiety and Daily Fine Particulate Matter: A Longitudinal Study. *Psychiatry Research Communications.* In Press. 2022.

Stephen Trinidad, **Cole Brokamp**, Andres Mor Huertas, Andrew Beck, Carley Riley, Erika Rasnick, Richard Falcone, Meera Kotagal. Use of Area Based Socioeconomic Deprivation Indices: A Scoping Review and Qualitative Analysis. *Health Affairs.* In Press. 2022.

Milan N. Parikh, **Cole Brokamp**, Erika Rasnick, Lili Ding, Tesfaye B. Mersha, Katherine Bowers, Alonzo T. Folger. Epigenome-Wide Association of Neonatal Methylation and Trimester-Specific Prenatal PM2.5 Exposure. *Environmental Epidemiology.* In Press. 2022.

Shannon C. Conrey, Allison R. Burrell, **Cole Brokamp**, Rachel M. Burke, Sarah C. Couch, Liang Niu, Claire P. Mattison, Alexandra Piasecki, Daniel C. Payne, Mary A. Staat, Ardythe L. Morrow. Neighbourhood socio-

economic environment predicts adiposity and obesity risk in children under two. *Pediatric Obesity*. Online. 2022.

Jordan Pennington, Erika Rasnick, Lisa J. Martin, Jocelyn M. Biagini, Tesfaye B. Mersha, Allison Parsons, Gurjit K. Khurana Hershey, Patrick Ryan, **Cole Brokamp**. Racial Fairness in Precision Medicine: Pediatric Asthma Prediction Algorithms. *American Journal of Health Promotion*. 37(2). 2022.

Esteban Correa, Lili Ding, Andrew F. Beck, **Cole Brokamp**, Mekibib Altayeb, Robert S. Kahn, Tesfay Mersha. Understanding Racial Disparities in Childhood Asthma Using Individual- and Neighborhood-Level Risk Factors. *Journal of Allergy and Clinical Immunology*. In Press. 2022.

Stephen Trinidad, **Cole Brokamp**, Rashmi Sahay, Suzanne Moody, Dawne Gardner, Allison A.Parsons, Carley Riley, Nicole Sofer, Andrew F.Beck, Richard A. Falcone Jr., Meera Kotagal. Children from Disadvantaged Neighborhoods Experience Disproportionate Injury from Interpersonal Violence. *Journal of Pediatric Surgery*. Online. 2022.

Anita N. Shah, Erika Rasnick, Mohammad An Bhuiyan, Chris Wolfe, Dianna Bosse, Jeffrey M. Simmons, Samir S. Shah, **Cole Brokamp**, Andrew F. Beck. Using Geomarkers and Sociodemographics to Inform Assessment of Caregiver Adversity and Resilience. *Hospital Pediatrics*. 12(8):689-695. 2022.

Ashley Lynn Turner, **Cole Brokamp**, Chris Wolfe, Tiina Reponen, Kelly J. Brunst, Patrick H. Ryan. Mental and Physical Stress Responses to Personal Ultrafine Particle Exposure in Adolescents. *International Journal of Environmental Research and Public Health*. In Press. 2022.

Antonella Zanobetti, Patrick H. Ryan, Brent Coull, **Cole Brokamp**, Soma Datta, Jeffrey Blossom, Nathan Lothrop, Rachel L. Miller, Paloma I. Beamer, Cynthia M. Visness, Howard Andrews, Leonard B. Bacharier, Tina Hartert, Christine C. Johnson, Dennis Ownby, Gurjit K. Khurana Hershey, Christine Joseph, Song Yiqiang, Eneida Mendoza, Daniel J. Jackson, Heike Luttmann-Gibson, Edward M. Zoratti, Anne L. Wright, Fernando D. Martinez, Christine M. Seroogy, James E. Gern, Diane R. Gold, for the Children's Respiratory and Environmental Workgroup (CREW) Consortium. Childhood Asthma Incidence, Early and Persistent Wheeze, and Neighborhood Socioeconomic Factors in the ECHO/CREW Consortium. *JAMA Pediatrics*. Online. 2022.

Stephen Trinidad, Andrew Vancil, **Cole Brokamp**, Suzanne Moody, Dawne Gardner, Allison A. Parsons, Carley Riley, Rashmi Sahay, Nicole Sofer, Andrew F. Beck, Richard A. Falcone Jr., Meera Kotagal. Relationships Between Socioeconomic Deprivation and Pediatric Firearm-Related Injury at the Neighborhood Level. *Journal of Trauma and Acute Care Surgery*. Online. 2022.

Kim Hartley, Patrick Ryan, Gordon Gillespie, Joseph Perazzo, J. Michael Wright, Glenn Rice, Geoffrey Donovan, Rebecca Gernes, Gurjit Khurana Hershey, Grace LeMasters, **Cole Brokamp**. Residential Greenness, Asthma, and Lung Function Among Children at High Risk of Allergic Sensitization: A Prospective Cohort Study. *Environmental Health*. In Press. 2022.

Madhumitaa Roy, **Cole Brokamp**, Sivaraman Balachandran. Clustering and Regression-Based Analysis of PM2.5 Sensitivity to Meteorology in Cincinnati, Ohio. *Atmosphere*. 13(4):545. 2022.

Joanna Thomson, Breann Butts, Saige Camara, Erika Rasnick, **Cole Brokamp**, Caroline Heyd, Rebecca Steuart, Scott Callahan, Stuart Taylor, Andrew Beck. Neighborhood Socioeconomic Deprivation and Health Care Utilization of Medically Complex Children. *Pediatrics*. e2021052592. 2022.

Cole Brokamp. A High Resolution Spatiotemporal Fine Particulate Matter Exposure Assessment Model for the Contiguous United States. *Environmental Advances*. 7:100155. 2022.

Ashley Turner, **Cole Brokamp**, Chris Wolfe, Tiina Reponen, Patrick Ryan. Impact of Personal, Sub-hourly Exposure to Ultrafine Particles on Respiratory Health in Adolescents With Asthma. *Annals of the American Thoracic Society*. Online. 2022.

