Welcome, Shosha Capps!
Shosha is the Associate Director and newest member of EHSC’s Community Engagement Core (CEC). She’s a UC Davis graduate with dual MS degrees in International Agricultural Development and Community & Regional Development and a BS in Political Science.

Shosha has worked in sustainable food systems for the past 15 years, most recently as an analyst at the UC Sustainable Agriculture Research and Education Program. Her previous work focused on racial and other structural inequities in the food system, and she’s eager to apply her commitment to social justice to the broader set of initiatives our Center is leading.

Shosha lives in Sacramento with her partner and twin toddlers and recently answered a few of our burning questions.

Where are you from originally?
I grew up in Liberty, South Carolina. It’s a small town (about 3,000 people) in the foothills of the Blue Ridge Mountains. It’s sort of post-industrial rural—there used to be textile mills, but they all closed down in the 90s. I like to tell people that if South Carolina is shaped like a piece of pie, I grew up in the first bite of the pie.

Does your name have a story?
Shosha (pronounced sah-sha) is a diminutive for Shoshana, which is Hebrew and means rose or lily. My parents got it from an Isaac Bashevis Singer novel by the same name, which was published a few years before I was born. I’ve collected several copies of the book over the years, but I didn’t read it until I was in college. I was a voracious reader as a kid, but it’s one of the very few books that my parents asked me not to read until I was older. It’s a heavy read—the author is Jewish and grew up in Warsaw between the World Wars, which is also when and where the story takes place. But I’ve always loved the name, and I’ve never met another Shosha.

Where’s your favorite place to be in nature?
The Blue Ridge Parkway. It’s this beautiful, winding mountain highway that runs along 500 miles of the Southern Appalachian Mountains from North Carolina to Virginia. It’s maintained by the National Park Service and connects the Shenandoah and Great Smoky Mountains National Parks. It’s free to access and has hundreds of exits, scenic pull-offs, and trails. You can drive it without a plan and never run out of things to do. And if you go the right time of year, you can find the most delicious mountain blueberries you’ve ever tasted, and in a lot of places, the ground sparkles in the light because of all the mica in
the soil. I think there’s something really special about the ecosystem you grow up in. I’ve traveled a lot in my life and never experienced anything that resonates with me the way those soft old mountains do.

What’s one thing you value the most in your workplace?
A commitment to social justice. And co-workers who bring baked goods.

When did you first become aware of the connection between health and the environment?
I think I’ve always been inclined to view health and wellbeing through an environmental lens, broadly defined (physical, socio-economic and political environments). A lot of my work—my education, activism, my professional life—has centered on how the costs and benefits of modern life are inequitably distributed and how that shows up in people’s lives and bodies.

Before joining EHSC, I worked in sustainable agriculture research and education, with a focus on social equity in the food system. Many of the food system’s inequities show up as harm to people’s bodies based in the environments they inhabit—from occupational health and safety issues, to food insecurity and diet-related disease, to air and water pollution. So, there’s a lot of overlap in that way with my previous work, although the issues EHSC takes on are broader.

What makes for good community-university partnerships?
Reciprocity. Cultural humility. Good communication. Transparent budgets.

Why should environmental health scientists collaborate with communities?
There’s a saying I keep on my desk — “nothing about us, without us, is for us.” That particular phrasing is attributed to the South African disability rights movement of the 80s, but it’s a recurring theme that resonates in a lot of different contexts.

In terms of research, I think it’s critical from a quality perspective and an accountability perspective to have those most impacted by an issue at the
How are you connected to your own community?

I’m not feeling super connected to my community right now, if I’m honest. The past year has been hard in that way. But I’ve also appreciated the opportunity to deepen my connection to my own little family. I’d just come back from maternity leave when the pandemic started, and spending the past year huddling up with my littles at home has not been all bad. I am very much looking forward to eventually showing them more of the world, though!

COVID-19 research

Despite COVID-19 tests plummeting as vaccines roll out, the ÓRALE Project is ramping up efforts in Fresno, Madera, Stanislaus and Yolo counties. The team has deployed its mobile testing van almost daily over the past couple of months to offer same day results to the mostly immigrant and Spanish-speaking communities across California’s farm belt.

