

# EDUCATION AND RESEARCH CENTER ORIENTATION

WELCOME NEW AND RETURNING STUDENTS!

August 17, 2023 | 10am - 12pm | Kettering Lab Complex



UNIVERSITY OF CINCINNATI |

## RESOURCES

- Website: <http://med.uc.edu/eh/centers/erc>
- ERC Blog: <http://med.uc.edu/eh/centers/erc/blog>



<https://cerkl.com/uc-erc#.WYMjCYQrJhE>



<https://www.linkedin.com/groups/13884134/>



Follow us on twitter @uc\_erc (199 followers)



<https://www.youtube.com/playlist?list=PLrixl9q4GUJJ2yRae84Wfe3zLENx5B7Ot>



Follow and like us on Facebook (85 followers)



Follow us on Instagram (157 followers)



## WHAT IS AN ERC?

### EDUCATION AND RESEARCH CENTER

Mission: to reduce work-related injuries and illnesses by performing prevention research and by providing high-quality professional education programs in occupational health and safety

Funded by the National Institute for Occupational Safety and Health (NIOSH)

University of Cincinnati  
Department of Environmental and Public Health Sciences  
Education and Research Center

Kettering Lab Complex  
160 Panzeca Way  
Cincinnati OH 45267  
513-558-5710

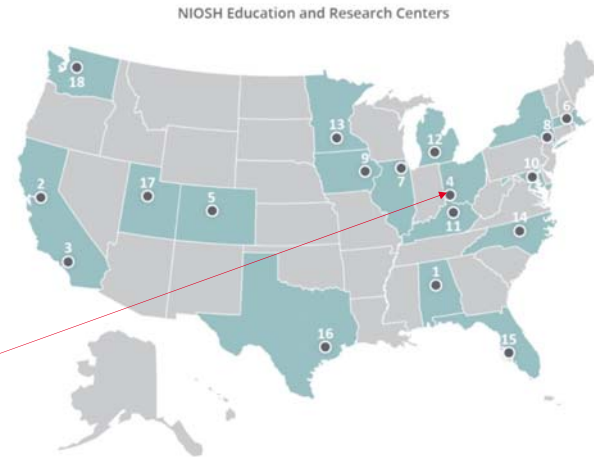


Image from CDC/NIOSH: <https://www.cdc.gov/niosh/oeper/ercportfolio.html>

## MORE ON THE ERC

- 18 ERCs in the US
- At the University of Cincinnati since 1977
- Focus on
  - Regional impact on worker health and safety
  - Research to practice (r2p)
  - Interdisciplinary research training
- Offer:
  - Masters and Doctoral degree programs,
  - Occupational Residency program and
  - Continuing education courses

More information about ERCs can be found on the CDC/NIOSH website:

<https://www.cdc.gov/niosh/oeper/ercportfolio.html>

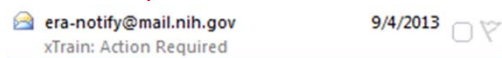
## NEW TRAINEES



- All ERC-funded trainees are required to have an ORCID id.
- An ORCID id is a unique, open digital identifier that distinguishes researchers from others with similar names.
- Register for ORCID ID here: <https://orcid.org/signin>
- After getting ORCID ID, need to create a user account in eRACommons and complete appointment
  - Watch for emails from Clint Ehrhardt (our business administrator) and [era-notify@mail.nih.gov](mailto:era-notify@mail.nih.gov)