Lei Liu, Yizhao Ni, Andrew F Beck, **Cole Brokamp**, Ryan C Ramphul, Linda D Highfield, Megha Karkera Kanjia, J Nick Pratap. Understanding Pediatric Surgery Cancellation: Geospatial Analysis. *Journal of Medical Internet Research*. 23(8):e26231. 2021.

Ashley Turner, **Cole Brokamp**, Chris Wolfe, Tiina Reponen, Patrick Ryan. Personal exposure to average weekly ultrafine particles, lung function, and respiratory symptoms in asthmatic and non-asthmatic adolescents. *Environment International.* 156:106740. 2021.

Linnea Lowe, **Cole Brokamp**, Erika Rasnick, Eric S. Hall, Shauna Acquavita. A Geographic Perspective on Opioid Misuse: Substance Abuse Treatment Deserts in Southwestern Ohio. *Ohio Journal of Public Health.* 4(1). 2021.

Sarah de Loizaga, Lindsay Arthur, Bhawna Arya, Brian Beckman, Wubishet Belay, **Cole Brokamp**, Nak Hyun Choi, Sean Connolly, Soham Dasgupta, Tavenner Dibert, Marylou Dryer, Lakshmi Gokanapudy Hahn, Elizabeth Greene, Daphney Kernizan, Omar Khalid, Jennifer Klein, Ryan Kobayashi, Subhrajit Lahiri, Raymond Lorenzoni, Jennifer Marshall, Theodore Millette, Lily Moore, Babu Muhamed, Meghna Murali, Andrea Otero Luna, Kinjal Parikh, Amy Sanyahumbi, Divya Shakti, Elizabeth Stein, Sanket Shah, Hannah Wilkins, McAllister Windom, Scott Wirth, Meghan Zimmerman, Andrew Beck, Nicholas Ollberding, Craig Sable, Andrea Beaton. Rheumatic Heart Disease in the United States: Forgotten but not Gone. Results of a 10 Year Multicenter Review. *Journal of the American Heart Association.* In Press. 2021.

Andrea R. Maxwell, Nana-Hawa Yayah Jones, Stuart Taylor, Sarah D. Corathers, Erika Rasnick, **Cole Brokamp**, Carley L. Riley, Allison Parsons, Jessica C. Kichler, Andrew F. Beck. Socioeconomic and racial disparities in diabetic ketoacidosis admissions in youth with type 1 diabetes. *Journal of Hospital Medicine.* In Press. 2021.

Emrah Gecili, Weiji Su, **Cole Brokamp**, Eleni-Rosalina Andrinopoulou, Francis J LaRosa Iii, Teresa Pestian, John P Clancy, George M Solomon, John J Brewington, Rhonda D Szczesniak. Rapid cystic fibrosis lung-function decline and in-vitro CFTR modulation. *Journal of Cystic Fibrosis.* S1569-1993(21)00111-9. 2021.

Grace Kelly, Jordan Pennington, Yonatan Segev, **Cole Brokamp**, Margaret N Jones, Saige Camara, Adrienne W Henize, Robert S Kahn, Andrew F Beck. Voter Participation is Associated with Child Health Outcomes at the Population Level. *Journal of Pediatrics.* In Press. 2021.

Mohammad Bhuiyan, Patrick Ryan, Farzan Oroumyeh, Yajna Jathan, Madhumitaa Roy, Siv Balachandran, **Cole Brokamp**. Source-specific contributions of particulate matter to asthma-related pediatric emergency department utilization. *Health Information Science and Systems.* 9(12). 2021.

Erika Rasnick, Patrick H. Ryan, A. John Bailer, Thomas Fisher, Patrick J. Parsons, Kimberly Yolton, Nicholas C. Newman, Bruce P. Lanphear, **Cole Brokamp**. Identifying Sensitive Windows of Airborne Lead Exposure Associated with Behavioral Outcomes at Age 12. *Environmental Epidemiology.* 5(2):e144. 2021.

Emrah Gecilia, Anushka Palipana, **Cole Brokamp**, Rui Huang, Eleni-Rosalina Andrinopoulou, Teresa Pestian, Erika Rasnick, Ruth H. Keogh, Yizhao Ni, John P.Clancy, Patrick Ryan, Rhonda D. Szczesniak. Seasonality, mediation and comparison (SMAC) methods to identify influences on lung function decline. *MethodsX.* 8:101313. 2021.

Emrah Gecili, **Cole Brokamp**, Anushka Palipana, Rui Huang, Eleni-Rosalina Andrinopoulou, Teresa Pestian, Erika Rasnick, Ruth H.Keoghe, Yizhao Ni, John P.Clancy, Patrick Ryan, Rhonda D.Szczesniak. Seasonal variation of lung function in cystic fibrosis: longitudinal modeling to compare a Midwest US cohort to international populations. *Science of the Total Environment.* Online. 2020.

Patrick H. Ryan, **Cole Brokamp**, Jeff Blossom, Nathan Lothrop, Rachel L. Miller, Paloma I. Beamer, Cynthia M. Visness, Antonella Zanobetti, Howard Andrews, Leonard B. Bacharier, Tina Hartert, Christine C. Johnson, Dennis Ownby, Robert F. Lemanske Jr., Heike Gibson, Weeberb Requia, Brent Coull, Edward M. Zoratti, Anne L. Wright, Fernando D. Martinez, Christine M. Seroogy, James E. Gern, Diane R. Gold, on behalf of the CREW Consortium. A Distributed Geospatial Approach to Describe Community Characteristics for Multi-Site Studies. *Journal of Clinical and Translational Science.* 5:e86, 1-8. 2021.

Christopher Wolfe, Teresa Pestian, Emrah Gecili, Weiji Su, Ruth H. Keogh, John P. Pestian, Michael Seid, Peter J. Diggle, Assem Ziady, John P. Clancy, Daniel H. Grossoehme, Rhonda D. Szczesniak, **Cole Brokamp**. Cystic Fibrosis Point of Personalized Detection (CFPOPD): An Interactive Web Application. *JMIR Med Inform.* 8(12):e23530. 2020.

