

Occupational and Environmental Health and Safety Education and Research Center  
University of Illinois at Chicago  
Annual Report: July 1, 2015 – June 30, 2016

## **SECTION I**

### **ERC Summary**

The Illinois Occupational and Environmental Health and Safety Education and Research Center (Illinois ERC) is a recognized national and global leader in the promotion of healthier and safer workplaces and work. It is the ambition of the Illinois ERC to improve, promote, and maintain the health of workers and communities through innovative and interdisciplinary activities that:

- Educate graduate-level occupational health and safety professionals and researchers
- Ensure professional leadership and best practice through continuing education
- Enhance employer, worker organization, and community expertise via outreach and technical assistance
- Enrich the knowledge base for solving current and future problems

The Illinois ERC comprises five academic programs: Industrial Hygiene (IH), Occupational Medicine (OM), Occupational Safety (OS), Occupational and Environmental Epidemiology (OEE), and Agricultural Safety and Health (ASH-A); Continuing Education in core OSH disciplines (CE) and Agricultural Safety and Health (CE-ASH); an Outreach Program (O); Center Wide Activities including a Center Administrative Core, Diversity Recruitment, and Interdisciplinary Coordination; and two research training programs: Pilot Projects Research Training (PPRT) and Targeted Research Training (TRT).

### **Public Health Relevance**

Everyone has the right to healthy work – a job that pays a living wage, a workplace that is safe, an organization that treats them with respect, and access to qualified occupational safety and health professionals. Our public responsibility and charter requires that we give the highest priority to ensuring healthy work for everyone.

### **Key Personnel**

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**ERC Weblink:** <http://publichealth.uic.edu/illinois-erc>

## **SECTION II: High Impact Stories**

### ***Students and Alumni Making a Difference***

#### Occupational Safety

Recent graduates are employed by Labriola Baking Co., U.S. Compliance Corporation, Fleetmatics, Inc. and Amazon Corporation.

The ASSE Student Section was jointly active with the AIHA Student Section. Members participated in Chicago beach cleanup events, attended and hosted monthly ASSE Greater Chicago meetings, participated in an ASSE leadership training workshop, and made presentations about the profession at student campus organization meetings. Second-year masters and doctoral students made presentations at an annual student night event sponsored by the Chicago ASSE and AIHA sections.

A graduate student's research on the impacts of distractions on reaction times during driving was submitted for publication.

#### Industrial Hygiene

Recent graduates are employed at Siemens, the United States Navy and Rush University. A 2013 PhD graduate was hired as a research assistant professor at UIC.

AIHA Student Section were also very active, collaborating and participating in many of the same events as ASSE student members (see above).

#### Occupational Medicine

In the past three years, all graduates have successfully completed the Occupational Medicine specialty board exam. Over 90% of graduates work in clinical occupational medicine, providing not only acute injury care but health expertise on safety and risk reduction in the workplace for companies including hospitals.

Recent graduates are employed in a wide variety of occupational medicine positions. One is serving the Air Force as a medical officer at the Lackland Occupational & Aerospace Medicine Clinic, conducting medical surveillance, fitness for duty, deployment, foreign travel and other types of exams on active duty & civilian personnel; participating in worksite inspections to evaluate potential

unaddressed hazards or investigations of hazardous exposures or injuries; and providing educational briefings on workplace safety and general preventative medicine.

Another recent graduate, in addition to serving as Medical Director of Employee Health in a Children's hospital, is a Co-PI of a NIOSH funded project evaluating the safety and effectiveness of various powered air purifying respirators.

Alumni have positions as program directors of Occupational Medicine Residency Programs, some with academic appointments engaged in teaching and research at schools of public health. Several are delegates in the American College of Occupational and Environmental Medicine and Chicago and Illinois Medical Societies. One alumna is engaged in research focused on behavior change techniques for active transportation among low-wage workers.

#### Occupational and Environmental Epidemiology

Two students graduated from the doctoral program. Dr. Kirsten AlMBERG was hired as a research assistant professor in the UIC school of public health to conduct research focused on occupational respiratory disease, specifically pneumoconiosis among miners. She will be working with partners at the Health Resources and Services Administration (HRSA) to collect and analyze data from the federally funded black lung clinics around the country to improve health surveillance of coal miners. Dr. AlMBERG has been a guest researcher with the NIOSH Respiratory Health Division since 2014; a NIOSH NORA grant funds her work as an epidemiologist linking NIOSH respiratory surveillance data of coal miners with DOL Federal Black Lung Program benefits data and mortality information from the National Death Index (NDI) on miners in either program who are deceased.

