Applications for Fall 2023 Due September 25th, 2023

https://envhealthcenters.usc.edu/ehmatters

Program Introduction

EH MATTERS offers USC undergraduate students from under-represented groups a paid, two-year, three-semester per year internship (Summer/Fall/Spring) to build capacity of diverse students to engage in environmental health sciences and community health disparities research. Rising sophomores and juniors are encouraged to apply.

This community-engaged environmental health research program will expand students' understanding of fundamental concepts in environmental health, exposure, susceptibility, risk, and health disparities. This formal training will provide a basis for a firm academic understanding of community environmental health disparity issues and firsthand experiences that look at environmental health through the lens of environmental justice.

EH MATTERS fellows (program participants) are expected to intern the following number of hours each semester, most of which will be in person on the Health Science Campus and Main Campus:

- Fall – 10 hours per week (during regular workday hours), attendance at cohort meetings once per month
- Spring – 10 hours per week (during regular workday hours), attendance at cohort meetings once per month
- Summer – 36 hours per week (during regular workday hours), attendance at cohort meetings twice per week

Commitment to the above schedule is expected of all EH MATTERS fellows.

Program Objectives

- Students will understand how urban health disparities and environmental exposures intersect and interact in communities, and how to leverage action-oriented research.
- Students will develop the necessary skills to successfully engage in community-driven environmental health research to address environmental health disparities.
- Students will build skills and confidence to pursue graduate education and careers in environmental health sciences.

Internship and Mentoring

Each EH MATTERS fellow will be paired with a faculty research mentor with whom they will work as a paid intern during their two-year program.

Below are brief descriptions of the internships by faculty mentor for Fall 2023. Click on faculty member names to view their full profile including research interests and publications.

In the online application you will be asked to indicate your top three internship preferences.

Max Aung: In this internship, you can collaborate with Professor Aung on one of his recently funded projects. Through funding from the JPB Foundation, Dr. Aung will be investigating the effects of per- and poly-fluoroalkyl substances (PFAS) on maternal depressive symptoms and intermediate mechanisms of lipid metabolism. And through pilot funding from the Southern California Environmental Health Sciences Center and the Center for Translational Research on Environmental Health, Dr. Aung will be investigating brain region specific gene expression in an experimental rat model of PFAS exposure and neurobehavioral and cognition.

Tracy Bastain: Interns with the MADRES study will participate in a variety of research capacities. In addition to assisting the investigative team with literature reviews and presentations, opportunities exist for assisting with data collection with research participants, assisting study staff with participant visits and sample collection, as well as supporting the research activities through preparation of materials and helping with cohort retention events. *Some example duties include:* Completing phone questionnaires with participants, preparation of biospecimen collection kits, sample transport, mailing of participant retention materials (newsletters, birthday cards, etc.), helping with retention events, and supervising children during study visits.

Shohreh Farzan: Interns will have the opportunity to work directly with Dr. Farzan and the MADRES/MetaAir2 Study teams to understand how environmental pollutants and social stressors may influence maternal, child and/or adolescent cardiometabolic health. Projects will be developed depending upon interest and skill level. Interns may support research by conducting literature reviews, assisting with data analysis, with potential opportunities to assist with research activities, such as preparing study materials and kits for participant visits. Interns

can expect to gain a greater understanding of how epidemiological data are collected, how analyses are conducted, as well as a deeper understanding of how environmental factors may contribute to cardiometabolic health during pregnancy, childhood and beyond.

Ans Irfan: *Fellows will be supporting one of the following projects:* **1.** Reimagining the Academy through a Decolonial Climate Justice Lens: This project will primarily involve qualitative data collection (IRB protocols, recruiting, scheduling, interviewing participants) and analysis, along with literature reviews to synthesize information which will contribute to the overall report on 'Reimagining the Public Health Academy through a Decolonial Climate Justice Lens'. This project is still in a very preliminary/ideation phase. **2.** Climate Innovation & Social Equity: Main project streams the fellows will likely work on will be along the lines of (a) defining climate innovation and (b) technology-based equitable climate innovation. This project has qualitativeta. Regardless, the projects will be qualitative (qualitative data analysis, collection, dissemination) and literature synthesis (scoping reviews) in nature with an emphasis on generating actionable policy/programmatic recommendations. Similarly, fellows should expect to support and co-author public scholarship (op-eds) to hone their climate science communications skills. Some of the skills fellows will develop/hone will be around qualitative data analysis, manuscript management/submission, science communications/thought leadership development.

An-Min Wu: The EH MATTERS intern will gain training and mentoring on spatial thinking, hands-on spatial data handling and analytics through research, and use of GIS analysis and visualization for a deeper understanding of environmental problems in our community. Basic knowledge of GIS (e.g. SSCI 165 or 265 or 301) is preferred.