Kim Hartley, Joseph Perazzo, **Cole Brokamp**, Gordon Lee Gillespie, Kim M. Cecil, Grace LeMasters, Kimberly Yolton, Patrick Ryan. Residential Surrounding Greenness and Self-Reported Symptoms of Anxiety and Depression in Adolescents. *Environmental Research*. 194:110628. 2020.

Todd A Florin, Lilliam Ambroggio, **Cole Brokamp**, Yin Zhang, Eric S Nylen, Mantosh Rattan, Eric Crotty, Michael A Belsky, Sara Krueger, Thomas N Epperson, Andrea Kachelmeyer, Richard M Ruddy, Samir S Shah. Proadrenomedullin Predicts Severe Disease in Children with Suspected Community-Acquired Pneumonia. *Clinical Infectious Diseases*. ciaa1138. 2020.

Sharad I. Wadhwani, **Cole Brokamp**, Erika Rasnick, John C. Bucuvalas, Jennifer C. Lai, Andrew F. Beck. Neighborhood Socioeconomic Deprivation, Racial Segregation, and Organ Donation Across 5 States. *American Journal of Transplantation*. Online. 2020.

Jaron Arbet, **Cole Brokamp**, Jareen Meinzen-Derr, Katy E. Trinkley, Heidi M Spratt. Lessons and Tips for Designing a Machine Learning Study Using EHR Data. *Journal of Clinical and Translational Science*. Online. 2020.

Todd Florin, Lilliam Ambroggio, **Cole Brokamp**, Yin Zhang, Mantosh Rattan, Eric Crotty, Michael A Belsky, Sara Krueger, Thomas N Epperson, Andrea Kachelmeyer, Richard Ruddy, Samir S Shaw. Biomarkers and Disease Severity in Children with Community-Acquired Pneumonia. *Pediatrics*. Online. 2020.

Rhonda Szczesniak, Jessica L. Rice, **Cole Brokamp**, Patrick Ryan, Teresa Pestian, Yizhao Ni, Eleni-Rosalina Andrinopoulou, Ruth H. Keogh, Emrah Gecili, Rui Huang, John P. Clancy, Joseph M. Collaco. Influences of Environmental Exposures On Individuals Living with Cystic Fibrosis. *Expert Review of Respiratory Medicine*. Online. 2020.

Zana Percy, **Cole Brokamp**, Jennifer M McAllister, Patrick Ryan, Scott L Wexelblatt, Eric Hall. Subclinical and Overt Newborn Opioid Exposure: Prevalence and First Year Healthcare Utilization. *Journal of Pediatrics*. Online. 2020.

Sharad Wadhwani, John Bucuvalas, **Cole Brokamp**, Ravinder Anand, Ashutosh Gupta, Stuart Taylor, Eyal Shemesh, Andrew Beck. Association Between Neighborhood-level Socioeconomic Deprivation and the Medication Level Variability Index for Children Following Liver Transplantation. *Transplantation*. Online. 2020.

Kim Hartley, Patrick Ryan, **Cole Brokamp**, Gordon L. Gillespie. Effect of greenness on asthma in children: A systematic review. *Public Health Nursing*. 37(3). 453-460. 2020.

Robert M. Rossi, Chris Wolfe, **Cole Brokamp**, Jennifer M. McAllister, Scott Wexelblatt, Carri R. Warshak, Eric S. Hall. Reported Prevalence of Maternal Hepatitis C Virus Infection in the United States. *Obstetrics and Gynecology*. 135. 1-10. 2020.

Rhonda D. Szczesniak, Weiji Su, **Cole Brokamp**, Ruth H. Keogh, John P. Pestian, Michael Seid, Peter J. Diggle, John P. Clancy. Dynamic Predictive Probabilities to Monitor Rapid Cystic Fibrosis Disease Progression. *Statistics in Medicine*. 39. 740-756. 2020.

Sarah Orkin, **Cole Brokamp**, Toshifumi Yodoshi, Andrew T. Trout, Chunyan Liu, Syeda Meryum, Stuart Taylor, Christopher Wolfe, Rachel Sheridan, Aradhna Seth, Mohammad Alfrad Nobel Bhuiyan, Sanita Ley, Ana Catalina Arce-Clachar, Kristin Bramlage, Robert Kahn, Stavra Xanthakos, Andrew F. Beck, Marialena Mouzaki. Community Socioeconomic Deprivation and Non-Alcoholic Fatty Liver Disease Severity. *Journal of Pediatric Gastroenterology and Nutrition*. . 2019.

Cole Brokamp, Jeffrey R. Strawn, Andrew F. Beck, Pat Ryan. Pediatric Psychiatric Emergency Department Utilization and Fine Particulate Matter: A Case-Crossover Study. *Environmental Health Perspectives*. 127(9). 2019.

Erica Andrist, **Cole Brokamp**, Stuart Taylor, Carley Riley, Andrew Beck. Neighborhood Poverty and Pediatric Intensive Care Use. *Pediatrics*. . 2019.

Cole Brokamp, Eric B. Brandt, Patrick H. Ryan. Assessing Exposure to Outdoor Air Pollution for Epidemiological Studies: Model-based and Personal Sampling Strategies. *Journal of Allergy and Clinical Immunology*. . 2019.

Lilliam Ambroggio, **Cole Brokamp**, Rachel Mantyla, Brad DePaoli, Richard Ruddy, Samir Shah, Todd Florin. Validation of the British Thoracic Society Severity Criteria for Pediatric Community-Acquired Pneumonia. *Pediatric Infectious Diseases Journal.* . 2019.

Rebecca Gernes, **Cole Brokamp**, Glenn Rice, J. Michael Wright, Michelle Kondo, Yvonne Michael, Geoffrey Donovan, Demetrios Gatziolis, David Bernstein, Grace LeMasters, James Lockey, G. Khurana Hershey, Patrick Ryan. Using high-resolution residential greenspace measures in an urban environment to assess risks of allergy outcomes in a cohort of children. *Science of the Total Environment.* 668. 2019.