Dr. Booth worked as a postdoctoral fellow in the Occupational Epidemiology Branch of the National Cancer Institute and recently accepted a position as an EMS and trauma epidemiologist with the State of Washington. He will be responsible for designing and conducting epidemiologic investigations related to EMS and trauma incidence including occupational injuries.

A 2013 graduate Dr. Judith Graber, now an Assistant Professor at Rutgers University, received a grant from the World Trade Center (WTC) Health Program to examine risk factors for head and neck cancers among responders. She also has a pilot project grant to investigate exposure levels and possible health effects resulting from perfluorinated contamination of a NJ community water supply.

#### Agricultural Safety and Health

Five trainees graduated from the program. A PhD graduate took a position as postdoctoral research associate at the University of Virginia School of Public Health. An MS graduate is an Epic credential trainer with St. Luke's University health network.

There is much need for safety training of undergraduates in agricultural engineering and similar programs. Alumni of the bachelors-level agricultural safety and health minor hold positions at John Deere (work includes product safety of agricultural equipment) and AgReliant Genetics; a third is pursuing a masters degree. It is very unfortunate that bachelors-level students can no longer be supported with NIOSH training grant funds.

Courses offered as part of the agricultural safety and health minor were completed by 130 undergraduate and graduate students.

### ***Student and Faculty Participation in Research Conferences, Workshops & Committees***

#### Industrial Hygiene

Seven students attended the American Industrial Hygiene Conference and Exhibition; five delivered posters and platform presentations; three won best poster awards. Students participated in numerous networking, leadership development and employment-related activities. Five students delivered research posters and presentations at the annual Chicago AIHA/ASSE student night; two received awards for their presentations.

Dr. Brosseau was an invited speaker on sensors for occupational exposure assessment (UIC), injury and illness programs for dual employers (University of Cincinnati), respiratory protection for healthcare workers (Chicago & Mt Sinai), and interventions for small businesses (University of Massachusetts Lowell).

Dr. Jones was an invited speaker on sensors for occupational exposure assessment (UIC), spoke about the transmission of Ebola at the American Public Health Association conference, was selected as a Distinguished Lecturer by the AIHA, became a Certified Industrial Hygienist, and became Vice-President of the JOEH, LLC.

Dr. Pratap presented her research on the development of an occupational health and safety curriculum for family medicine residents at the American Public Health Association conference. She participated in a topical workshop on Health and Safety of Temporary Workers hosted by the University of Cincinnati Education and Research Center. She also participated in a professional development course about case method teaching at the Harvard School of Public Health.

Mr. Cali served on the Board of the Chicago American Industrial Hygiene Association. He taught numerous professional development classes in Chicago and the Midwest region.

### Occupational Medicine

Faculty and residents attended conferences sponsored by the American College of Occupational and Environmental Medicine, American Public Health Association and the Central States Occupational Medicine Association.

Dr. Buchanan is a member of Children's Health Protection Advisory Committee of the US EPA. Dr. Buchanan has been actively involved in community education efforts related to lead exposures from drinking water pipe corrosion in Flint MI and contaminated soil around a housing project and school in East Chicago IN. She made two presentations about lead exposure at the American Occupational Health Conference.

Dr. Forst was an invited speaker at the National Safety Council's annual meeting of the Safe Communities Coalitions in Chicago, describing her work with community organizations and employers in a Chicago neighborhood.

Dr. Dorevitch was invited and joined the International Joint Commission of the Great Lakes Health Professionals Advisory Board.

Dr. Orris was a keynote speaker about the healthcare impacts of sustainable development at the South African Public Health Association. He is contributing editor of the American Journal of Industrial Medicine and on the editorial board of the Journal of Public Health Policy and the Revista Cubana De Salud Y Trabajo. He is also a member, of the scientific advisory committee of the World Trade Center Medical Programs at Mount Sinai School of Medicine, New York; a member of the program planning committee for the American College of Occupational and Environmental Medicine, Chair of the Board of Chicago Physicians for Social Responsibility and Co-Chair of the Environmental Health Working Group of the World Federation of Public Health Associations. He advises on climate mitigation in the health care sector in low and middle income countries and is program director of the Medical Directors Club in Chicago.

### Occupational Safety

Two program graduates were elected vice-presidents of the Greater Chicago ASSE Executive Board.

Six students attended the national ASSE conference; they gave poster presentations and participated in numerous networking, leadership development and employment-related activities. Three students delivered research posters and presentations at the annual Chicago AIHA/ASSE student night.

