

Welcome to the ERC Orientation

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



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



Follow us on twitter @uc_erc (164 followers)



Follow and like us on Facebook (72 followers)



Follow us on Instagram (63 followers)



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



<https://www.youtube.com/playlist?list=PLrixI9q4GUJJ2yRae84Wfe3zLENx5B7Ot>



WHAT IS ERC?

= EDUCATION AND RESEARCH CENTER



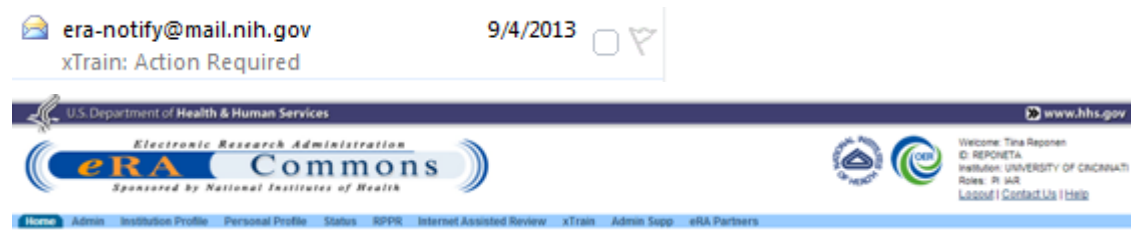
EDUCATION AND RESEARCH CENTER (ERC)

- **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)

- 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

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 eRA Commons and complete appointment
 - Watch for emails from **Clint Ehrhardt** (our business administrator) and **era-notify.mail.nih.gov**



ERC Funds:

- Student stipends

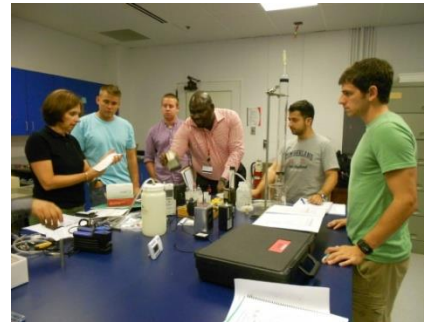
era-notify@mail.nih.gov 9/4/2013
xTrain: Action Required

U.S. Department of Health & Human Services
Electronic Research Administration
era Commons
Sponsored by National Institutes of Health

www.hhs.gov
Welcome: Tina Reponen
ID: REPONETA
Institution: UNIVERSITY OF CINCINNATI
Roles: PI, IAR
Logout | Contact Us | Help

Home Admin Institution Profile Personal Profile Status RPPR Internet Assisted Review xTrain Admin Support eRA Partners

- Travel and research supplies for students



- Interdisciplinary activities



Cincinnati ERC

Director: Dr. Reponen; Deputy Director: Dr. Bhattacharya



UNIVERSITY OF CINCINNATI

College of Medicine

College of Nursing

College of Engineering & Applied Science

CENTER-WIDE ACTIVITIES

Continuing Education (CE)
Ms. Bloomer
Dr. Talaska

Environmental & Industrial Hygiene (EIH)
Dr. Davis & Wang

Biomonitoring Component Program (BIOM)
Drs. Reichard & Talaska

Occupational & Environmental Medicine Residency (OMR)
Drs. Freeman & Wulsin

Occupational Health Nursing (OHN)
Drs. Gillespie & Smith

Occupational Safety & Health Engineering (OSHE)
Drs. Kim & Huston



CENTER-WIDE ACTIVITIES

Program Manager: Jessica Bloomer
Grant Administrator: Clint Ehrhardt

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



Continuing Education

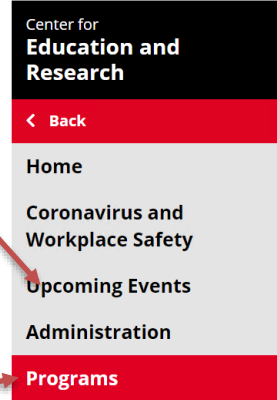
- Department of Environmental and Public Health Sciences houses ERC CE and OSHA Education Center Programs
- CE course fees are waived for students
- Registration/waived course fee is based on available seats in the course
- Students attending courses at no cost may be asked to assist the instructors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



[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://med2.uc.edu/eh/centers/erc/upcoming-events>



ERC Programs

Biological Monitoring Component Program (BIOM)	^
Continuing Education (CE)	^
Outreach Programs	^
Environmental & Industrial Hygiene (EIH)	^
Occupational Medicine Residency (OMR)	^
Occupational Health Nursing (OHN)	^