Cole Brokamp, Andrew F. Beck, Neera K. Goyal, Patrick Ryan, James M. Greenberg, Eric S. Hall. Material Community Deprivation and Hospital Utilization During the First Year of Life: An Urban Population-Based Cohort Study. *Annals of Epidemiology.* 30. 2019.

Juliana Madzia, Patrick Ryan, Kimberly Yolton, Zana Percy, Nick Newman, Grace LeMasters, **Cole Brokamp**. Residential Greenspace Is Associated with Childhood Behavioral Outcomes. *Journal of Pediatrics.* . 2018.

Cole Brokamp. DeGAUSS: Decentralized Geomarker Assessment for Multi-Site Studies. *Journal of Open Source Software.* Online. 2018.

Rhonda D. Szczesniak, **Cole Brokamp**, Weiji Su, Gary L. McPhail, John Pestian, John P. Clancy. Improving Detection of Rapid Cystic Fibrosis Disease Progression—Early Translation of a Predictive Algorithm into a Point-of-Care Tool. *IEEE Journal of Translational Engineering in Health and Medicine.* 7(1); 1-8. 2019.

Lauren C. Riney, **Cole Brokamp**, Andrew F. Beck, Wendy Pomerantz, Hamilton Schwartz, Todd A. Florin. Emergency Medical Services Utilization is Associated with Community Deprivation in Children. *Prehospital Emergency Care.* Online. 2018.

Cole Brokamp, Roman Jandarov, Monir Hossain, Patrick Ryan. Predicting Daily Urban Fine Particulate Matter Concentrations Using Random Forest. *Environmental Science & Technology.* 52 (7); 4173-4179. 2018.

Andrew F. Beck, Carley L. Riley, Stuart Taylor, **Cole Brokamp**, Robert S. Kahn. Toward a Culture of Health in Hospitals: Pervasive population disparities in inpatient bed-day rates across conditions and subspecialties. *Health Affairs.* 37(4); 551-559. 2018.

Todd A. Florin, **Cole Brokamp**, Rachel Mantyla, Bradley DePaoli, Richard Ruddy, Samir S. Shah, Lilliam Ambroggio. Validation of the IDSA/PIDS Severity Criteria in Children with Community-Acquired Pneumonia. *Clinical Infectious Diseases.* ciy031; 1-29. 2018.

Rhonda Szczesniak, **Cole Brokamp**, Weiji Su, Gary L. McPhail, John Pestian, John P. Clancy. Early Detection of Rapid Cystic Fibrosis Disease Progression Tailored to Point of Care: A Proof-of-Principle Study. *Healthcare Innovations and Point of Care Technologies.* (HI-POCT), 2017 IEEE; 204-207. 2017.

Cole Brokamp, MB Rao, Patrick Ryan, Roman Jandarov. A comparison of resampling and recursive partitioning methods in random forest for estimating the asymptotic variance using the infinitesimal jackknife. *Stat.* 6(1); 360-372. 2017.

Cole Brokamp, Chris Wolfe, Todd Lingren, John Harley, Patrick Ryan. Decentralized and Reproducible Geocoding and Characterization of Community and Environmental Exposures for Multi-Site Studies. *Journal of American Medical Informatics Association.* 25(3); 309-314. 2017.

Rhonda D. Szczesniak, Dan Li, Weiji Su, **Cole Brokamp**, John Pestian, Michael Seid, John P. Clancy. Phenotypes of Rapid Cystic Fibrosis Lung Disease Progression during Adolescence and Young Adulthood. *American Journal of Respiratory And Critical Care Medicine.* 196(4); 471-478. 2017.

Todd Florin, Lilliam Ambroggio, **Cole Brokamp**, Mantosh S. Rattan, Eric J. Crotty, Andrea Kachelmeyer, Richard M. Ruddy, Samir Shah. Reliability of Examination Findings in Suspected Community-Acquired Pneumonia. *Pediatrics.* 140(3); e20170310. 2017.

Cole Brokamp, Andrew F. Beck, Louis Muglia, Patrick Ryan. Combined Sewer Overflow Events and Childhood Emergency Department Visits: A Case-Crossover Study. *Science of the Total Environment*. 607-608; 1180-1187. 2017.

Patrick Ryan, James E. Lockey, Brad Black, Carol H. Rice, Jeff Burkle, Tim Hilbert, Linda Levin, **Cole Brokamp**, Roy McKay, Ted Larson, Grace K. LeMasters. Childhood exposure to libby amphibole asbestos and respiratory symptoms in young adulthood. *Environmental Research*. 158; 470-479. 2017.

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Cole Brokamp, Roman Jandarov, MB Rao, Grace LeMasters, Patrick Ryan. Exposure assessment models for elemental components of particulate matter in an urban environment: A comparison of regression and random forest approaches. *Atmospheric Environment*. 151; 1-11. 2017.

Hong Ji, Jocelyn M Biagini Myers, Eric B Brandt, **Cole Brokamp**, Patrick H Ryan, Gurjit K Khurana Hershey. Air pollution, epigenetics, and asthma. *Allergy, Asthma & Clinical Immunology*. 12(1); 51. 2016.

Jennifer Kannan, **Cole Brokamp**, David I. Bernstein, Grace K. LeMasters, Gurjit K. Khurana Hershey, Manuel Villareal, James E. Lockey, Patrick Ryan. Parental Snoring and Environmental Pollutants, but Not Aeroallergen Sensitization, Are Associated with Childhood Snoring in a Birth Cohort. *Pediatric Allergy, Immunology, and Pulmonology*. . 2016.

Cole Brokamp, Grace LeMasters, Patrick Ryan. Residential mobility impacts exposure assessment and community socioeconomic characteristics in longitudinal epidemiology studies. *Journal of Exposure Science and Environmental Epidemiology*. 26(4); 428-34. 2016.