## ERC FUNDS

- Student stipends

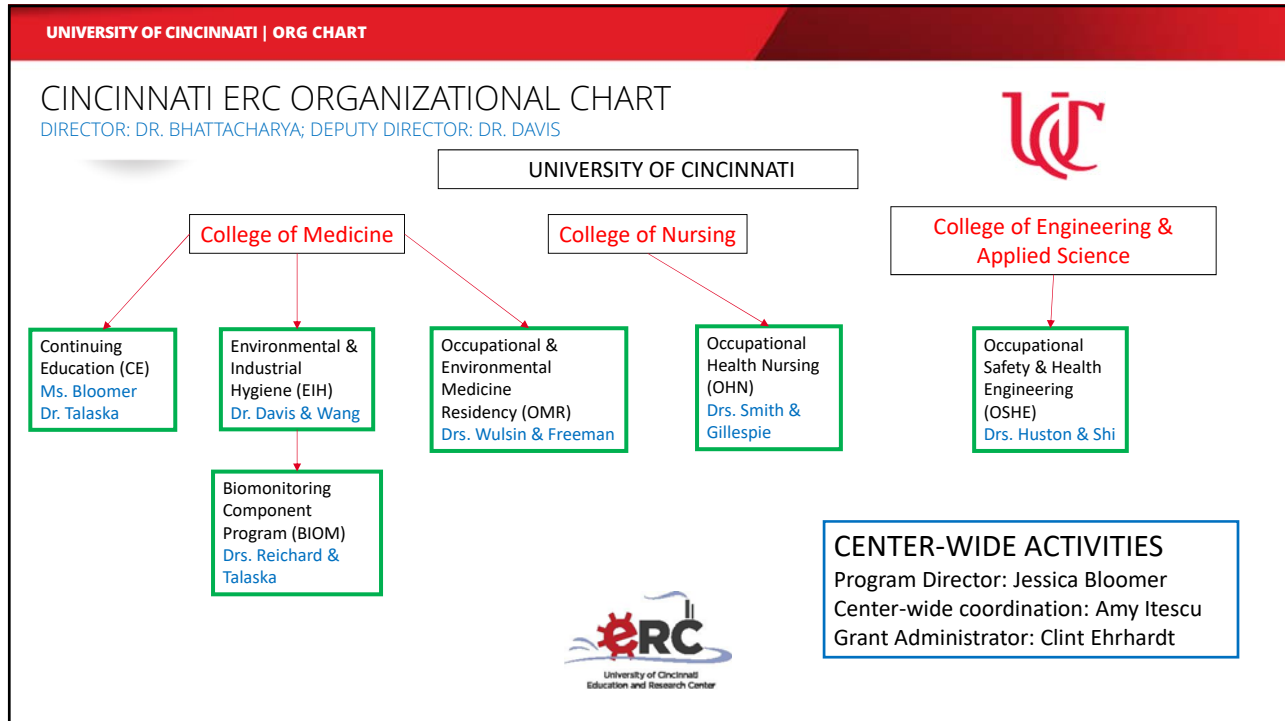


- Travel and research supplies for students



- Interdisciplinary activities





**UNIVERSITY OF CINCINNATI | ERC OVERVIEW**

### CENTER-WIDE ACTIVITIES

- Continuing Education: Ms. Bloomer & Dr. Talaska
- Pilot Research Project Training Program: Drs. Bhattacharya & Gillespie
- Outreach: Dr. Wang
- Targeted Research Training: Drs. Davis & Bhattacharya
- Interdisciplinary Coordination: Dr. Bien

2019 Pilot Research Project Symposium



## CONTINUING EDUCATION

- Department of Environmental and Public Health Sciences houses ERC CE and OSHA Education Center Programs
- CE course fees are waived for students
- Registration/waived course fee is based on available seats in the course
- Students attending courses at no cost may be asked to assist the instructors
- After registering email [OSHA-ed@uc.edu](mailto:OSHA-ed@uc.edu) and inform them of your graduate student status to waive the course fee
- All OSHA CE courses are listed here: <https://www.greatlakesosha.org/>

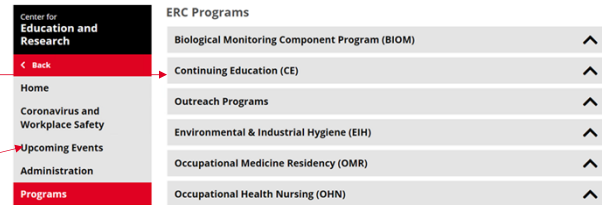


OSHA EDUCATION CENTER / DEPARTMENT OF ENVIRONMENTAL & PUBLIC HEALTH SCIENCES / UNIVERSITY OF CINCINNATI

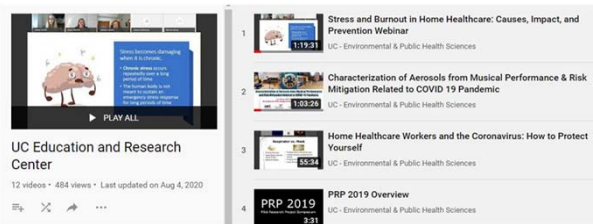
[Home](#) | [Courses](#) | [Training Sites](#) | [Authorized Trainers](#) | [Certificates](#) | [About Us](#) | [Contact](#) | [Resources](#) | [Orders](#)