AND here: <https://med.uc.edu/depart/eh/centers/erc/programs>

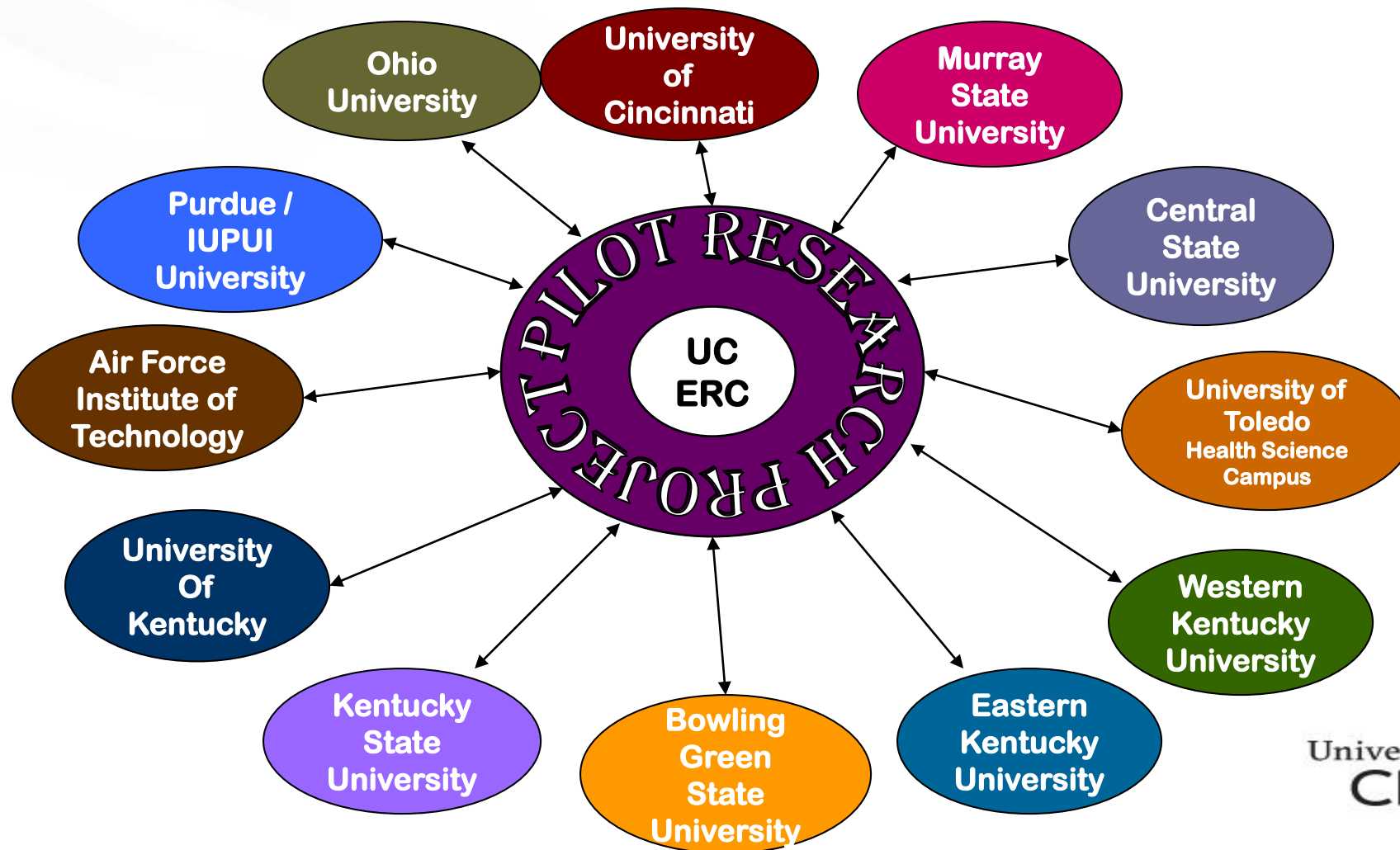
Recorded webinars are posted on the ERC YouTube playlist: <https://www.youtube.com/playlist?list=PLrixI9q4GUJJ2yRae84Wfe3zLENx5B7Ot>

UC Education and Research Center
12 videos • 484 views • Last updated on Aug 4, 2020

- 1 Stress and Burnout in Home Healthcare: Causes, Impact, and Prevention Webinar
UC - Environmental & Public Health Sciences
1:19:31
- 2 Characterization of Aerosols from Musical Performance & Risk Mitigation Related to COVID 19 Pandemic
UC - Environmental & Public Health Sciences
1:03:26
- 3 Home Healthcare Workers and the Coronavirus: How to Protect Yourself
UC - Environmental & Public Health Sciences
55:34
- 4 PRP 2019 Overview
UC - Environmental & Public Health Sciences
3:31