Kanistha C. Coombs, Ginger L. Chew, Christopher Schaffer, Patrick H. Ryan, **Cole Brokamp**, Sergey A. Grinshpun, Gary Adamkiewicz, Steve Chillrude, Curtis Hedman, Meryl Colton, Jamie Ross, Tiina Reponen. Indoor air quality in green-renovated vs. non-green low-income homes of children living in a temperate region of US (Ohio). *Science of The Total Environment*. 554-555; 178-185. 2016.

Patrick Ryan, **Cole Brokamp**, ZH Fan, MB Rao. Analysis of personal and home characteristics associated with the elemental composition of PM2.5 in indoor, outdoor, and personal air in the RIOPA study. *Health Effects Institute Research Reports*. Report 185. 2015.

Kelly J Brunst, Patrick H Ryan, **Cole Brokamp**, David Bernstein, Tiina Reponen, James Lockey, Gurjit K Khurana Hershey, Linda Levin, Sergey A Grinshpun, Grace LeMasters. Timing and duration of traffic-related air pollution exposure and the risk for childhood wheeze and asthma. *American Journal of Respiratory and Critical Care Medicine*. 192(4); 421-427. 2015.

Patrick H Ryan, Sang Young Son, Christopher Wolfe, James Lockey, **Cole Brokamp**, Grace LeMasters. A field application of a personal sensor for ultrafine particle exposure in children. *Science of The Total Environment*. 508; 366-373. 2015.

Cole Brokamp, MB Rao, Tina Zhihua Fan, Patrick H Ryan. Does the elemental composition of indoor and outdoor PM2.5 accurately represent the elemental composition of personal PM2.5?. *Atmospheric Environment*. 101; 226-234. 2015.

Cole Brokamp, Jacob Todd, Carlo Montemagno, David Wendell. Electrophysiology of single and aggregate Cx43 hemichannels. *PLoS ONE*. 7(10);e47775. 2012.

Sheryl E Koch, Xiaoqian Gao, Lauren Haar, Min Jiang, Valerie M Lasko, Nathan Robbins, Wenfeng Cai, **Cole Brokamp**, Priyanka Varma, Michael Tranter, Yong Liu, Xiaoping Ren, John N. Lorenz, Hong-Sheng Wang, W Keith Jones, Jack Rubinstein. Probenecid: novel use as a non-injurious positive inotrope acting via cardiac TRPV2 stimulation. *Journal of Molecular and Cellular Cardiology*. 53(1); 134-144. 2012.

Michael Tranter, Robert N Helsley, Waltke R Paulding, Michael McGuinness, **Cole Brokamp**, Lauren Haar, Yong Liu, Xiaoping Ren, W Keith Jones. Coordinated post-transcriptional regulation of HSP70. 3 gene expression by microRNA and alternative polyadenylation. *Journal of Biological Chemistry*. 286(34); 29828-29837. 2011.

Selected Abstracts (First or Senior Author)

* denotes the presenting author

Erika Rasnick Manning, Qing Duan, Stuart Taylor, Joseph Michael, Ryan Gillette, Ndidi Unaka, David Hartley, Andrew F. Beck, **Cole Brokamp***. A Multi-Modal Geomarker Pipeline for Assessing the Impact of Social, Economic, and Environmental Factors on Pediatric Hospitalization. *American Medical Informatics Association Summit.* Boston, MA. 2024.

Cole Brokamp, Qing Duan, Sarah Ray, Erika Rasnick Manning, Stuart Taylor, Ndidi Unaka, Andrew F. Beck*. Parcel-level Housing Characteristics Associated with Historical Pediatric Hospitalizations. *Pediatric Academic Societies Annual Meeting.* Toronto, Canada. 2024.

Stephen Colegate*, Erika Manning, Andrew Vancil, Ziyun Wang, Marepalli Rao, Emrah Gecili, Anushka Palipana, Patrick Ryan, Rhonda Szczesniak, **Cole Brokamp**. Estimating Bias Introduced by Within-Individual Autocorrelation in a Case-Crossover Design: Simulating Daily Fine Particulate Matter and Pulmonary Exacerbation Cases in Cystic Fibrosis Patient. *International Society of Exposure Science Annual Meeting.* Chicago IL. 2023.

Stephen Colegate*, Anushka Palipana, Rhonda Szczesniak, **Cole Brokamp**. Evaluating Precision Medicine Tools in Cystic Fibrosis for Racial and Ethnic Fairness. *International Society of Exposure Science Annual Meeting.* Chicago IL. 2023.

Andrew Vancil*, **Cole Brokamp**. Comparison and Fairness of Commonly Used Traffic Pollution Measures. *International Society of Exposure Science Annual Meeting.* Chicago IL. 2023.

Andrew Vancil*, Anushka Palipana, Rhonda Szczesniak, **Cole Brokamp**. Protecting Patient Privacy by Matching a Synthetic, Place-Based Dataset to Real World Geolocations. *International Society of Exposure Science Annual Meeting.* Chicago IL. 2023.

Erika Manning*, Qing Duan, Stuart Taylor, Alexandra MS Corley, Joseph Michael, John Egbo, Benjamin Foley, David Stout, Chidiogo Anyigbo, Landon Krantz, Bijan Ketabchi, Ryan Gillette, Jeffrey Steller, Ndidi Unaka, David Hartley, Andrew F Beck, **Cole Brokamp**. Methods for linking housing-unit-level characteristics with residential addresses in the electronic health record: A comparison of two approaches using messy, real-world addresses. *International Society of Exposure Science Annual Meeting.* Chicago IL. 2023.

Erika Manning*, Patrick Ryan, Jeff Blossom, Heike Luttmann-Gibson, Nathan Lothrop, Rima Habre, Diane R. Gold, Andrew Vancil, Joel Schwartz, James E. Gern, **Cole Brokamp**. High Resolution and Spatiotemporal Place-Based Computable Exposures at Scale in the NIH ECHO Program. *International Society of Exposure Science Annual Meeting.* Chicago IL. 2023.

Milan Parikh*, Erika Rasnick Manning, Liang Niu, Stephen Colegate, Andrew Vancil, Kelly Brunst, **Cole Brokamp**. A Novel Method for Capturing Windows of Association Between Spatiotemporal Exposures and DNAm on an Epigenome-Wide Scale. *International Society of Exposure Science Annual Meeting.* Chicago IL. 2023.