## CONTINUING EDUCATION

- All ERC CE courses and events will be listed here:  
[https://med.uc.edu/depart/eh/centers/erc/progr\\_ams](https://med.uc.edu/depart/eh/centers/erc/progr_ams)
- AND here:  
<https://med2.uc.edu/eh/centers/erc/upcoming-events>



- Recorded webinars are posted on the ERC YouTube playlist:  
<https://www.youtube.com/playlist?list=PLrixI9q4GUJJ2yRae84Wfe3zLENx5B7Ot>



Email: [ercdoor@ucmail.uc.edu](mailto:ercdoor@ucmail.uc.edu) or [bloomejl@ucmail.uc.edu](mailto:bloomejl@ucmail.uc.edu)

## ERC MONTHLY WEBINARS

- All 18 ERCs collaborate on monthly webinar series in Industrial Hygiene and Ergonomics
- Students can be speakers, discuss with your advisor if you're interested in presenting next year & contact me to schedule
- Good practice to present your research, typically has an online audience of 100-300 people per-webinar from across the country
- Upcoming webinars in the series can be found here:  
<https://www.coeh.berkeley.edu/webinars>



## PRP ACCOMPLISHMENTS

### IMPACTING RESEARCH CAPACITY OF OSH STUDENTS AND FACULTY

1999 - Present

- Total PRP Dollars Awarded: **\$1.68 million**
- Total PRP projects funded: **281**
- Additional grants secured by the awardees using PRP research data : **\$43 Million**
- **RETURN ON INVESTMENT 25:1**
- **66** New Investigators from other fields brought into Occupational Safety and Health Research
- PRP AWARDEE PUBLICATIONS, THESES, AND CONFERENCES: **410**
- **6 PATENTS & 9 INVENTION DISCLOSURE**



Poster presentations at the 2019 PRP Symposium

## LONG TERM IMPACT

Pilot projects have resulted in Long term Impacts (>5 years): Evidence of PRP awardees advancing in their research capacity and ability to secure research funds from sources other than PRP

- Example of senior researchers from fields outside the OSH making significant progress in OSH field with initial help with PRP support:
  - Professor of **Computer/Electrical Engineering**: developed patented point of care sensor (POC) for measuring multi-metals exposure levels (**PRP awardee 2010**)
  - Professor of **Mechanical Engineering**: developed predictive heat stress model for firefighters (**PRP awardee 2009**)
  - Professor of **Mechanical Engineering**: developed nano-tube based fiber for firefighter garment (**PRP awardee 2006**)
  - Professor of **Materials Science**: developed nanotechnology based cooling system for firefighter application (**PRP awardee 2007**). This project resulted in the development of "Cool Coat" for use by firefighters (**PRP awardee 2023**)
  - All continue their OSH research through mentoring doctoral and post docs who received their own PRP awards.
  - These faculty have leveraged the findings from PRP to obtain multiple grants funded by NIH and NSF
  - They continue to collaborate with ERC researchers and other PRP awardees



UNIVERSITY OF CINCINNATI | PRP

## 24<sup>TH</sup> PILOT RESEARCH PROJECT SYMPOSIUM

October 13, 2023

Featuring Pilot Project Awardees and  
Keynote Speaker, Dr. Sergey  
Grinshpun

Free and open to the public,  
presenting research in occupational  
safety and health.

**Register here:**

<https://Med.uc.edu/depart/eh/centers/erc/upcoming-events>



University of Cincinnati  
Environmental and Public Health Sciences  
Education and Research Center (ERC)

# 24th Pilot Research Project Symposium

Save the Date

Featuring: pilot project awardees  
plus additional speakers and  
expert panels

October 13, 2023

LOCATED AT THE UNIVERSITY OF CINCINNATI  
KETTERING LAB COMPLEX

FREE AND OPEN TO THE PUBLIC, PRESENTING  
RESEARCH IN OCCUPATIONAL SAFETY AND HEALTH

CAREERS WORKSHOP AND EVENING RECEPTION ON  
OCTOBER 12, 2023

## OUTREACH OPPORTUNITIES

DR. JUN WANG

  
University of  
CINCINNATI

## ERC OUTREACH GOALS

- **To disseminate information using CERKL network.**
- **To increase collaborations and consultations with local and regional industry partners to disseminate information.**
- **To develop online courses in safety and health topics among the ERCs and TPGs.**