Email: erccoer@ucmail.uc.edu or bloomejl@ucmail.uc.edu

University of Cincinnati NIOSH Supported Education and Research Center Pilot Research Project Partnership



PRP Accomplishments

*Impacting Research Capacity of OSH students and
faculty*

1999-present

- Total PRP Dollars Awarded: **\$1.6 million**
- **Total PRP projects funded: 263**
- Additional grants secured by the awardees using PRP research data : **\$42 Million**
- **RETURN ON INVESTMENT 25:1**
- **64** New Investigators from other fields brought into Occupational Safety and Health Research
- PRP AWARDEE PUBLICATIONS, THESES, AND CONFERENCES: **352**
- **4 PATENTS & 8 INVENTION DISCLOSURE**

LONG TERM IMPACT

(Selected)

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**)
- 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

22nd Pilot Research Project Symposium

October 21-22, 2021



REGISTRATION OPEN

22ND PILOT RESEARCH PROJECT SYMPOSIUM

Free event showcasing occupational safety
and health research

For details and registration:

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

Featuring Pilot Project Awardees and UC ERC Alumni Panel to Celebrate the 50th Anniversary of NIOSH

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

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

Outreach Opportunities

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)

Occupational Safety & Health Hotline

- **Low wage earners at Interfaith Center**
 - Workers will call in about health and safety
 - Questions will be left on Voicemail
 - Need volunteers to answer questions
 - Go look up answers
 - Provide feedback to worker
 - Real world impact
 - Would be nice to have many trainees willing to participate.

Webinars in Home Healthcare

- **Monthly webinars**

- Help build database of home healthcare agencies' emails
- Send out announcements
- Help coordinate webinars

Student Assignments for Each ERC Program

Student Assignments

- **Student representative for trip committee**
 - Need one student from each program to plan trip destinations and timing. Will be supervised by Dr. Betcher, ERC-coordinator will help with practical arrangements
- **Student helpers for PRP symposium**
 - Need one student from each program

Student Assignments

- **Student CERKL Coordinator**
 - Need one student from each program who will collect and post stories, summaries of theses and capstone projects, summaries of research, job postings, etc
 - Will be member of CERKL team and trained how to use it
 - Goal: post each week a message about program
- **Student outreach tracker**
 - Need one student from each program who will track outreach items each month throughout the year

TARGETED RESEARCH TRAINING

Overall Goal: Interdisciplinary research training in the frameworks of one common theme.

Past 5 years: transitioned to assessment and control of cumulative health and safety risks among home healthcare workers

Next 5 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 checklist

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)

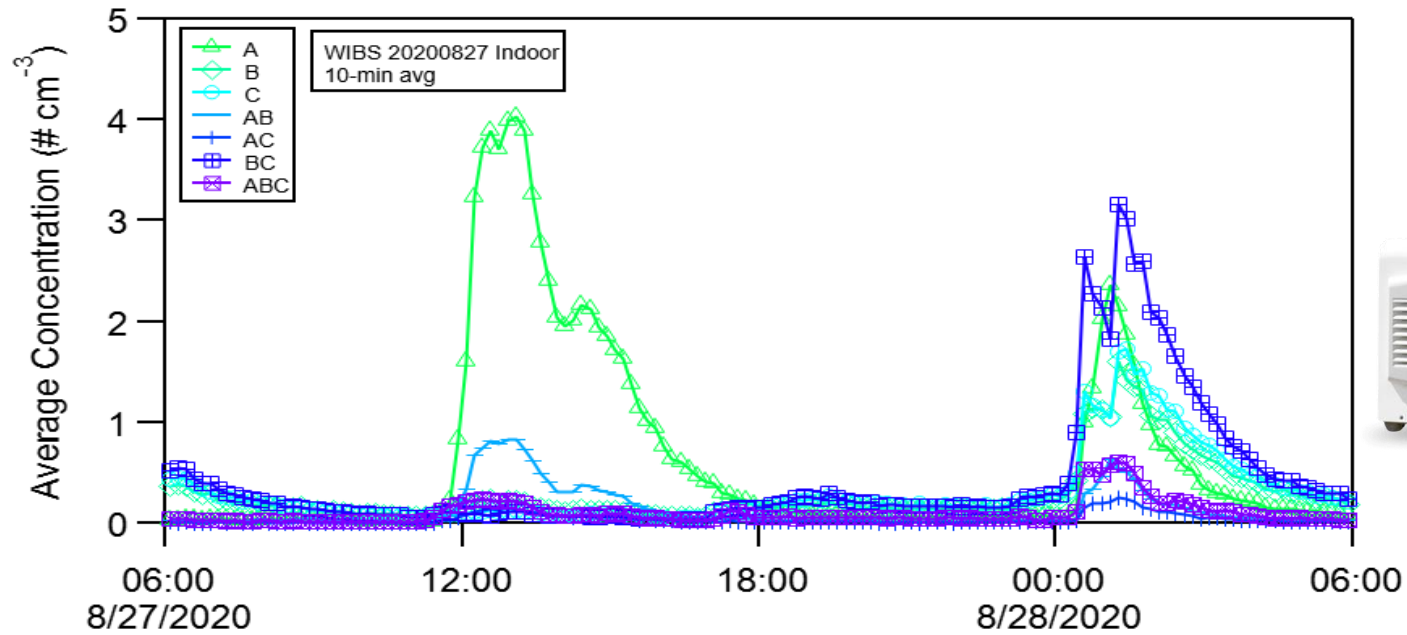
Sub-Aim 2.1. Quantify exposures and identify emerging technologies for controlling home healthcare workers' aerosol and bioaerosol exposures.

