



# Duke University Superfund Research Center: Research Translation and Community Engagement Cores

# Who We Are



**Charlotte  
Clark**

RTC Director



**Elizabeth  
Shapiro-Garza**

CEC Director



**Chiara  
Klein**

Community  
Engagement  
Program  
Coordinator



**Sam Cohen**

Senior Program  
Coordinator

# Research Translation Core

## Mission

- Translate the science of the Center for impacted communities and broader stakeholder networks
- Provide RT/CE training and support for Center personnel
- Promote the work of the Center to the broader public



# Community Engagement Core

## Mission

Promote and support bidirectional communication between the Center and impacted communities



Prior work (2017-2022)

# Recapping RTC: Translating Research

## Some of our stakeholders



### FLAME RETARDANTS IN FURNITURE FOAM: REDUCING YOUR EXPOSURE

**The basics**  
Flame retardant chemicals (FRs) are sometimes added to furniture. Exposure to FRs is linked to adverse health effects. **Children are at highest risk** because they spend more time on the ground and put non-food items in their mouths. For children, **even small doses can matter**—they breathe, eat, and drink relatively more than adults, and their bodies and brains are still developing.

**Buying furniture**  
It is difficult to know if a piece of furniture foam contains FRs. Manufacturers are usually not required to disclose this information. Some may not even be aware that their products contain FRs. Furniture sold in California should have a label that indicates whether FRs are present.

**Around your home**  
Studies show that regular home cleaning and consistent hand washing can reduce the level of FRs that get into our bodies. Flame retardants are mainly transported by house dust, so efforts that limit our exposure to dust should also limit exposure to FRs.

**Testing your furniture**  
If you are unsure about your furniture, you can also use our free testing service! The Duke University Foam Testing Project will test your foam samples for the presence of nine common FRs. Learn more about the testing service and how to participate at [bit.ly/foamtest](http://bit.ly/foamtest).

**CONTACT US:**  
[FOAM@DUKE.EDU](mailto:FOAM@DUKE.EDU)

**Duke SUPERFUND**  
**NIH** National Institute of Environmental Health Sciences Superfund Research Program

### ARSENIC in the garden

**Summary for Gardeners**  
Garden-related arsenic exposure is generally low. To limit exposure, rinse produce before consuming, remove any chromated copper arsenate (CCA) treated wood from your garden, and avoid using soil amendments from large-scale poultry farms. Unless you have unusually high levels of arsenic in your soils, the majority of your arsenic exposure likely comes from non-garden sources like store-bought foods.

**Sources of arsenic exposure**  
Ingestion of contaminated food, water, or soil is the primary way arsenic enters the body.

**Exposure to arsenic in the garden**  
How am I exposed? Gardeners and children can be exposed to arsenic by ingesting soil particles, eating vegetables grown in contaminated soil, handling contaminated soil, touching CCA treated wood, or breathing in contaminated soil particles. Are my garden plants safe to eat? In general, very small amounts of arsenic move from the soil into most fruits and seeds (e.g. tomato, pepper, squash). Rice, however, is the exception and is known to take up higher amounts of arsenic. Should I be worried? Garden-related arsenic is likely to be a small portion of a person's arsenic exposure. However, reducing or limiting exposure to arsenic in the garden is still a good idea, especially for children.

**Limit children's exposure**  

- Small doses matter. Children breathe, eat, and drink more relative to their size than adults.
- Their bodies and brains are still developing.
- Children spend more time on the ground and often put things (like dirt) into their mouths.
- They have more skin surface area than adults, so skin exposure also matters.

**Everyone's personal exposure is a little different**  
Environmental exposures will depend on your diet, habits, activities, lifestyle, and many other factors. Research tells us that, in general, purchased foods and well water likely make up the biggest portion of a person's total arsenic exposure, followed by arsenic from nearby industry and finally sources in the garden.

**purchased foods** Store-bought rice, cereals, and fruit juices may contain higher levels of arsenic.

**well water** In some areas, there may be high levels of naturally-occurring arsenic in drinking or irrigation water from wells.