## **STUDENT ASSIGNMENTS FOR EACH ERC PROGRAM**

## STUDENT ASSIGNMENTS

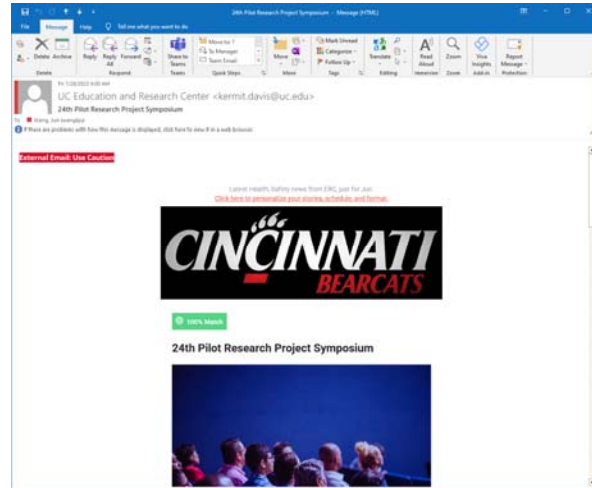
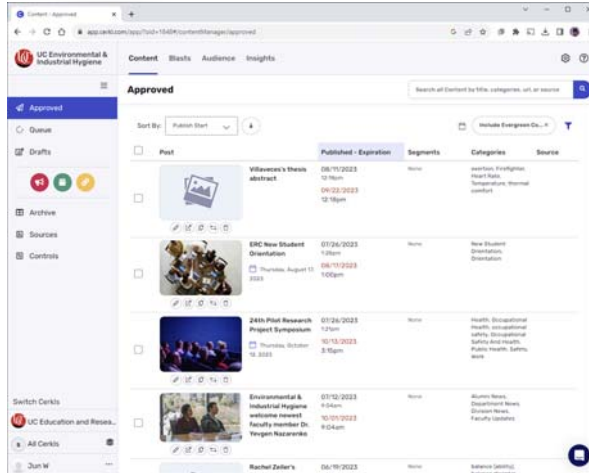
- **Student representative for trip committee**
- **Student CERKL Coordinator**
- **Student helpers for PRP symposium**
- **Student outreach tracker**

## CERKL

- **CERKL is an outreach tool that will allow the ERC and the programs within ERC to reach out and disseminate information to our stakeholders**
  - Build database of stakeholders' contact information
  - Develop short messages to send out to stakeholders based on submitted information
  - One CERKL for each program
  - Need one student representative for each program to recruit members and post messages (3 to 4 monthly)



## CERKL



## FACULTY OUTREACH TRACKING

Each program needs at least one representative to track the following:

- Presentations to Non-OSH professionals
- Consultations with industry and government
- Continuing education
- Interactions with alumni
- Interactions with EAB members

# TARGETED RESEARCH TRAINING

DR. KERMIT DAVIS



UNIVERSITY OF CINCINNATI | TRT

## TARGETED RESEARCH TRAINING

- Overall Goal: Interdisciplinary research training in the frameworks of one common theme.
- Past 7 years: transitioned to assessment and control of cumulative health and safety risks among home healthcare workers
- Next 3 years: continue with home healthcare workers; include organizational psychology



## BENEFITS TO STUDENTS

- Funds for PhD stipends (also for non-ERC students)
- Funds for supplies, local travel, and conference travel.
- Gaining experience in working in interdisciplinary research project using innovative new technology.
- Mentoring from faculty from other ERC disciplines.
- PhD thesis project, MS thesis, summer internship, special topics, independent research, or capstone project.



## WHY HOME HEALTH CARE WORKERS?

- Health care is primary employer in our region
- Home health care is fastest growing public sector industry.
- Work-related risk factors include multiple exposures, but comprehensive evaluation of multitude of exposures is missing.