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

ASSESSING BIOAEROSOL EXPOSURES USING DIRECT READING BIOAEROSOL INSTRUMENTS



Preliminary data from Yao Addor's research

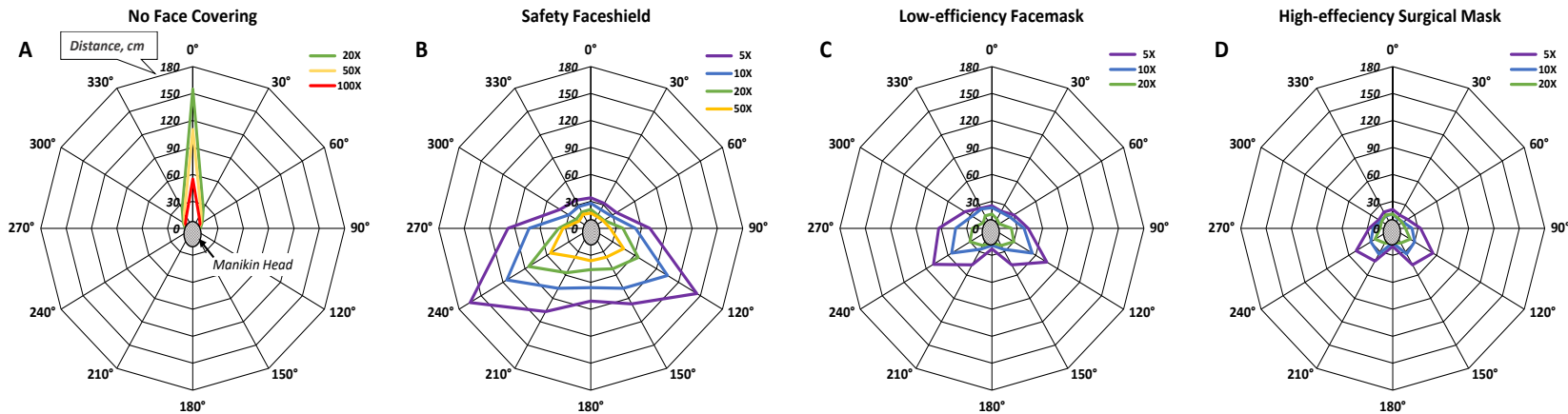


<http://detectiontek.com/>

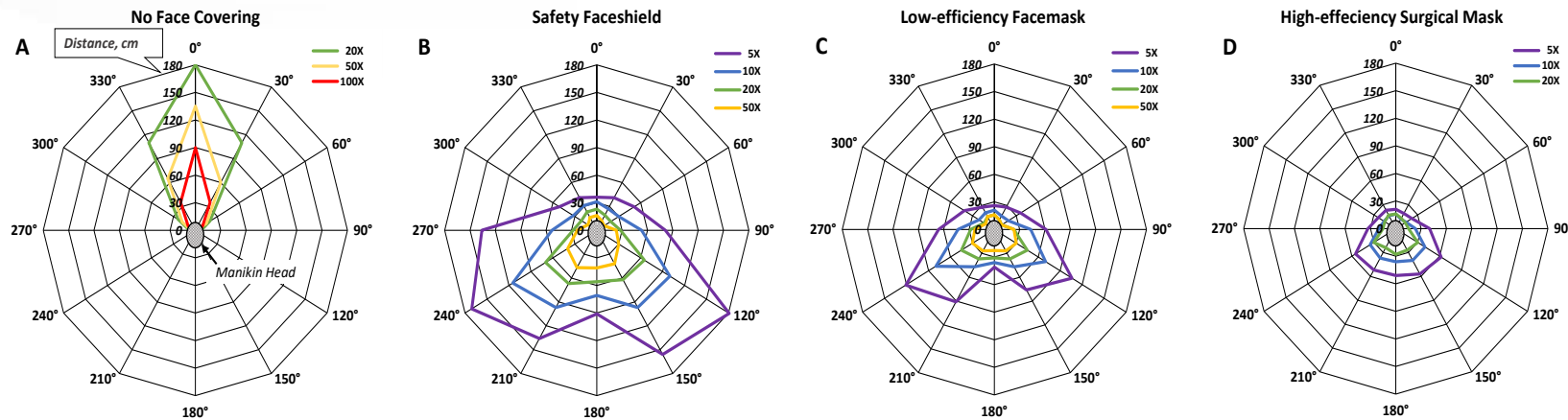


RESEARCH ON FACE COVERINGS

Impact of Face Covering on Aerosol Transport Patterns during Coughing



Impact of Face Covering on Aerosol Transport Patterns during Sneezing



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.

University of Cincinnati

Education and Research Center (ERC)

Interdisciplinary Activities

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

- Thursday &/or Friday before Fall Semester
- 2-4 days during spring break
- 1-4 days in the 1st or 2nd week following spring commencement ceremonies
- ERC Research Symposium in March



Examples of Site Visits

- Auto manufacturing plant
- Underground coal mine
- Petroleum Refinery
- Chemical company
- NIOSH facility
- Research facility
- Occupational safety and health government site
- Centers for Disease Control and Prevention
- Please share your ideas for future trips!

Changes Due to COVID-19

- Field trips cancelled in March and May, 2020, due to pandemic
- University of Cincinnati travel restrictions related to pandemic
- Virtual field experiences were planned for fall, 2020 and spring, 2021

**TRAVEL
RESTRICTIONS**



Gibson Coal Mine ERC Field Trip, 2019

Riverview Coal Mine Virtual Field Experience, Fall, 2020



Centers for Disease Control and Prevention, Spring Virtual Field Experience, 2021



Dr. Christopher Reh



Dr. Yulia Carroll



Dr. Elizabeth Maples

ERC Student Field Experience Committee

- Has at least one member from each of the disciplines in the ERC
- Met 7/29/21 & will meet in spring, 2022
- Students shared 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



We welcome your ideas for future virtual and onsite and ERC field experiences!

- Cynthia Betcher, DNP, MSN, RN
- ERC Field Experience Coordinator
