Curriculum Vitae: Cole Brokamp, Ph.D.

# Personal Data

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# Education

## Academic Education

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

University of Cincinnati, Cincinnati, Ohio USA Ph.D., Biostatistics and Bioinformatics, 2016

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

## Training Courses and Workshops

* 2015: “Bayesian Methods for Clinical Trials.” A training workshop provided by Berry Consultants.
* 2017: “Intermediate R Shiny.” A pre-conference training workshop provided by R Studio at the R Studio Conference 2017.
* 2017: “Write Winning Grants.” A two-day training workshop provided by University of Cincinnati.
* 2018: “Machine Learning for Causal Inference in Environmental Health Studies.” A pre-conference training workshop provided by the International Societies of Exposure Science and Environmental Epidemiology (ISEE & ISES) at the ISEE/ISES 2018 Annual Meeting.
* 2019: “Junior Investigators Workshop.” A two-day pre-conference training workshop provided by the Biometrics Society at the Eastern Northern American Region (ENAR) at the Biometrics Society 2019 Annual Meeting.
* 2020: “Practical Solutions for Working with Electronic Health Records Data.” A one-day pre-conference training workshop provided by the Biometrics Society at the Eastern Northern American Region (ENAR) at the biometris Society 2020 Annual Meeting.
* 2020: “Causal Inference Using the R TWANG Package for Mediation and Continuous Exposures.” A tutorial provided by the Biometrics Society at the Eastern Northern American Region (ENAR) at the Biometrics Society 2020 Annual Meeting.
* 2020: “Fundamentals of Difference-in-Differences Studies.” A tutorial provided by the Biometrics Society at the Eastern Northern American Region (ENAR) at the Biometrics Society 2020 Annual Meeting.
* 2021: “Introduction to tileDB for R.” A tutorial at the useR! 2021 Annual Meeting.
* 2022: “Tidy Development Tools.” A pre-conference training workshop provided by R Studio at the R Studio Conference 2022.
* 2023: “Which Comes First: High Quality Clinical Data or Reliable AI-based Applications?” A pre-conference training workshop at the 2023 American Medical Informatics Association (AMIA) Informatics Summit.

# 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

# Licensing and Certification

* CITI Training – 2019-07-31: Responsible Conduct of Research – 2019-07-31: Human Subjects Research Core – 2019-07-31: Children Research – 2019-10-10: Good Clinical Practice – 2019-10-10: Clinical Research Conduct

# Awards and Honors

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

# Research and Scholarly Activities

## Research and Scholarly Activities

My main research focus has been to elucidate the effects of environmental exposures and community characteristics on the psychiatric well-being and mental health of children and adolescents. Through creating new place-based data science tools and environmental exposure methods, I have been able to both lead my own research program based on existing cohorts and the CCHMC electronic health records, as well as make methodological contributions to several different nationwide multi-site studies.

## Grants and Contracts

### Current

### Selected Previous (Brokamp, PI)

## Publications

### Peer reviewed articles

1. 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.
2. 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.
3. 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*. In Press. 2023.
4. 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.
5. 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.

### Quality Review of Publications

Publications I have authored have 1,819 total citations (1,593 since 2018), with an h-index of 25 (23 since 2018), and an i10-index of 40 (40 since 2017). Below are quality reviews of seven selected publications:

1. 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. – I lead this publication by designing and completing all of the analyses. We used satellite data combined with weather and land use data to create a machine learning model that can accurately estimate daily exposure to ambient fine particulate matter at any location in the Greater Cincinnati Area from 2000 to the present. – 116 total citations since publication on 2018-03-14 (2023:4, 2022: 34, 2021: 32, 2020: 25, 2019: 20)
2. 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. – I lead and completed all of the software development and validation for this study which summarized our software tool that can be used to securely geocode and estimate community and environmental exposures (geomarker assessment) within multi-site studies where sharing of protected health information is not feasible. – 52 total citations since publication on 2018-03-01 (2023: 3, 2022: 17, 2021: 10, 2020: 6, 2019: 11, 2018: 5)
3. 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. PMID: 31553231 – As the lead author, I designed and executed this study utilizing CCHMC electronic health records and my spatiotemporal air pollution exposure assessment model. Notably, this was the first scientific publication to show that short-term air pollution is associated with psychiatric exacerbations in children and adolescents. – 36 total citations since publication on 2019-09-25 (2022: 16, 2021: 16, 2020: 4) – Selected as the top publication and top research achievement of 2020 for the Division of Biostatistics and Epidemiology and featured in the Cincinnati Children’s 2020 Annual Research Report – Featured in several high-profile media outlets, including Newsweek, CNN, The London Time, Forbes, and over 30 other outlets
4. 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. – I lead and completed all analyses for this study that was the first to utilize the machine learning method, random forest, to predict airborne concentrations of twelve different components of fine particulate matter air pollution. We showed that the random forest method outperformed traditional regression methods. The resulting exposure assessment models can be used to estimate air pollution exposures at any specific address in the seven counties surrounding Cincinnati, OH. – 174 total citations since publication on 2017-02-01 (2023: 4, 2022: 45, 2021: 33, 2020: 30, 2019: 26, 2018: 28, 2017: 10) – Selected as the top publication of 2017 for the Division of Biostatistics and Epidemiology and featured in the Cincinnati Children’s 2017 Annual Research Report
5. 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. – As the lead author, I completed all analyses for this manuscript which showed that ignoring unknown residential location changes in longitudinal epidemiology studies leads to bias in health outcome studies. – 60 total citations since publication on 2016-06-01 (2022: 13, 2021: 9, 2020: 12, 2019: 13, 2018: 8, 2017: 3)
6. 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. 37-43. 2019. – As the primary author, I designed and completed all analyses for this manuscript which created a community material deprivation index and used a causal inference framework to show that community poverty causes increased healthcare utilization in newborns independently of their individual-level socioeconomic status and race. The created nationwide deprivation index has been used as a resource in numerous other publications and public health applications. – 80 total citations since publication on 2019-02-01 (2023: 3, 2022: 33, 2021: 24, 2020: 18, 2019: 2)
7. Juliana Madzia, Patrick Ryan, Kimberly Yolton, Zana Percy, Nick Newman, Grace LeMasters, Cole Brokamp. Residential greenspace is associated with childhood behavioral outcomes. The Journal of Pediatrics. 207. 233-240. 2019. – As the senior author, I designed and oversaw all analyses for this manuscript, including the work completed by my mentee, who was the first author. We used a cohort of Cincinnati children to show that increased greenspace around their residences was associated with reduced problems related to misconduct, anxiety, and depression. – 46 total citations since publication on 2019-04-01 (2023: 2, 2022: 23, 2021: 15, 2020: 6)

## Patents

1. 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.

**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**. *Pediatric Academic Societies Annual Meeting*. Denver, CO. 2022

**Decentralized Geomarker Assessment for Multi-Site Studies**. *Rare Diseases Clinical Research Network (RDCRN) 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

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

**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

**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

**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

**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

**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

**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

**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

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

**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

**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

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

**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

## Selected Abstracts (First or Senior Author)

# Teaching and Mentoring

## Invited Lectures

## Seminars

## Teaching

## Mentoring

#### Undergraduate Students

* Amisha Saini, CCHMC Summer Undergraduate Research Fellowship: Primary Mentor (2021, 2022)
* Milan Parikh, UC College of Medicine: Primary Research Mentor (2021 - 2023)
* Daniel Ehrlich, Undergraduate Research Assistant (2018 - 2019)

#### MS Students

* Erika Rasnick, Miami of Ohio Statistics: Thesis committee member (2018 - 2019)
* Yajna Jathan, UC College of Engineering: Thesis committee member (2019 - 2020)
* Clayton Peterson: UC College of Medicine Biostatistics: Thesis committee member (2021 - 2022)
* Madhumitaa Roy, UC College of Engineering: Thesis committee member (2020 - 2021)

#### PhD or MD Students

* Harsimran Makkad: CCHMC Summer Medical Student Respiratory Research Fellowship: Primary Mentor (2023)
* Stephen Colegate: UC College of Medicine Biostatistics: Dissertation committee member (2020 - 2022)
* Ziyun Wang: UC College of Medicine Biostatistics: Dissertation committee member (2022 - present)
* Kacey Apple: UC College of Medicine Epidemiology: Dissertation committee member (2018 - 2022)
* Jordan Pennington, CCHMC Summer Medical Student Respiratory Research Fellowship: Primary Mentor (2020)
* Ashley Turner: UC College of Medicine Industrial Hygiene: Dissertation committee member (2020 - 2021)
* Shannon Conrey: UC College Of Medicine Epidemiology: Dissertation committee member (2019 - 2021)
* Mohammad Alfrad Nobel Bhuiyan, UC College of Medicine Biostatistics: Research Mentor (2018-2019)
* Lei Liu, UC College of Medicine Biomedical Informatics: Dissertation committee member (2019 - present)
* Kim Hartley, UC College of Medicine Nursing: Dissertation committee member (2019 - 2020)
* Zana Percy, UC College of Medicine Medical Scientist Training Program: Qualifying exam committee member (2018 - 2019)
* Juliana Madzia, UC College of Medicine Medical Scientist Training Program: PhD dissertation committee co-chair (2018 - 2020)