**nearby industry** Past or current industrial activities can release arsenic into air, water, and soil.

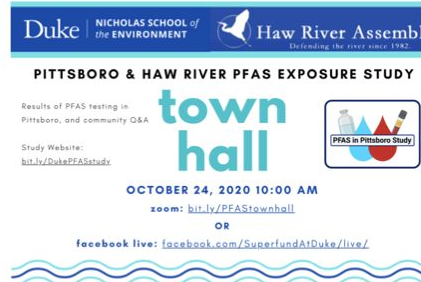
**In-garden sources** Arsenic in soils or garden produce is likely a minor source of a person's total arsenic exposure.

**@DukeSuperfund**

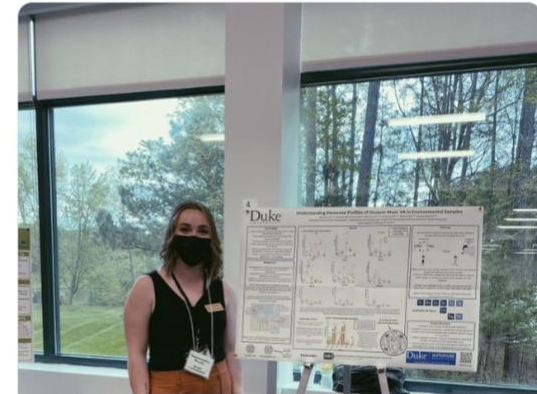
**Duke SUPERFUND** **NIH** National Institute of Environmental Health Sciences Superfund Research Program

# Recapping RTC: Training and support

- DC trip 2018
- Communicating Science to Policymakers
- Media Training 101
- Designing academic posters
- Narrative and storytelling in communicating science

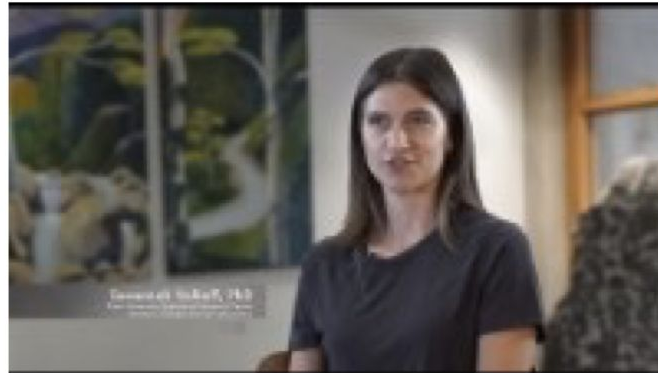


Congratulations to our graduate student, Sam Murphy, for winning 1st place in the graduate student poster competition at SETAC this year!



# Recapping RTC: Promoting the Center's work

- Websites
- Social media
- Newsletters
- Blogs
- Videos



Welcome to the Duke Superfund  
Spring 2022 Newsletter!



## Honors and Awards

Kate Hoffman awarded \$3.4 million NIH grant to study how early-life exposure to SVOCs affect immune function



Kate Hoffman was awarded a \$3.4M grant from the National Institute of Health's Stephen L. Katz Early-Stage Investigator Research [grant program](#). Dr. Hoffman will test if low exposure to SVOCs reduces immune function.





# Recapping CEC: Gardening and soil contamination



## Partners

- NC Cooperative Extension
- NC garden partners

## Selected Outcomes

- Created decision tool for gardeners and 4-part video series on soil contamination and steps gardeners can take to limit exposure and potential health risks
- Sampled and tested soil at 8 community gardens across the state and reported back results
- Various Duke CEC materials are now hosted on NC Coop Extension website
- Train-the-trainer for master gardeners on soil contamination topics

3. Have you ever added compost or other organic matter to your garden?

Yes

No

I don't know or not applicable

Good! Generally, adding compost and mulch is a good idea because organic matter can bind-up some contaminants such as metals, reducing exposure. However, be aware that some uncertified compost or organic matter may contain contaminants like persistent herbicides, copper, zinc, and other heavy metals. To be sure purchased compost is safe look for Certified Compost with the Seal of Testing Assurance (STA). A list of certified manufacturers is [available here](#).