## SPECIFIC AIM 1

Quantify HHCWs' exposures, including ergonomic and physical hazards and workplace violence. (PI: Davis, Co-PI: Gillespie)

**Sub-Aim 1.1.** Quantify ergonomic exposures in different homes through direct observation and quantitative measurements of healthcare workers, identifying the presence of exposures using a checklists

**Sub-Aim 1.2.** Quantify biomechanical responses to home healthcare exposures in controlled home healthcare simulation environments and in the field that will allow for predictive risk assessments to be developed based on biomechanical loading.

**Sub-Aim 1.3.** Assess workplace violence and develop interventions.



## SPECIFIC AIM 2

Apply emerging technologies for assessing and controlling home healthcare workers' exposures to aerosol and chemical hazards. (PI: Grinshpun, Co-PI: Reichard)

**Sub-Aim 2.1.** Quantify exposures and identify emerging technologies for controlling home healthcare workers' aerosol and bioaerosol exposures.

**Sub-Aim 2.2.** Perform cumulative risk assessment for potential chemicals with field exposure assessments.



### SPECIFIC AIM 3

Quantify HHCWs' stress and burnout and their interactions with the exposure to physical, biological, and chemical hazards. (PI: Barrat, Co-PI: Wang)

**Sub-Aim 3.1.** Quantify levels of stress and burnout, and their sources, in HHCWs.

**Sub-Aim 3.2.** Examine how stress and burnout influence OSH outcomes.

**Sub-Aim 3.3.** Conduct lab studies, simulating stressful situations with multiple stressors (physical and psychological demands); measure cortisol, heart rate variability, and perceived stress via pre- and post-surveys.



## INTERDISCIPLINARY ACTIVITIES

DR. ELIZABETH BIEN



## PROGRAMS PARTICIPATING IN ERC FIELD EXPERIENCES

Biomonitoring, Environmental & Industrial Hygiene

Occupational Medicine

Occupational Health Nursing

Occupational Safety Engineering

## 3-4 FIELD EXPERIENCES OFFERED MOST YEARS

### Fall

- Prior to Fall Semester beginning or early in Fall Semester

### Spring

- ERC Research Symposium in March
- 2-4 days during Spring Break
- 1-4 days within 2 weeks following spring commencement ceremonies



## EXAMPLES OF SITE VISITS

- Auto manufacturing plant
- Underground coal mine
- Petroleum Refinery
- Chemical company
- NIOSH facility
- Research facility
- Food Manufacturing
- Construction site
- Occupational Safety and health government site
- Centers for Disease Control and Prevention
- Firefighter apparel research and development and manufacturing



## CHANGES DUE TO COVID-19

- ERC Interdisciplinary Field Experiences will follow domestic travel guidelines of the University of Cincinnati
- ERC Interdisciplinary Field Experience Site Hosts follow the guidelines of their company or organization with regard to having guests onsite during pandemic times

**TRAVEL  
RESTRICTIONS**

## AUGUST 19, 2022 CROUNSE CORPORATION RIVER BARGE



### NOVEMBER 10, 2022 ALLEGION STEELCRAFT



### FEBRUARY 24, 2023 ICWUC



MARCH 15,  
2023 CDC

- CDC MUSEUM
- CDC CAMPUS SECURITY & MULTIPLE SITES
- FIRST HAND EXPERIENCE WITH WORKERS EXPERIENCING STRESS



optional title of presentation / section

for an Emergency



APRIL 13, 2023 MICHIGAN REGIONAL ERC SYMPOSIUM AND FORD TOUR



## ERC STUDENT FIELD EXPERIENCE COMMITTEE

Has at least one member from each of the disciplines in the ERC

Met 7-17-2023 & will meet in fall of 2023 (Today!)

Students share suggestions for future field experiences



## TRANSPORTATION (IF TRAVEL IS APPROVED BY THE UNIVERSITY)

Typically charter bus (2-8 hour road trip)



Air travel, if approved, for longer trips



## BLOG ENTRY AND EVALUATION

- Each student submits contribution to the ERC blog
- Examples of past blog entries: <https://med.uc.edu/eh/centers/erc/blog>
- All field experience participants participate in post-trip debriefing and evaluation session
- Used to plan future trips



## COURSE AND CREDIT FOR FIELD EXPERIENCES

**ANCH 8056** 1 credit hour Interdisciplinary Occupational Health Field Experience course

Enrollment must be approved by student's program director

Assignments include a narrated slide presentation in addition to ERC blog entry

Student participates in one overnight field trip (2-4 days) or 2 local field trips

ANCH 8056 course enrollment is not required for ERC students to participate in field experiences

WE WELCOME YOUR IDEAS FOR  
FUTURE ERC FIELD EXPERIENCES!