Cole Brokamp, Qing Duan, Erika Rasnick Manning, Alexandra Corley, Joseph Michael, Stuart Taylor, John Egbo, David Hartley, Ndidi Unaka, Andrew F. Beck*. Causal mediation of racial disparities in pediatric hospital admissions: A population-wide, neighborhood-level study. *Pediatric Academic Societies Annual Meeting.* Washington DC. 2023.

Cole Brokamp*. High Resolution and Spatiotemporal Place-Based Computable Exposures at Scale. *American Medical Informatics Association Summit.* Seattle, WA. 2023.

Cole Brokamp*. Decentralized Geomarker Assessment for Multi-Site Studies. *Pediatric Academic Societies Annual Meeting.* Denver, CO. 2022.

Cole Brokamp*. Efficient and Secure High Resolution Spatiotemporal Exposure Assessment. *International Society of Exposure Science Annual Meeting.* Online. 2021.

Cole Brokamp*. A Nationwide High Resolution Spatiotemporal Fine Particulate Matter Exposure Assessment Model. *International Society of Exposure Science.* Online. 2021.

Cole Brokamp*. Short-term Ambient Fine Particulate Matter and Anxiety Symptoms in Adolescents with Generalized Anxiety Disorder. *International Society of Environmental Epidemiology Annual Meeting.* Online. 2020.

Cole Brokamp*. Decentralized Geomarker Assessment for Multi-Site Studies (DeGAUSS). *UseR! 2020 Conference (Conference Canceled).* St. Louis, MO. 2020.

Cole Brokamp*. Non-Parametric and Data-Driven Methods for Identifying Subpopulations Susceptible to the Health Effects of Air Pollution. *International Biometric Society (Eastern North American Region) Spring Meeting.* Philadelphia, PA. 2019.

Mohammad Alfrad Nobel Bhuiyan*, **Cole Brokamp**. Source-specific contributions of particulate matter to asthma-related pediatric emergency department utilization. *Joint Statistical Meeting.* Denver, CO. 2019.

Cole Brokamp*. Reproducible Research in R: Geoinformatics, Epidemiology, and Publicly Available Health and GIS Data. *Workshop at the American College of Epidemiology Annual Meeting.* Cincinnati, OH. 2018.

Juliana Madzia*, **Cole Brokamp**. Residential Greenspace is Associated with Childhood Behavioral Outcomes. *Pediatric Academic Societies Meeting.* Toronto, Canada. 2018.

Cole Brokamp, Patrick Ryan*. Assessing Daily Exposure to PM2.5 with Machine Learning and Remote Sensing. *International Society of Exposure Science Annual Meeting.* Research Triangle Park, NC. 2017.

Cole Brokamp, Patrick Ryan*. Decentralized and Reproducible Geocoding and Characterization of Community and Environmental Exposures for Multi-Site Studies. *International Society of Exposure Science Annual Meeting.* Research Triangle Park, NC. 2017.

Cole Brokamp, Patrick Ryan*. Combined Sewer Overflows and Pediatric Emergency Department Utilization: A Case-Crossover Study. *International Society of Environmental Epidemiology Annual Meeting.* Sydney, Australia. 2017.

Cole Brokamp*, Patrick Ryan. Land Use Models for Elemental Components of Particulate Matter in an Urban Environment: A Comparison of Regression and Random Forest Models. *International Society of Exposure Science Annual Meeting.* Utrecht, NL. 2016.

Cole Brokamp*, Patrick Ryan. Childhood Residential Changes are Associated with Decreased Traffic Exposure and Improved Neighborhood Characteristics. *International Society of Exposure Science Annual Meeting.* Las Vegas, NV. 2015.

Cole Brokamp*, Patrick Ryan. Assessing Personal PM2.5 Exposure Prediction Improvement After Addition of Indoor PM2.5 Exposure and Personal Characteristics to Outdoor PM2.5 Exposure Measurements. *Joint Statistical Meeting.* Boston, MA. 2014.

Talks

Geomarker Curation and Computation. *CCHMC Clinical Informatics Learning Community.* Cincinnati, OH. 2023

Data Wrangling in R with dplyr and tidyr. *CCHMC R Users Group Meeting.* Cincinnti, OH. 2023

Geomarker Curation and Computation. *University of Cincinnati Introduction to Medical Informatics course guest lecture.* Cincinnati, OH. 2023

Using R to Build a Community Data Explorer for Cincinnati (CoDEC). *CCHMC R Users Group Meeting.* Cincinnti, OH. 2023

Geomarker Curation and Computation. *University of Cincinnati Biomedical Informatics Practicum (BMIN8001) guest lecture.* Cincinnati, OH. 2023

Air Pollution and Pediatric Mental Health. *Citizens Climate Lobby, Cincinnati Chapter Meeting.* Cincinnati, OH. 2023

Functional Programming in R with {purrr}. *CCHMC R Users Group Meeting.* Cincinnati, OH. 2023

A Framework for Automated and Reproducible Geomarker Curation and Computation at Scale. *Yale Biostatistics Seminar.* Online. 2022

Introduction to Geoinformatics. *University of Cincinnati Introduction to Medical Informatics course guest lecture.* Cincinnati, OH. 2022

Automating Your Academic CV, Biosketch, and Website with R. *CCHMC R Users Group Meeting.* Cincinnati, OH. 2022

Decentralized Geomarker Assessment for Multi-Site Studies. *Rare Diseases Clinical Research Network (RD-CRN) Steering Committee Meeting.* Online. 2022

Decentralized Geomarker Assessment for Multi-Site Studies. *NIH Bench to Bassinet PCGC EMR Extraction Working Group Meeting.* Online. 2022

Challenges and Solutions for Private and Reproducible Environmental Exposure Assessment at Scale. *NIH Ethical, Legal, and Social Implications of Gene-Environment Interaction Research Workshop.* Online. 2022

