EDUCATION AND RESEARCH CENTER ORIENTATION

WELCOME NEW AND RETURNING STUDENTS!

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

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
- Follow us on twitter @uc_erc (199 followers)
- Follow and like us on Facebook (85 followers)
- Follow us on Instagram (157 followers)

https://www.linkedin.com/groups/13884134/
https://www.youtube.com/playlist?list=PLrix9q4GUJ2yRae84WFe3zLEnx587Ot
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/oep/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/oep/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

ERC FUNDS

- Student stipends
- Interdisciplinary activities
- Travel and research supplies for students
CINCINNATI ERC ORGANIZATIONAL CHART
DIRECTOR: DR. BHATTACHARYA; DEPUTY DIRECTOR: DR. DAVIS

CENTER-WIDE ACTIVITIES
Program Director: Jessica Bloomer
Center-wide coordination: Amy Itescu
Grant Administrator: Clint Ehrhardt

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
CONTINUING EDUCATION

JESSICA BLOOMER

• 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/
CONTINUING EDUCATION

• All ERC CE courses and events will be listed here: https://med.uc.edu/depart/eh/centers/erc/programs
• 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: erccoor@ucmail.uc.edu or 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
PILOT RESEARCH PROJECT PROGRAM

DR. AMIT BHATTACHARYA

UNIVERSITY OF CINCINNATI | PRP

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: $1.68 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

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
24TH 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

OUTREACH OPPORTUNITIES

DR. JUN WANG
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 massages (3 to 4 monthly)
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

• 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.
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

AUGUST 19, 2022 CROWNSE 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

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

STUDENT ASSOCIATIONS
AIHA, AAAR, ASSP, SWOAOHN
AIHA
American Industrial Hygiene Association

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
Some example activities
- Mentorship and interaction with AIHA Ohio Valley Section (OVS)
- Social events throughout the year
- AIHA Connect in Columbus, OH 2024
AAAR STUDENT CHAPTER

AAAR = American Association for Aerosol Research

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

Faculty Advisor: Drs Jun Wang and Yevgen Nazarenko

Some example activities:
- AEROSOL Day planned in 2024.
- AAAR and AS&T lecture series.
- Journal club.
- Interact with students from other disciplines.
ASSP
American Society of Safety Professionals

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?