

**California Section  
American Chemical Society**



**All are welcome**  
**Saturday, November 8, 2025**

**Title**

**Mapping Heavy Metal  
Contamination in Chicago's  
Neighborhoods**

**Time**

10:30 – 11:00 am  
Chatting

11:00 am  
Talk and Discussion

**Reservation**

Please visit the CalACS website [www.calacs.org](http://www.calacs.org) to register for this meeting or use Event Brite.

RSVP here!

Please register before Thursday, November 6, 2025, 12 noon. Your email address is needed to send the ZOOM link, which will be shared with attendees on or before the day of the event via Event Brite.

**Cost**

Free!

**About the Speaker**



Shelby Hatch, PhD

Shelby Hatch (she/her) is a scientist focused on the intersections of chemistry, sustainability, and social justice. Shelby is a Weinberg College Adviser and an Associate Professor of Instruction in the Department of Chemistry at Northwestern University. Her research incorporates environmental justice and Youth Participatory Science (YPS), which centers and involves students in the entire research process, from creation of a hypothesis through disseminating results once data has been collected and analyzed. Shelby's primary research focus is on the distribution of heavy metal contamination in Chicago in relation to where low socio-economic status and communities of color are located. She enjoys teaching undergraduate chemistry courses that incorporate sustainability and environmental justice into the curriculum. Shelby is also very passionate about teaching in the Northwestern Prison Education Program (NPEP). She developed a course and compiled an open educational resource textbook for her NPEP chemistry courses and has taught several cohorts of incarcerated men and women through NPEP. Shelby developed a "Chemistry of..." series in collaboration with the Illinois Science Council (ISC) and local Chicago businesses to give adults hands-on opportunities in learning the chemistry of coffee, chocolate, and more! She received her BA from The College of Wooster and her PhD from the University of Rochester.

**Abstract**

For over two decades, I have partnered with undergraduate students, environmental justice organizations, Chicago Public School (CPS) teachers and their students, and faculty from various Chicago universities to study heavy metal contamination across the city of Chicago. Projects have ranged from examining contamination caused by particular industries – including the now-shuttered Crawford and Fisk coal-fired power plants – to exploring specific neighborhoods with differing demographics, to zooming in on areas where students live and go to school. Despite this, when we took a comprehensive view of our data, we realized that there were areas of the city where we had never collected even one sample. As a result, we set a goal to collect samples from all 77 community areas in Chicago to aid in answering the broad research question: to what extent is heavy metal contamination in our city correlated with socio-economic, racial, and ethnic demographics? In this talk, I will discuss our research methods (analytical chemistry, ICP spectroscopy, and geospatial analysis), the collaborative, *participatory*, nature of the work, and how it is shared publicly, particularly with those most affected, through StoryMaps.

**Questions?**

Please contact Elaine Yamaguchi at [eyamaguchi08@gmail.com](mailto:eyamaguchi08@gmail.com)