ÓRALE’s new communications manager Clarisse Cespedes is getting the word out through Univision, Facebook and Twitter (please follow them @oralecovid19). Although it took some time to hire and train everyone, EHSC has assembled an energetic and enthusiastic group eager to help those most in need. Learn more about the ÓRALE Team.

If you have questions about ÓRALE, please reach out to Camille Burlaza (ciburlaza@ucdavis.edu).

EHSC Anti-racism Work Group

EHSC’s anti-racism workgroup met in March to discuss operationalizing the Center’s Anti-Racism Praxis Proposal. As part of this effort, Janine Lasalle has taken the lead in organizing a speaker series on racial equity topics relevant to the Center’s work. The work group is still looking for speaker suggestions and topic ideas. Please contact Janine
COVID-19: Profiles from the frontlines of the pandemic

To help promote EHSC’s COVID-19 Survey for Workers, we’re interviewing people we know or have met online through the hundreds of COVID-19 Facebook groups we belong to.

Erika Chavez is a house cleaner, member of the Women’s Collective of San Francisco and a recent immigrant from El Salvador. She’s also an activist organizing for the rights of domestic workers alongside the California Domestic Workers Coalition, one of our Center’s community partners in COVID-19 research. Erika talked to Jennifer Biddle and Sarina Rodriguez about surviving the COVID-19 pandemic in one of the world’s richest cities without any health and safety protections in her various jobs. Read Erika’s interview here.

If there’s someone you know who may want to participate in this project, please contact Jennifer Biddle (jsbiddle@ucdavis.edu).

Updates from our cores

Community Engagement Core (CEC)

The Community Engagement Core is excited to welcome this year’s EHSC Pilot Project grantees! We are holding a two-part training for new grantees in April and May to support them in their community engagement efforts. This
interactive training covers the basics of Community-Based Participatory Research (CBPR), UC administrative logistics of working with a community partner (including partner payments and IRB) and discussions on building mutually beneficial university-community collaborations. Community-based organizations considering or planning to work with any of our five selected researchers have also been invited to participate. We look forward to the engaging and informative conversations! Read all about about the 2021 Pilot Projects here.

We're also happy to share that the Science Academy will be returning in September 2021. The Science Academy supports community stakeholders’ capacity to collaborate with researchers by offering insights into environmental health research projects and methodologies, including the following topics:

- Methods and terminology commonly used in environmental health research
- The benefits and limitations of different research methodologies
- Current environmental health research initiatives at UC Davis
- A discussion of research gaps, particularly concerning the needs and priorities of California’s Central Valley communities

Each Science Academy also focuses on a particular issue area and digs into some of the relevant science on that topic. The last Science Academy hosted by the CEC focused on water quality. The 2021 Science Academy will focus on air.

If you have questions about the Community-Engaged Research Training or the Science Academy, please contact Shosha Capps (sacapps@ucdavis.edu).
Exposure Core

**Engineering wildfire solutions:** Monitoring smoke is crucial in understanding how wildfires pollute communities. The UC Davis School of Mechanical and Aerospace Engineering (MAE) has some exciting new projects underway that several EHSC members and collaborators are leading. MAE Professor **Cristina Davis** is using novel chemical sensing technology with powder-like sorbent to trap volatile organic chemicals (VOCs) in the air for analysis. And MAE associate professor **Zhaodan Kong** is working with **Anthony Wexler** to develop a fleet of drones to collect data near controlled burns and wildfires over the summer. Because drones can be deployed anywhere and hover in place, they’re better than ground sensors, fixed-wing aircraft and satellites in measuring smoke, air quality and chemical composition in real time. Read more about Davis’s and Kong’s research here.

---

**NIEHS news & events**

**Intersections Between the Chemical, Physical, Built and Social Environments**  
April, 26, 2021, 3:00-4:30 PM EST  
Register here

**Exploring Exposure to Metals to Advance Native American Health Equity**
Recently published

- Barkoski JM, Philippat C, Tancredi D, Schmidt RJ, Ozonoff S, Barr DB, Elms W, Bennett DH, Hertz-Picciotto I. In utero pyrethroid pesticide exposure in relation to autism spectrum disorder (ASD) and other neurodevelopmental outcomes at 3 years in the MARBLES longitudinal cohort. Environ Res. 2021 Mar;194:110495.