Geoinformatics for Population Health. *University of Cincinnati Introduction to Medical Informatics course guest lecture.* Cincinnati, OH. 2021

Decentralized, Efficient, and Secure High Resolution Spatiotemporal Exposure Assessment at Scale. *NIH Integrating Multiscale Geospatial Environmental Data into Large Population Health Studies Workshop.* Online. 2021

Decentralized and Reproducible Geocoding and Geomarker Assessment for Multi-Site Studies. *Pediatric Acute Care Cardiology Collaborative Spring Conference.* Online. 2021

Geomarkers and Health. *Rutgers University Social Epidemiology guest lecture.* Online. 2021

Decentralized and Reproducible Geocoding and Characterization of Community and Environmental Exposures at Scale. *University of Cincinnati Biomedical Informatics Practicum (BMIN8001) guest lecture.* Cincinnati, OH. 2021

Three Levels of Computational Mobility in R. *SatRday Columbus.* Virtual. 2020

Decentralized and Reproducible Geocoding and Characterization of Community and Environmental Exposures at Scale. *Pediatric Musculoskeletal & Rheumatology Innovation Core Center Seminar Series.* Virtual. 2020

Introduction to Geoinformatics for Precision Population Health. *University of Cincinnati Introduction to Medical Informatics course guest lecture.* Cincinnati, OH. 2020

Decentralized and Reproducible Geocoding and Characterization of Community and Environmental Exposures at Scale. *University of Cincinnati Biomedical Informatics Practicum (BMIN8001) guest lecture.* Cincinnati, OH. 2020

Pediatric Psychiatric Emergency Department Utilization and Fine Particulate Matter: A Case-Crossover Study. *University of Cincinnati Department of Epidemiology Seminar.* Cincinnati, OH. 2020

Using Twitter for Academic Networking. *Cincinnati Children's Faculty Career Development Seminar Series.* Cincinnati, OH. 2019

Causal Inference Machine Learning Methods for Identifying Subpopulations Susceptible to the Health Effects of Air Pollution. *Cincinnati Children's Machine Learning Focus Group.* Cincinnati, OH. 2019

Decentralized and Reproducible Geocoding and Characterization of Community and Environmental Exposures at Scale. *Center for Clinical & Translational Science & Training Grand Rounds.* Cincinnati, OH. 2019

Decentralized and Reproducible Geocoding and Characterization of Community and Environmental Exposures at Scale. *Northwestern Institute for Public Health and Medicine Seminar Series.* Chicago, IL. 2018

Introduction to Geoinformatics for Precision Population Health. *University of Cincinnati Introduction to Medical Informatics course guest lecture.* Cincinnati, OH. 2018

Climate Change and Health Disparities in the Urban Environment. *University of Cincinnati Research and Innovation Week.* Cincinnati, OH. 2018

Geoinformatics for Environmental Epidemiology. *Biomedical Informatics (BMIN8001) Practicum Guest Lecture.* Cincinnati, OH. 2018

Hot Topics in Pediatric Research Methodology: CART and Random Forest. *Pediatric Academic Society Annual Meeting.* Toronto, ON. 2018

Ensemble Machine Learning for Air Pollution Exposure Assessment. *American Statistical Association, Cincinnati Chapter Meeting.* Cincinnati, OH. 2018

Combined Sewer Overflow Events and Childhood Emergency Department Visits: A Case-Crossover Study. *University of Cincinnati Environmental Health Seminar.* Cincinnati, OH. 2017

The Cincinnati Childhood Allergy and Air Pollution Study: An Overview and New Approaches to Exposure Assessment. *Harvard School of Public Health Air, Climate & Energy Center Research Meeting.* Boston, MA. 2017

Decentralized and Reproducible Geocoding and Characterization of Community and Environmental Exposures for Multi-Site Studies. *Harvard School of Public Health Air, Climate & Energy Center Research Meeting.* Boston, MA. 2017

Assessing Daily Exposure to PM2.5 with Machine Learning and Remote Sensing. *Cincinnati Children's Hospital Medical Center Division of Biostatistics and Epidemiology Seminar.* Cincinnati, OH. 2017

Using GRAPPH to Leverage Geoinformatics for Innovative Research, Place-based Clinical Care, and Community-Centered Quality Improvement. *Cincinnati Children's Hospital Medical Center Mayerson Center for Safe and Healthy Children Quarterly Research Meeting.* Cincinnati, OH. 2017

Combined Sewer Overflow Events and Childhood Emergency Department Visits: A Case-Crossover Study. *Cincinnati Children's Hospital Medical Center Postdoc and Research Associate Meeting.* Cincinnati, OH. 2017

Geocoding to Characterize Community and Environmental Exposures for Multi-site Studies. *Cincinnati Children's Hospital Medical Center Division of Biomedical Informatics Hutton Lecture Series.* Cincinnati, OH. 2017

GIS Tools for Environmental Epidemiology. *University of Cincinnati Biomedical Informatics (BMIN8001) Practicum course guest lecture.* Cincinnati, OH. 2017

Building A Platform for Data Sharing. *Cincinnati Children's Hospital Medical Center Academy Health Site Visit.* Cincinnati, OH. 2017

Predictive Comparisons: Interpreting Input Effects for Any Supervised Learner. *Cincinnati Children's Hospital Medical Center Division of Biostatistics & Epidemiology Journal Club.* Cincinnati, OH. 2016

Land Use Models for Elemental Components of Particulate Matter in an Urban Environment: A Comparison of Regression and Random Forest Models. *University of Cincinnati Division of Biostatistics and Bioinformatics Seminar Series.* Cincinnati, OH. 2016

Data Visualization for Population Health Initiatives. *All In Data Visualization Webinar.* Cincinnati, OH. 2016

Using Machine Learning and Interactive Dashboards to Understand How Children's Health is Impacted by their Community and Surrounding Environment. *University of Cincinnati Institute for Analytics Innovation Showcase and Networking Event.* Cincinnati, OH. 2016

