

Name of Individual: Cole Brokamp

Commons ID: brokampr

### **Other Support – Project/Proposal**

Title: Commercial Translation of Biomarker-based Platform for Personalized Forecasting of Rapid Lung Function Decline

Major Goals: Develop a proteomic marker-informed algorithm that predicts lung function into a tool delivered to the cystic fibrosis care community.

Status of Support: Active

Project Number: R61HL154105

Name of PD/PI: Ziady A, Szczesniak R

Source of Support: NIH

Primary Place of Performance: Cincinnati Children's Hospital Medical Center

Project/Proposal Start and End Date: 09/2020 — 06/2022

Total Award Amount: \$788,746

Person Months (Calendar) per budget period:

Year	Person Months
1. 2020	0
2. 2021	0

Title: Longitudinal Impact of Air Pollution on Mental Health and Neuroimaging Outcomes during Adolescence in the Cincinnati Combined Childhood Cohorts (C4)

Major Goals: This project will merge two ongoing, prospective cohorts, the Cincinnati Childhood Allergy and Air Pollution Study (CCAAPS) and the Health Outcomes and Measures of the Environment (HOME) Study, to examine the role of air pollution on adverse mental health and neuroimaging outcomes and in early adolescence.

Status of Support: Active

Project Number: R01ES031621

Name of PD/PI: Yolton K, Ryan P, Cecil K

Source of Support: NIH

Primary Place of Performance: Cincinnati Children's Hospital Medical Center

Project/Proposal Start and End Date: 03/2021 — 12/2025

Total Award Amount: \$5,319,812

Person Months (Calendar) per budget period:

Year	Person Months
1. 2021	1.1
2. 2022	1.8
3. 2023	1.8
4. 2024	1.8
5. 2025	1.8

Title: A Framework for Automated and Reproducible Geomarker Curation and Computation at Scale

Major Goals: Create a framework for developing a standardized, free and open source library of reproducible and computable geomarkers that will enhance the efficiency and collaboration of biomedical researchers utilizing place-based data at scale.

Status of Support: Active

Project Number: R01LM013222

Name of PD/PI: Brokamp C

Source of Support: NIH

Primary Place of Performance: Cincinnati Children's Hospital Medical Center

Project/Proposal Start and End Date: 08/2020 — 07/2024

Total Award Amount: \$1,351,500

Person Months (Calendar) per budget period:

Year	Person Months
1. 2020	4.1
2. 2021	5.4
3. 2022	5.4
4. 2023	5.4

Title: Decentralized and Reproducible Geomarker Assessment for Multi-Site Studies

Major Goals: Create a software tool to facilitate the exposure assessment of gridded spatiotemporal data based on residential addresses and date of birth without sharing or exposing protected health information.

Status of Support: Active

Project Number: ECHO OIF

Name of PD/PI: Brokamp C

Source of Support: Duke University

Primary Place of Performance: Cincinnati Children's Hospital Medical Center

Project/Proposal Start and End Date: 09/2019 — 08/2021

Total Award Amount: \$199,393

Person Months (Calendar) per budget period:

Year	Person Months
1. 2019	2.7
2. 2020	3.4

Title: Epigenetics, Air Pollution, and Childhood Mental Health

Major Goals: Use data from three longitudinal birth cohorts to examine the impact of air pollution on the epigenome and the onset of childhood anxiety and depression symptoms. DNA methylation biomarkers are investigated to advance our understanding of potential molecular pathways involved in air pollution neurotoxicity and/or anxiety and depression pathophysiology.

Status of Support: Active

Project Number: R01ES031054

Name of PD/PI: Brunst K

Source of Support: NIH

Primary Place of Performance: University of Cincinnati

Project/Proposal Start and End Date: 07/2020 — 04/2025

Total Award Amount: \$1,499,436

Person Months (Calendar) per budget period:

Year	Person Months
1. 2020	0.88
2. 2021	1.80
3. 2022	1.80
4. 2023	1.80
5. 2024	1.80

Title: Mapping environmental contributions to rapid lung disease progression in cystic fibrosis

Major Goals: Leverage a rich CF registry, extant national and local environmental data sources and prospectively collected study data to accurately forecast the onset of rapid decline progression.