Announcements

Meet Kyle Krueger, our new Public Health Policy Intern
Kyle is a junior studying environmental science who has his eye on an environmental law and public policy career. He has an impressive resumé, including being the current UC Davis student body President.

Kyle reached out recently to Jonathan London to see about interning with EHSC’s Community Engagement Core. Kyle is now helping Jennifer Biddle and filmmaker Paige Bierma with our Center’s new documentary project on SB 321, COVID-19 and domestic workers. Kyle will be busy tracking the bill through the state legislature, coordinating film shoots with elected officials and doing background research for the project.

In the news

- The Davis Vanguard published an open letter by Jonathan London, Natalia Deeb-Sossa and others: Anti-racist scholars support ethnic studies at state and local levels
- ABC10 interviewed Anthony Wexler in Air quality post-pandemic didn’t improve as previously suspected.
- The California Aggie interviewed Judy Van de Water and Irva Hertz-Picciotto in UC Davis MIND Institute develops maternal biomarkers test for early detection and potential early intervention of autism
- Medium interview with Tanya Khemet Taiwo and Pamela Lein in Going viral: COVID-19, environmental injustice & institutional racism
- Medium interview with Anthony Wexler in Breathing easy: Scientists praise grassroots movement as air quality sensors arrive at our doorstep

Infographic
We created the graphic below for social media and our website. Please download it here and share.
RACE, COVID-19 & AIR POLLUTION

WHAT IS THE CONNECTION?

Today we’re experiencing a series of crises — systemic racism, the COVID-19 pandemic and debilitating levels of air pollution from wildfires — compounding the impact of each, especially when it comes to health. Research also shows health problems associated with these issues have one thing in common: poverty. In the United States, Indigenous, Black and Latino people are 2 to 2.5 times more likely to be poor than whites. Race has a profound impact on class, which affects opportunities from education and housing to jobs and health.

For the better part of a century, racism through redlining and lending in the housing market have pushed poor people of color into areas that lack the resources and political clout needed to prevent pollution where they live and work. These communities typically shoulder more of the burden of bad air because they’re near highways, factories and dumps, exposing people to pollution for extended periods of time. Brown and black people already tend to have higher levels of chronic disease like asthma and hypertension, live in food deserts and lack adequate health care or good paying jobs, all of which amplify the impact pollution has on health.

BREAKING IT ALL DOWN

Air pollution is harmful

1. Fine Particulate Matter (PM 2.5): PM 2.5 is one of six pollutants with health-based standards. It’s a fine inhalable particle made of dust, dirt, soot, smoke or drops of liquids. These particles are 30 times smaller than a single strand of hair. Due to their small size, the particles can travel to the base of the lung and enter the bloodstream.

2. Ozone (O3): Ozone is a highly reactive gas. Ground-level ozone forms when sunlight and certain types of air pollutants (volatile organic compounds and nitrogen oxides) chemically react. Ozone is the basis of smog.

3. Nitrogen dioxide (NO2): NO2 is a nitrogen oxide that forms with high temperature burning of coal, oil, gas or diesel. In the United States, the highest levels of NO2 are in urban areas.

Bad air is associated with COVID-19 deaths

A small increase in long-term exposure to urban air pollution is associated with a big increase in death from COVID-19. Scientists think this is most likely due to underlying health problems related to air pollution. Air pollution can damage cells, the hair-like structures that line the respiratory tract to keep dirt and mucous out of the lungs. Air pollution can also damage cellular structures and lead to inflammation throughout the body. This damage is linked to health problems like:

- Cancer
- Heart disease
- Lung disease
- Diabetes
- Asthma

All of these conditions are potential comorbidities for COVID-19 and associated with increased risk of death from the virus.

Racism kills
If you have any announcements, new research, press coverage or anything else you'd like to share with your EHSC colleagues or our community partners in this newsletter, please contact Jennifer Biddle (jsbiddle@ucdavis.edu). Thank you!

Connect with us / environmentalhealth.ucdavis.edu