Elizabeth Bien, PhD, MSN, RN

ERC Field Experience Coordinator

[bienea@ucmail.uc.edu](mailto:bienea@ucmail.uc.edu)



## STUDENT ASSOCIATIONS

AIHA, AAAR, ASSP, SWOAHN





**AIHA**

American Industrial Hygiene Association



UNIVERSITY OF CINCINNATI | AIHA

## AIHA STUDENT CHAPTER

American Industrial Hygiene Association

### Officers 2022-23:

- President: Thomas Gerding
- VP: John Singletary
- Secretary: Ryan Bellacov
- Treasurer: Christina Kander

Faculty Advisors: Dr. Jun Wang

## AIHA STUDENT CHAPTER

### Some example activities

- Mentorship and interaction with AIHA Ohio Valley Section (OVS)
- Social events throughout the year
- AIHA Connect in Columbus, OH 2024



**American Association  
for Aerosol Research**

**AAAR**

American Association for Aerosol Research

## AAAR STUDENT CHAPTER



American Association  
for Aerosol Research

**AAAR = American Association for Aerosol Research**

### Officers:


- Christina Kander, President
- Thomas Gerding, Vice-President

**Faculty Advisor: Drs Jun Wang and Yevgen Nazarenko**

## AAAR STUDENT CHAPTER


### Some example activities:

- AEROSOL Day planned in 2024.
- AAAR and AS&T lecture series.
- Journal club.
- Interact with students from other disciplines.



AMERICAN SOCIETY OF  
SAFETY PROFESSIONALS

**ASSP**  
**American Society of Safety Professionals**



University of  
CINCINNATI

UNIVERSITY OF CINCINNATI | ASSE/ASSP

## ASSE/ASSP

American Society for Safety Engineers

Founded in 1911

Changed the name to ASSP (American Society of Safety Professionals) in June 2018

Provides members with

- Professional development, advocacy and standards of development
- Occupational safety and health standards

## UC STUDENT SECTION OF ASSP

- The student section of the Southwestern Ohio Chapter of the ASSP
- Typical activities
  - Host speakers from industry to come talk about occupational safety and health engineering practices
  - Site visit to see firsthand safety practices
  - Network with Southwestern Ohio Chapter of ASSP
  - Develop interdisciplinary research and proposal ideas

## MEMBERS OF ASSP

All OSHE trainees

Cross-coordination with AIHA

Open to IH, OHN students

Faculty Advisor: Tom Huston



# Ohio Association of Occupational Health Nurses

## Mission

To advance the profession of  
Occupational and Environmental Health Nursing

## Vision

“To provide a point of contact for all occupational health nurses in the State of Ohio, referral to subject matter experts within the organization, and support the visibility of occupational health nurse impact on employee health.”



## OAOHN MISSION FULFILLMENT



### OAOHN's mission is fulfilled by:

- Providing educational programs to promote professional excellence and advance standards of practice;
- Promoting internal and external communications;
- Influencing legislative, regulatory and policy issues;
- Establishing strategic alliances and partnerships;
- Supporting and promoting research in occupational and environmental nursing.

(OAOHN, 2020)

## SOUTHWEST OHIO ASSOCIATION OF OCCUPATIONAL HEALTH NURSES (SWOAOHN)

### **Southwest Chapter (Includes Cincinnati, Dayton and areas in Southern Ohio)**

SWOAOHN typically meets in Greater Cincinnati 3 times each year

- *Network with local OHN professionals*
- *Engage in activities to promote awareness of OHN specialty*

## YOU ARE INVITED TO ATTEND THE FALL OAOHN CONFERENCE!

**Be the Superhero for your Company: Prevent Injuries/  
Promote Health/Prepare the Workforce of the Future**

WHEN: Thursday, October 27 - Friday October 28, 2023

WHERE: Akron Fairlawn Hilton Hotel, Akron, OH

University of Cincinnati College of Nursing OHN PhD Program is one of the sponsors





# QUESTIONS?

