Cole Brokamp

CONTACT INFORMATION	Division of Biostatistics and Epidemiology Cincinnati Children's Hospital Medical Center Cincinnati, OH 45229 USA	*E-mail:* cole.brokamp@gmail.com *ORCID:* 0000-0002-0289-3151 *Website:* https://colebrokamp.com

RESEARCH INTERESTS

Geoinformatics, Environmental and Population Health, Fairness in Precision Medicine

EDUCATION

Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio USA

Postdoctoral Research Fellow, Biostatistics & Epidemiology, 2016 – 2017

University of Cincinnati, Cincinnati, Ohio USA

Ph.D., Biostatistics and Bioinformatics, 2016

University of Cincinnati, Cincinnati, Ohio USA

B.S., Biomedical Engineering, 2010

ACADEMIC EXPERIENCE

Cincinnati Children's Hospital Medical Center
University of Cincinnati Department of Pediatrics
Division of Biostatistics & Epidemiology

Assistant Professor, 2017 - present

PUBLICATIONS

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.* Online. 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. *Download*.

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 & 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. *Download*.

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. *Download*.

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. *Download*.

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. *Download*.

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. *Download*.

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

Rhonda D. Szczesniak, **Cole Brokamp**, Weiji Su, Gary L. McPhail, John Pestian, and 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. *Download*.

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. *Download*.

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. *Download*.

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. *Download*.

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. *Download*.

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. *Download*.

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. *Download*.

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. *Download*.

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. *Download*.

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. *Download*.

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. *Download*.

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. *Download*.

Lusine Yaghjyan, R Aroa, **Cole Brokamp**, E O'Meara, B Sprague, G Ghita, Patrick Ryan. Association of air pollution with mammographic breast density in the Breast Cancer Surveillance Consortium. *Breast Cancer Research.* 19(36); 1-10. 2017. *Download*.

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. *Download*.

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. *Download*.

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. *Download*.

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. *Download*.

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. *Download*.

Patrick Ryan, **Cole Brokamp**, Z-H 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. *Download*.

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. *Download*.

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. *Download*.

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. *Download*.

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

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. *Download*.

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. *Download*.

PATENTS   Assem Ziady, Rhonda Szczesniak, John Clancy, **Cole Brokamp**, inventors; Cincinnati Children's Hospital Medical Center, assignee. Compositions and methods for treatment of lung function. United States patent US 10,761,099. 2020 Sep 1.

TALKS   **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. *Download*.

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. *Download*.

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

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

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

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

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

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

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

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. *Download*.

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. *Download*.

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

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. *Download*.

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. *Download*.

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. *Download*.

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

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. *Download*.

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. *Download*.

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

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. *Download*.

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. *Download*.

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. *Download*.

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

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

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. *Download*.

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

Cincinnati, OH. 2016. *Download*.

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. *Download*.

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

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. *Download*.

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

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. *Download*.

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

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

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

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. *Download*.

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.

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.

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 Memberships		
	CCHMC Division of Biostatistics & Epidemiology Top Publication	*2020*
	CCHMC Division of Biostatistics & Epidemiology Top Research Achievement	*2020*
	CCHMC Division of Biostatistics & Epidemiology Top Research Achievement	*2017*
	CCHMC Division of Biostatistics & Epidemiology Top Publication	*2017*
	CCHMC Division of Biostatistics & Epidemiology Travel Award	*2016*
	CCHMC Arnold W. Strauss Fellowship Award	*2016*
	Member - International Society of Exposure Science	*2014 – present*
	Member - International Society of Environmental Epidemiology	*2017 – present*
	Choose Ohio First Scholarship Recipient	*2010 – 2015*
	University Graduate Scholarship Recipient	*2010 – 2016*
	Distinguished Honors Scholar, UC Engineering	*2010*
	University of Cincinnati Alumni Scholarship	*2008 – 2009*
	University Cincinnatus Scholar Recipient	*2005 – 2010*

Leadership and Service		
	Founder and leader of CCHMC R Users Group	*2020*
	Member of Divisional Faculty Career Development Committee, CCHMC	*2019 – 2020*
	Member of Divisional Strategic Plan Steering Committee, CCHMC	*2017 – 2020*
	Member of Divisional Research Committee, CCHMC	*2017 – 2020*
	Chair of the Ensemble Learning for Air Pollution Exposure Assessment Session, International Society of Exposure Science Annual Meeting	*2017*
	Chair of the Land Use Regression Modeling Session, International Society of Exposure Science Annual Meeting	*2016*
	Co-founded Biostatistics Student Journal Club, Department of Environmental Health, University of Cincinnati	*2013*
	Student Representative to Graduate Education Committee, Department of Pharmacology, University of Cincinnati	*2010 – 2011*

Journal Reviewer for:
Academic Pediatrics
American Journal of Respiratory and Critical Care Medicine
Annals of Epidemiology
Environment International
Environmental Health Perspectives
Environmental Modeling & Assessment
Environmental Pollution
Environmental Research
Environmental Science & Technology
Health & Place
International Journal of Environmental Research and Public Health
International Journal of Epidemiology
Journal of Exposure Science and Environmental Epidemiology
Journal of Open Source Software
PLOS ONE

Pediatrics
Science of the Total Environment
Stochastic Environmental Research and Risk Assessment

Grant Reviewer for:

NIH SIEE Study Section, Early Career Reviewer	*October 2019*
University of Michigan M-LEEaD Center Pilot Projects	*2020*
Ohio State University CCTS Pilot Projects	*2020*
Puerto Rico Science, Technology & Research Trust	*2017*
Arnold S. Strauss Fellowship Award, Cincinnati Children's	*2018 – 2020*
University of Rochester Processes and Methods Grant	*2018 – 2020*
Ohio State University CCTS Pilot Translational & Clinical Studies Program	*2020*
University of Louisville CIEHS Pilot Project Program	*2021*

Abstract Reviewer for:

American Medical Informatics Association Clinical Informatics Conference	*2021*
International Society of Exposure Science Annual Meeting	*2018 – 2019*
International Society of Environmental Epidemiology Annual Meeting	*2018, 2020*