Combined Sewer Overflow and Childhood Hospital Admissions. *Cincinnati Children's Hospital Medical Center Division of Biostatistics & Epidemiology Seminar Series.* Cincinnati, OH. 2016

Land Use Random Forests for Estimation of Exposure to Elemental Components of Particulate Matter. *University of Cincinnati Division of Biostatistics and Bioinformatics Doctoral Dissertation Defense.* Cincinnati, OH. 2016

Geospatial Data for Environmental Epidemiology. *Cincinnati Children's Hospital Medical Center Environmental Epidemiology Shared Interest Group Seminar Series.* Cincinnati, OH. 2016

Confidence Intervals for Random Forest Predictions Using the Infinitesimal Jackknife. *University of Cincinnati Division of Biostatistics and Bioinformatics Seminar Series.* Cincinnati, OH. 2015

R Studio and R Markdown: An integrated IDE and report generator for R. *University of Cincinnati BE7022 (Intro To Biostatistics) Guest Lecture.* Cincinnati, OH. 2015

Does the Elemental Composition of Indoor and Outdoor PM2.5 Accurately Represent the Elemental Composition of Personal PM2.5?. *University of Cincinnati Division of Epidemiology Seminar Series.* Cincinnati, OH. 2014

Exact Sampling and Counting for Fixed-Margin Matrices. *University of Cincinnati Division of Epidemiology Seminar Series.* Cincinnati, OH. 2013

Small Molecule Disruption of G Beta Gamma Signaling Inhibits the Progression of Heart Failure. *University of Cincinnati Department of Pharmacology and Biophysics Seminar Series.* Cincinnati, OH. 2011

Ultrasound-Targeted Microbubble Destruction to Deliver Nucleic Acid to the Heart. *University of Cincinnati Department of Pharmacology and Biophysics Seminar Series.* Cincinnati, OH. 2011

An academic research cooperative education experience. *University of Cincinnati BME321 Guest Lecture.* Cincinnati, OH. 2011

Awards and Honors

- 2015: Choose Ohio First Scholarship Recipient
- 2016: CCHMC Arnold W. Strauss Fellowship Award
- 2016: CCHMC Division of Biostatistics & Epidemiology Travel Award
- 2017: CCHMC Division of Biostatistics & Epidemiology Top Publication
- 2017: CCHMC Division of Biostatistics & Epidemiology Top Research Achievement
- 2020: CCHMC Division of Biostatistics & Epidemiology Top Publication
- 2020: CCHMC Division of Biostatistics & Epidemiology Top Research Achievement

Service and Leadership

Service

Professional Societies

- 2014 - present: Member, International Society of Exposure Science
- 2018 - present: Member, International Society of Environmental Epidemiology

Institutional Committees

- 2017 - 2019: Member, CCHMC DBE Research Committee
- 2017 - 2023: Member, CCHMC DBE Strategic Plan Steering Committee
- 2019 - present: Member, CCHMC DBE Faculty Career Development Committee
- 2021 - 2022: Member, CCHMC DBE Faculty Search Committee

- 2022 - present: Member, CCHMC Artificial Intelligence Governance Council
- 2023 - present: Member, CCHMC Biomedical Informatics Faculty Search Committee
- 2022 - present: Chair, CCHMC DBE Strategic Plan Steering Committee

Conference Leadership

- 2016: Chair of the Land Use Regression Modeling Session, International Society of Exposure Science Annual Meeting
- 2017: Chair of the Ensemble Learning for Air Pollution Exposure Assessment Session, International Society of Exposure Science Annual Meeting
- 2021: Chair of the Harnessing Big Data in Exposure Science Session, International Society of Exposure Science Annual Meeting
- 2021: Chair of the Environmental Exposures and Mental Health Session, International Society of Environmental Epidemiology
- 2023: Chair of Fairness in Precision Environmental Health Session (*cancelled*), International Society of Exposure Science Annual Meeting

Scientific Reviewer

- Grant Reviewer:

  - 2017: Puerto Rico Science, Technology & Research Trust
  - 2018 - 2021: Arnold S. Strauss Fellowship Award, CCHMC
  - 2018 – 2020, 2022: University of Rochester Processes and Methods Grant
  - October 2019: NIH SIEE Study Section, Early Career Reviewer
  - 2020: University of Michigan M-LEEaD Center Pilot Projects
  - 2020: Ohio State University CCTS Pilot Projects
  - 2021: University of Louisville CCTS Pilot Translational & Clinical Studies Program
  - March 2022: NIH ZES1 LKB-S (KS)
  - March 2022: NIH ZES1 LWF-S (K9)
  - November 2022: NIH ZES1 WL-W (K)
  - February 2023: NIH ZCTA1 TCRB-J (M2)
  - June 2023: NIH ZRG1 MCST - B (14)
  - August 2023: NIH ZES1 LKB-K (P2)
  - November 2023: NIH ZES1 LWJ-W (K)
  - November 2023: NIH ZES1 BWD-D (HS)

- Abstract Reviewer:

  - 2018, 2019, 2022: International Societies of Exposure Science
  - 2018, 2020, 2022: International Society of Environmental Epidemiology Meeting
  - 2021, 2022, 2023: American Medical Informatics Association Clinical Informatics Conference
  - 2023: American Medical Informatics Association Annual Symposium

- Journal Reviewer (12 manuscripts reviewed per year, on average):

  - Academic Pediatrics
  - American Journal of Public Health
  - American Journal of Respiratory and Critical Care Medicine
  - Annals of Epidemiology
  - Environmental Health Perspectives
  - Environment International
  - Environmental Pollution
  - Environmental Research
  - Environmental Science & Technology

- Health & Place
- International Journal of Epidemiology
- Journal of Exposure Science and Environmental Epidemiology
- Journal of Open Source Software
- PLOS ONE
- Pediatrics
- Science of the Total Environment

Leadership

- 2017 - present: Founding Director of the Geospatial Research Accelerator for Precision Population Health (GRAPPH) within the Data Management and Analysis Center at Cincinnati Children's
- 2019 - present: Founding Leader of Cincinnati Children's R Users Group (CCHMC RUG)

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