

Center for Children’s Health, the Environment, the Microbiome, and Metabolomics (C-CHEM²) Summer Undergraduate Research Fellows (SURF) in Community Outreach

Purpose: The purpose of this program is to expose students to the field of children’s environmental health, as well as community outreach and translation core (COTC) efforts to raise awareness via social media, participation at community events, engagement of target audiences (in this case African American women of reproductive age living in metro Atlanta) and mobilization of community stakeholders.

Program Description: Students will engage in 10 weeks of community outreach under the direction of Dean Linda McCauley and direct supervision of COTC directors, Hagi Woldeyohannes and Abby Mutic. SURF students are expected to work full time (40 hrs/week) on community outreach, including social media marketing, attending community events, and preparing for the C-CHEM²/Favors Academy Symposium (Fall 2017). A detailed plan and timeline will be determined during the first week of the program by the COTC leadership and the student. Students will be afforded additional mentorship in qualitative research, community engagement, and critical analysis of social determinants that impact health decision making. COTC staff who will meet at least once a week with the SURF student to support their efforts and provide guidance as needed. The student will work with their mentors to develop a social media strategy that aims to share relevant environmental and maternal child health content with the C-CHEM² target audiences. Students will spend a significant amount of time attending community events, COTC planning meetings, and C-CHEM² Stakeholder Advisory Board (SAB) meetings. Students will also attend guest lectures and participate in other Center activities such as Children’s Environmental Health Research Roundtables. Students will be provided a stipend of \$4,000 to cover living expenses.

Prerequisites: Applicants should be proficient in social media platform management- this includes social media optimization (SEO), tracking and monitoring of followers/likes/etc, netiquette, creativity and attention to detail. C-CHEM² social media platforms include: Facebook, Instagram and Twitter.

Preferred qualifications include: experience (lived or worked) with metro Atlanta African American women/families and professional interests in community health, environmental justice and/or maternal child health. For more about COTC, visit: <http://nursing.emory.edu/c-chem2/cotc.html>

Center Information:

Principal Investigators

Linda A. McCauley, R.N., Ph.D.

P. Barry Ryan, Ph.D.

Researchers at the Center for Children’s Health, the Environment, the Microbiome, and Metabolomics (C-CHEM²) conduct research to understand the complex interactions among components of the prenatal and postnatal environment — toxicant exposures, the microbiome, and the metabolome — and their impacts on birth outcomes and infant health and neurodevelopment. The human microbiome is representative of microbial organisms that reside in the gut, while the metabolome represents the collection of metabolites and small molecules found in the bodily tissues, organs, and cells.

Environmental exposures among residents of the urban Southeast are likely distinctive from people in other parts of the United States; however, no studies have characterized exposures among minorities within this region from birth. C-CHEM² leverages data and samples from a newly funded cohort of more than 800 African American women and their children living in metropolitan Atlanta to investigate how behavioral factors and the microbiome impact preterm birth and how epigenetics and genetics affect the microbiomes of study participants. The center also leverages rich datasets and resources within the NIEHS-funded Human Exposome Research Center: Understanding Lifetime Exposures (HERCULES) at Emory, and an interdisciplinary team of scientists with expertise in environmental health, neurodevelopment, maternal-child health, and preventive medicine.

Project 1: Characterizing exposures and outcomes in an urban birth cohort (CHERUB)

Project leaders: Dana B. Barr, Ph.D., and Anne Dunlop, M.D., M.P.H.

In this project, researchers are following an urban birth cohort of African American mother-infant pairs to study pre- and postnatal environmental exposures and the independent and interactive effects of these exposures on the maternal microbiome and health outcomes, such as preterm birth.

Project 2: Microbiome, environment, and neurodevelopmental delay (MEND)

Project leaders: Patricia A. Brennan, Ph.D. and Jeannie Rodriguez, Ph.D.

Researchers in this project are following an urban birth cohort of African American mother-infant pairs to determine how prenatal and postnatal environmental exposures influence the infant gut microbiome as well as neurodevelopment and behavior during the first 18 months of life.

Project 3: Metabolic, microbiome, and toxicant-associated interactions (MATRIX)

Project leaders: Elizabeth J. Corwin, Ph.D. RN, FAAN, Dean P. Jones, Ph.D.

Researchers are employing high-resolution metabolomics analysis techniques to characterize metabolites and metabolic pathways in biological samples collected from an urban birth cohort of African American mother-infant pairs. Researchers will investigate associations between specific metabolites and metabolic pathways and pre- and postnatal environmental exposures, the maternal and infant microbiome, and infant birth and neurodevelopmental outcomes during the first 18 months of life.

Community Outreach and Translation Core (COTC)

Core Directors: Hagi Woldeyohannes MPH, RN and Abby Mutic CNM, MSN

The C-CHEM² COTC seeks to engage and empower African American women of childbearing age regarding environmental health/exposures and how exposures can influence prenatal outcomes (i.e. premature birth and low birth weight). The steering committee for all COTC related activities, referred to as the Stakeholder Advisory Board (SAB), is made up of maternal child health program workers, county employees and environmental justice advocates living and working with African American families in metro Atlanta. We build upon strong, preexisting partnerships and qualitative research to investigate community concerns and share C-CHEM² research findings in a format that is relevant, accessible, and culturally-appropriate. The core aims to arm African American families with useful information to protect their children's health, as well as to integrate environmental health/children's health knowledge into educational programs for health-care professionals.

Learn more about the Center at:

<https://www.niehs.nih.gov/research/supported/centers/prevention/>

<http://www.nursing.emory.edu/c-chem2/index.html>

Application Instructions:

Electronic application packets are due April 1st 2017. Awards will be announced late April 2017.

Application Packet Instructions:

- All items are to be scanned and emailed to Nathan Mutic at nathan.mutic@emory.edu
- Email all questions to Nathan Mutic, please do not email center investigators with questions about the center or SURF program directly.
- List "C-CHEM²-SURF-Last Name" in the subject line of your email.
- Incomplete applications will not be reviewed
- Include the following items:
 - Completed C-CHEM²-SURF application
 - One letter of recommendation from a recent professor or supervisor
 - Sealed letters can be mailed to the following address if not available to scan:

Nathan Mutic, Rm 411
Emory University School of Nursing
1520 Clifton Rd NE
Atlanta, GA 30322

- College transcript (copies of official transcripts are acceptable)
- Resume (two page maximum)

Eligibility:

- Undergraduate student in good standing at Emory University.
- Ability to commit to 10 week summer program at 40 hours per week. Any known conflicts must be clearly outlined in the application. The start and end dates may be modified at the center investigators discretion to accommodate for pre-existing or unforeseen scheduling conflicts.

In the space provided, describe how your involvement in this program will support your long-term academic and career goals:

If selected for the C-CHEM²-SURF program I will commit to participating in 10 weeks of full time (40 hours per week) research during the 2017 summer semester. I hereby give permission to the C-CHEM²-SURF selection committee to review my transcripts and application materials.

Student Signature: _____ Date: _____