- betchecc@ucmail.uc.edu
- 513.265.5502 (cell)





AMERICAN SOCIETY OF
SAFETY PROFESSIONALS

ASSP

American Society of Safety Professionals

University of
U of C
CINCINNATI

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
 - Safety of labs at UC

UC Student Section of ASSP

Board Members

Position	Person Responsible
Advisor	Dr. Jay Kim
President	Victoria Stotzer
Vice President	Nathan Frank
Secretary	Megan Syck

Members of ASSP

- All OSHE trainees
- Cross-coordination with AIHA
- IH, OHN students

AIHA Student Chapter

- AIHA = American Industrial Hygiene Association
- Officers 2021-2022:
 - President: Thomas Gerding
 - VP: TBD
- Faculty Advisors: Drs. Kermit Davis and Jun Wang

AIHA Student Chapter

- Expectation to become more active
 - Mentorship from local chapter members
 - Monthly national virtual seminars
 - Social events throughout the year



AAAR Student Chapter

- AAAR = American Association for Aerosol Research
- Officers:
 - Christina Kander, President
 - Thomas Gerding, Vice-President
 - Yao Addor, Treasurer
- Faculty Advisor: Dr. Tiina Reponen
- Upcoming event: International journal club and paper presentation hosted by Christina and Thomas on September 14 at 7 pm (more info to come)



**American Association
for Aerosol Research**





Ohio Association of Occupational Health Nurses Mission and Vision

“The mission of OAOHN is to advance the profession of Occupational and Environmental Health Nursing:

Vision Statement

“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)

(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 during the academic year

First meeting of 2021-22 is scheduled for 9.21.21

University of Cincinnati College of Nursing is sponsoring and hosting

**You are invited to attend the Fall OAOHN
Conference in November!**

SAVE THE DATE****NOVEMBER 4-5, 2021

2020 OAOHN ANNUAL CONFERENCE

FIRST CHRISTIAN CHURCH CONFERENCE CENTER, 6900 Market
Ave N., North Canton, Ohio

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