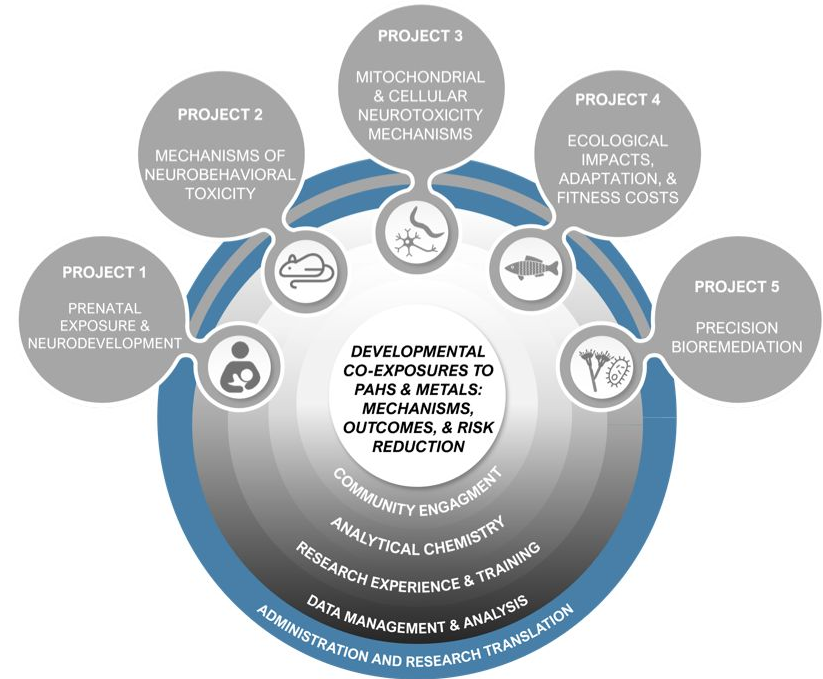


Current work (2022-2027) &  
What we can offer

# Research Translation

## Aims:

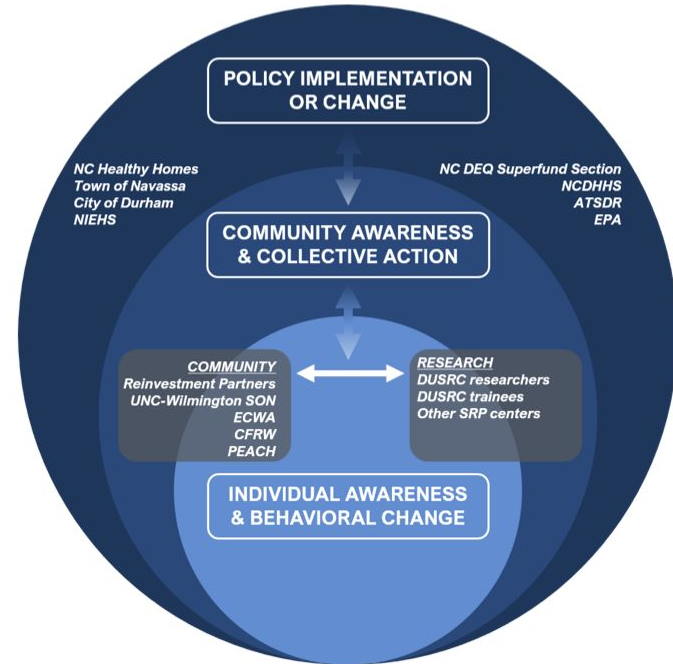
- Communicate research and engage beyond the Center and facilitate effective research application
- Build Center Investigator and Trainee capacity for timely and effective science communication and research translation



# Community Engagement Core

## Aims

- Promote awareness and self-efficacy to reduce exposure to PAHs and metals among HOPE 1000 pregnancy cohort in Durham, NC
- Foster community level awareness of and capacity to address early life exposures via Environmental Health Academies (Durham + SE North Carolina)
- Build capacity of impacted communities to assess and use EH data to promote policies and practices aimed at reducing early life exposures



# CEC: Suite of educational offerings

- In-school curriculum
- Hands-on activities for events
- Webinars/lectures
- Longer-term community science project

## Topics:

- In-home contamination
- Contaminants in water
- Subsistence fish consumption
- Garden soil



# Thank you!

Please visit our website to access materials and further resources:

<https://sites.nicholas.duke.edu/superfundcec/>

And please reach out with any inquiries: Chiara Klein, Program Coordinator,  
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