Two PhD trainees have completed their preliminary examinations, successfully defended their research proposals, and are engaged in data collection and analysis for their dissertations.

### Occupational and Environmental Epidemiology

Doctoral students presented their work at conferences sponsored by the University of Chicago, American Heart Association, Epidemiology Congress of the Americas and the American Thoracic Society.

Dr. Stayner, program director, serves on the Board of EPICOH and the EPA Scientific Advisory Board for Chemicals. He chaired an IARC Monograph meeting on carcinogenesis of coffee, mate and hot beverages.

Dr. Argos was an invited participant at a workshop on arsenic risk and regulation, delivered a short course on environmental health research in Bangladesh, gave an invited talk at the Society of Toxicology Annual meeting and organized and chaired a session on gene-environment interactions at the Society for Epidemiologic Research Annual Meeting.

### Agricultural Safety and Health

Drs. Aherin and Petrea and a PhD student participated in the International Society of Agricultural Safety and Health (ISASH) annual conference. Dr. Aherin and two graduate students participated in the Midwest Rural and Agricultural Safety and Health (MRASH) annual workshop.

A PhD student was invited to become a member of the ISASH public relations committee and the American Society of Agricultural and Biological Engineering Ergonomics, Safety and Health division technical committee. The latter evaluates new proposed ASABE agricultural safety standards and plans the agricultural safety technical sessions for the organization's annual conference.

Dr. Aherin and three students participated in the national Grain Operations & Entrapment Symposium. Dr. Aherin is working with a PhD student in the evaluation of an OSHA funded grain safety training program.

### Continuing Education in Agricultural Safety and Health

The agricultural safety program has continued to lead the development and implementation of national grain safety training program. A new training module was developed on the topic of Flat Grain Storage. The following modules were revised: Confined Spaces; Lockout/Tagout (LOTO); and Establishing and Using a Lifeline in a Grain Bin. Six Toolbox talks were developed on LOTO, Angle Grinders Safety, Tractor Safety, and Tractor Loaders.

New modules in a Stand T.A.L.L. (Talk, Ask, Learn, Live) program were developed for youth workers, covering various aspects of working safely with grain. These are designed to fit into a vocational agricultural curriculum and include learning objectives, power point slides with instructor notes, demonstrations, quizzes, program promotion materials etc.

The program sponsored the national Grain Operations & Entrapment Symposium; Dr. Aherin served on the symposium planning committee. Dr. Petrea was involved in planning the national ISASH conference that attracted over 200 agricultural safety professionals from the U.S. and other parts of world to the 4 day program. He also continued to serve as ISASH's national secretary. Dr. Aherin

conducted a 3 hour training program on agricultural safety and health issues for medical students in the University of Illinois rural medicine program.

Dr. Aherin continued to lead the Grain Safety and Health Coalition which coordinates and provides training on safety and health practices in farming and the grain industry.

#### Continuing Education (Core Disciplines) and Outreach

The Illinois ERC CEO program planned, implemented and evaluated environmental and occupational health training events for professionals, health and safety committee members and community participants in our region focusing on our strategic plan goals of national visibility, practice based experiences, program evaluation and diversity/inclusion.

We hosted a viewing of the film: "A Days Work" describing the life and workplace fatality of a temporary worker, attended by 50 people at the UIC School of Public Health, part of several events associated with the American Public Health Association meeting.

We co-planned and participated in a one day conference hosted by the University of Cincinnati, which drew 60 on-site participants and distance connections to the University of Michigan and the University of Illinois. Dr. Brosseau provided an overview of health and safety issues affecting temp workers and Ms. Love discussed our educational and advocacy projects with workers centers representing temp workers.

The program provided coordination and logistical support for the National Black Lung conference (150 participants) and supported a Heat Wave 1995 conference for 150 participants in Chicago with presentations from national and international experts. This event provided a twenty year retrospective of the week in July, 1995 when over 700 people died in Chicago due to heat and humidity conditions, in an effort to review the epidemiology and prepare for future climate events.

#### ***Awards and Recognition***

##### Industrial Hygiene

Four students received awards for best posters at the American Industrial Hygiene Conference and Exhibition. Two students received awards for their research presentations at the annual Chicago AIHA/ASSE Student Night.

A doctoral student received a \$10,000 Michael Bruton Workplace Safety Foundation Scholarship, awarded to students doing high quality work in the area of occupational and environmental health and safety.

##### Occupational Medicine

A current resident and alumni team won first prize for their work on cold injuries resulting from climate change presented at the American Public Health Association; this same work received first prize at the UIC School of Public Health Research Day.