#### Post Graduate Clinical and Research Fellows

* Anushka Palipana, CCHMC Research Fellow: Member of Career Development Committee (2022 - present)
* Stephen Colegate, CCHMC Research Fellow: Chair of Career Development Committee and Primary Research Mentor (2022 – present)
* Kim Hartley, CCHMC General Pediatric Research Fellowship: Scholarship Overshight Committee (2020 - 2023)
* Sharad Wadhwani, CCHMC Clinical Research Fellow: Research mentor (2017 - 2019)
* Emrah Gecili, CCHMC Postdoctoral Research Fellow: Career development committee (2019 - 2022)
* Adam Jasne, UC College of Medicine Stroke Research Fellow: Research mentor (2016 - 2018)
* Anh Dao: UC College of Medicine Division of Immunology, Allergy and Rheumatology: T32 Research Fellow Oversight Committee (2017 - 2019)
* Kristy Schmidlin: UC College of Medicine Division of Immunology, Allergy and Rheumatology: T32 Research Fellow Oversight Committee (2016 - 2017)
* Jennifer Kannan: UC College of Medicine Division of Immunology, Allergy and Rheumatology: T32 Research Fellow Oversight Committee (2016 - 2017)
* Jessica Tan: UC College of Medicine Division of Immunology, Allergy and Rheumatology: T32 Research Fellow Oversight Committee (2016 - 2017)

#### K/Training Award Mentees

* Anita Shaw, UC College of Medicine: Research mentor committee member for PEDSnet KL2 Training Award (2018 - 2020)
* Meera Kotagal, UC College of Medicine: Research mentor committee member for CCTST KL2 Training Award (2023 - 2024)

# Service and Leadership

## Service

### Professional Societies

* 2014 - present: Member, International Society of Exposure Science
* 2018 - present: Member, International Society of Environmental Epidemiology
* itutional Committees
* 2023 - present: Member CCHMC Biomedical Informatics Faculty Search Committee
* 2022 - present: Member, CCHMC Artificial Intelligence Governance Council
* 2019 - present: Member, CCHMC DBE Faculty Career Development Committee
* 2022: Chair, CCHMC DBE Strategic Plan Steering Committee
* 2017 - present: Member, CCHMC DBE Strategic Plan Steering Committee
* 2017 - present: Member, CCHMC DBE Research Committee
* erence 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

### Scientific Reviewer

* Journal Reviewer (12 manuscripts reviewed per year, on average):
  + Academic Pediatrics
  + American Journal of Respiratory and Critical Care Medicine
  + Annals of Epidemiology
  + Environmental Health Perspectives
  + Environment International
  + Environmental Modeling & Assessment
  + Environmental Pollution
  + Environmental Research
  + Environmental Science & Technology
  + Environmental Science & Technology Letters
  + 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
  + Stochastic Environmental Research and Risk Assessment
  + Science of the Total Environment
* 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 NIEHS ZES1 LKB-S (KS) Special Emphasis Panel
  + March 2022: NIH NIEHS ZES1 LWF-S (K9) Special Emphasis Panel
  + November 2022: NIH NIEHS ZES1 WL-W (K) Special Emphasis Panel
  + February 2023: NIH NCI ZCTA1 TCRB-J (M2) R Review Panel
* 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

## 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)

# Distribution of Effort

| Activity | Percent Effort |
| --- | --- |
| Research and Scholarly Activities | 90% |
| Teaching and Mentoring | 5% |
| Service and Leadership | 5% |
| Clinical Service | 0% |

I have reviewed the curriculum vita for completeness and accuracy and agree with its contents.

Division Director Signature and Date:

Faculty Member Signature and Date:

Date of Preparation: 2023-03-19