Megan Herting: The Herting Laboratory focuses on understanding how endogenous and exogenous factors may influence neural and cognitive development across childhood, adolescence, and young adulthood. Endogenous factors include hormones, genetics, and biological sex. Exogenous factors include environmental toxins, including air pollution. Interns receive hands-on experience with important facets of conducting human research to assess brain and behavior development in children and adolescents. Topics include IRB human subjects training, discussions regarding ethics in conducting research with children and incidental MRI findings, learning about the collection and processing of neuroimaging data, and an expanded knowledge in environmental neuroscience, including how air pollution impacts the developing brain during childhood and adolescence. Interns will also have the opportunity to develop infographics about the impacts of air pollution and other environmental factors on the developing brain.

Jesse Goodrich: In my lab, EH Matters students will gain experience with studying how environmental pollutants impact human health, particularly in relation to PFAS (Per- and Polyfluoroalkyl Substances) exposure and cancer risks. Through hands on data analysis, students will have the opportunity to help perform research on toxic substances using cutting-edge analytical tools. Students will also assist in conducting comprehensive literature reviews to synthesize existing research findings. The experience will provide a hands-on introduction to environmental health research.

Program Highlights

- Students will receive an hourly wage for internship hours (10 hours/week Fall and Spring, 36 hours a week for Summer)
- Highly competitive research positions in environmental health research,
- Faculty mentors in the USC Department of Population and Public Health Sciences
- Students will have the opportunity to be mentored by peers (graduate and postgraduate students.)
- **Community-engaged research skill-building:**
    - Through field trips, lectures, and in-person visits, students will gain exposure to community-based environmental justice organizations, public officials, and policy makers throughout Southern California
- **Academic enrichment:** students will have access to course content in related courses in undergraduate and graduate programs including Health Promotion and Preventive Medicine to increase the ability to successfully compete for acceptance into a doctoral program.
- **Research skill building workshops focusing on:**
    - Developing and Designing a Research Question
    - Understanding Health Disparities
    - Epidemiological Study Designs and Analysis
    - Approaches in Measuring Exposures, Health, and Communities

Program Eligibility

The program aims to increase diversity of students in environmental health and prioritizes the following students:

1. All Native (American Indian or Alaskan Native), African-American, Hispanic, Hawaiian Native or Pacific Islander;
2. Students in at least one of the following categories (including international students and permanent residents);
   a. A language other than English the primary language spoken at home
   b. First-Generation College
   c. Identifying as LBGTQ
   d. Identifying as multiracial
   f. Immigrant students
3. Must have completed at least one year of undergraduate study to apply;
4. Minimum overall GPA of 3.0 or greater;
5. Students who qualify for Federal Work Study funding (students who do not qualify are also considered).

Selection will be based on:

- Student's academic achievements
- Letters of recommendation

- Essay and completed application

EH Matters Program Application Information

https://envhealthcenters.usc.edu/ehmatters/ehmatters-program-application

Key elements of the application that you can prepare before filling out the online application form include:

Cumulative/Overall GPA for college coursework

How did you hear about EH MATTERS? (Short answer question)

Short answer essays

The following five prompts should be answered in 150 words or less. Each answer will be submitted in a text field on the application.

1. Tell us why you are interested in being a part of the EH MATTERS two-year environmental health internship program:
2. What relevant experiences: coursework, internships, jobs have you had that support your interest in this program?
3. What do you bring as a student to the EH MATTERS cohort?
4. How will participation in this program make a difference – for you, for your community, for environmental health?
5. How can this internship support your future goals?

Unofficial college transcripts

As part of your application, you will need to upload a copy of an unofficial transcript. An unofficial transcript will be issued by your university or college registrar's office upon request but may also be accessed through a student portal. An unofficial transcript may also be a physical, official copy that you have opened and uploaded. Avoid uploading degree progress reports, grade audits, or similar printouts; these do not count as unofficial transcripts.

Preferred grade report from the USC student portal: *Completed Course Summary* from the OASIS system

Not preferred/Do not include: *STARS Report* from the OASIS system

Acceptable unofficial transcripts from other U.S. institutions must:

- Have the word "transcript" on the document
- Have the name of your institution attended
- Include the student's name, program of study, and major of study

- Include a term-by-term breakdown of each completed course with its corresponding units and grade
- Be clearly legible

Two letters of recommendation

One letter from USC or other college faculty; and one letter from a former work or internship supervisor. Students must send the link to the recommendation portal to their people of reference and indicate who they have sent the link to in the online application.

Letters must be submitted by the person of reference through the recommendation portal.

Program Directors: Jill Johnston and Max Aung
Program Administrator: Dayane Duenas Barahona, duenasga@usc.edu
For more information contact: Janelle Vidal, janellev@usc.edu

NIH National Institute of Environmental Health Sciences
Your Environment. Your Health.
EH MATTERS is funded by NIEHS grant #R25ES031867

Keck School of Medicine of USC
Division of Environmental Health