Status of Support: Active

Project Number: R01HL141286  
Name of PD/PI: Szczesniak R  
Source of Support: NIH  
Primary Place of Performance: Cincinnati Children's Hospital Medical Center  
Project/Proposal Start and End Date: 01/2019 — 12/2023  
Total Award Amount: \$2,286,948  
Person Months (Calendar) per budget period:

Year	Person Months
1. 2019	3.6
2. 2020	1.8
3. 2021	2.9
4. 2022	3.6
5. 2023	3.6

Title: Polygenic Risk Scores for Healthier African American Families  
Major Goals: Ascertain and enroll 800 African American mothers with newborn babies along with available fathers and siblings and develop polygenic risk scores and incorporate them into genomic risk estimates for Asthma, Atopic Dermatitis, Obesity, Hypertension, Hypercholesterolemia, Premature Birth, and Breast Cancer. We will cope with the ethics of returning results and for selected situations intervene for mitigate risk.  
Status of Support: Active  
Project Number: U01HG011172  
Name of PD/PI: Harley J  
Source of Support: NIH  
Primary Place of Performance: Cincinnati Children's Hospital Medical Center  
Project/Proposal Start and End Date: 07/2020 — 04/2025  
Total Award Amount: \$6,965,522  
Person Months (Calendar) per budget period:

Year	Person Months
1. 2020	0.44
2. 2021	0.44
3. 2022	0.60
4. 2023	0.60
5. 2024	0.60

Title: Epigenome-wide variations and socio-environmental exposures in African American asthmatic children  
Major Goals: Determine the relationship between asthma severity, the epigenome, environmental exposures, and community characteristics in a cohort of African American asthmatic children.  
Status of Support: Pending  
Project Number: R01HG011411  
Name of PD/PI: Mersha T  
Source of Support: NIH  
Primary Place of Performance: Cincinnati Children's Hospital Medical Center  
Project/Proposal Start and End Date: 07/2021 — 06/2026  
Total Award Amount: \$3,757,452  
Person Months (Calendar) per budget period:

Year	Person Months
1. 2021	0.0
2. 2022	0.0

3. 2023	1.2
4. 2024	1.2
5. 2025	1.2

Title: Achieving Pediatric Health Equity by Responding to Identified Sociomedical risks with Effective Unified Purpose – Co-design and Evaluation of the RISEUP System

Major Goals: Enhance and test an integrated medical-social monitoring and response system that meets the needs of our patients and community.

Status of Support: Pending

Project Number:

Name of PD/PI: Beck A

Source of Support: AHRQ

Primary Place of Performance: Cincinnati Children's Hospital Medical Center

Project/Proposal Start and End Date: 11/2021 — 10/2026

Total Award Amount: \$1,995,559

Person Months (Calendar) per budget period:

Year	Person Months
1. 2021	2.4
2. 2022	2.4
3. 2023	1.8
4. 2024	1.5
5. 2025	1.2

Title: Pediatric Psychiatric Emergency Department Utilization and Fine Particulate Matter: A Case-Crossover Study to Identify Susceptible Subpopulations

Major Goals: Determine if short-term air pollution contributes to psychiatric exacerbations in children and adolescents. Furthermore, subpopulations susceptible to short term air pollution related psychiatric health effects will be identified based on individual- and community-level characteristics, co-exposures, time, and space.

Status of Support: Pending

Project Number: AN:4446180

Name of PD/PI: Brokamp C

Source of Support: NIH

Primary Place of Performance: Cincinnati Children's Hospital Medical Center

Project/Proposal Start and End Date: 04/2021 — 03/2025

Total Award Amount: \$1,129,325

Person Months (Calendar) per budget period:

Year	Person Months
1. 2021	1.8
2. 2022	3.6
3. 2023	4.2
4. 2024	4.2

Title: Model Identifying Geographic Areas in Ohio for Blood Lead Testing

Major Goals: Develop a predictive model to determine which children should be tested for potentially high blood lead during physician visits based on their residential location.

Status of Support: Completed

Project Number: CSP907820

Name of PD/PI: Brokamp C

Source of Support: Ohio Department of Health

Primary Place of Performance: Cincinnati Children's Hospital Medical Center

Project/Proposal Start and End Date: 04/2020 — 09/2020

Total Award Amount: \$72,500

Title: Using machine learning to supplement electronic health record databases with individual socioeconomic status

Major Goals: Create a novel machine learning approach to use open city and auditor databases to predict individual level income and family socioeconomic status. Determine its ability to mitigate bias in electronic health research studies that rely on insurance status to capture individual-level SES.

Status of Support: Completed

Project Number: Processes and Methods Award

Name of PD/PI: Brokamp C

Source of Support: Center for Clinical & Translational Science & Training

Primary Place of Performance: Cincinnati Children's Hospital Medical Center

Project/Proposal Start and End Date: 09/2017 — 06/2019

Total Award Amount: \$44,990

### **In-Kind**

Not Applicable

Overlap: There is no scientific overlap between funded and pending projects. Where budget overlap occurs between funded projects, Dr. Brokamp will make appropriate adjustments to reduce his effort in order not to exceed a total committed effort of 12.0 calendar months across all funded projects and work with appropriate institutional administration to resolve any conflicts.

I, PD/PI or other senior/key personnel, certify that the statements herein are true, complete and accurate to the best of my knowledge, and accept the obligation to comply with Public Health Services terms and conditions if a grant is awarded as a result of this application. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties.

Signature: *R.C. Brokamp*

Date: 2021-05-27