Dr. Peter Orris, Chief of Service, received two American Public Health Association awards: Alice Hamilton-Tony Mazzocchi Award from the Occupational Health Section and Paul Cornely Award, Health Activist Dinner. He was elected to Alpha Omega Alpha (the medical honor society at the Rosalind Franklin University Chapter).

##### Occupational and Environmental Epidemiology

Dr. Stayner was appointed as an Adjunct Associate Professor at the University of Southern Denmark and accepted an appointment as Associate Editor of Environmental Health.

#### ***Effective Outreach Activities***

##### Occupational Medicine

Residents made presentations to elder communities about arthritis and to high school students about community health and medicine.

Dr. Bakston conducted regular worksite tours, discussing recent injury trends with safety directors and human resources managers. He also presented at the Medical Directors Club in Chicago on recent DOT changes to commercial driver examinations.

Susan Buchanan, MD, MPH teaches a family medicine clerkship for medical students on occupational and environmental health and in an on-line global occupational health and safety program.

Dr. Buchanan made presentations in Michigan and Illinois on the health effects of lead in water, prompted by events in Flint Michigan. She worked closely with Region 5 ATSDR, EPA, and Indiana state DOH on lead in soil in East Chicago, Indiana, attending a health fair for residents to discuss individual lead levels and risk of health effects.

Dr. Forst serves as head of a World Health Organization collaborating center in Occupational and Environmental Health. She was invited to lead a WHO working group to prepare updated guidance on diagnostic criteria for occupational diseases.

Dr. Dorevitch met with Directors of the Illinois Department of Public Health and staff from Illinois country health departments to promote preparedness for the impacts of climate change on public health.

#### Continuing Education in Agricultural Safety and Health

Grain safety training was conducted for 1,033 participants, including farm workers, grain elevator workers, supervisors and trainers.

#### Continuing Education (Core Disciplines) and Outreach

We created a collaboration between Opportunity, Advancement and Innovation in Workforce Development (OAI) and Raise the Floor (RTF), a coalition of eight worker centers in Chicago. RTF organized and communicated with workers centers to choose training topics and recruit participants for training sessions, OAI provided training courses at no cost to worker center participants and the ERC provided funds for worker and organizer participation in the events. Sessions included OSHA 10 Hour General Industry training and construction safety.

In concert with the National Domestic Worker Alliance the Outreach program helped plan and host a Congress for domestic worker activists in Illinois, with 80 attendees. Participants from Arise Chicago, Latino Union and AFIRE were updated on campaigns to enhance dignity and respect for domestic workers, including the Illinois Domestic Workers Bill of Rights. The bill, later signed into law by Illinois Governor Rauner, includes protection against workplace sexual harassment and a day of rest. The workers also participated in skill building workshops, e.g., CPR, and Green Cleaning which was led by worker center organizers using a green cleaning curriculum developed by Arise Chicago and Ms. Marsha Love.

The program collaborated with the American Federation of Teachers to review and assess the outcomes of pre and post assessments for their workplace violence prevention training programs.

The program co-sponsored a UIC Minority Health Symposium planned and organized by the minority student body. Attended by more than 200 students, faculty, staff and the public, topics included "Trauma, Resilience, and Restorative Justice" and "Has environmental racism and classism contributed to inequities in public health?" and "The movement toward solidarity."

The program collaborated with Dean Jeffery Waddy of South Suburban College for an event “Drivers of Sustainability for Community Health Workers,” with 100 participants. Dr. Zaroni moderated a panel of eight leaders highlighting the progress that community health workers have made and the next steps for their sustainability.

Two OHIP summer interns conducted interviews with temporary staffing agency management, to determine their understanding of their responsibilities under OSHA’s Temporary Worker Initiative guidelines and their policies and practices to implement the TWI. Results will be used by Chicago worker centers and others to provide evidence illuminating the need to create codes of conduct for the staffing industry and strengthen Illinois state law regulating temp work.

### Targeted Research Training Teams

#### *Sensor Technology*

Drs. Jones, Brosseau and Conroy started a new team focused on sensor technologies. Ten students participated in monthly team activities, which included literature reviews, tour of a College of Engineering microsensor research laboratory and preparation of a pilot project research application.

#### *Occupational Surveillance*

The team has focused our efforts in the past year on developing research and communication skills among the trainees on the team. The team meets regularly to review current literature, to critique members’ work such as research proposals and manuscripts, and to allow trainees to practice presentations.