

NIOSH Training Project Grants, Annual Report
Reporting Period: July 1, 2015 – June 30, 2016

David Kriebel, P.I.

University of Massachusetts Lowell

Grant Number: 5T01OH008424-10

Training Program Grant Name: Occupational Health and Safety Training Grant

Section I

TPG Summary:

The NIOSH TPG project grant provides support to the Work Environment (WE) Program, University of Massachusetts Lowell for four occupational health and safety training programs: a) Occupational and Environmental Hygiene-Industrial Hygiene (OEH-IH); b) Occupational Safety/Ergonomics (OS/E); c) Work Environment Policy (WE Policy); and d) Occupational Epidemiology (Occ Epi). These four programs, which have been funded by NIOSH since 1990, lead to master's (Master's of Science or Master's of Public Health) and doctoral (Doctor of Science) degrees.

In the 2015-2016 academic year, 13 fulltime trainees were supported – four in Occupational & Environmental Hygiene, three in Occupational Safety/Ergonomics, two in Work Environment Policy, and four in Occupational Epidemiology.

The mission of the WE Program is to train work environment professionals and conduct research on the identification and evaluation of health and environmental hazards and the design of safe and efficient alternatives, thereby promoting the development of healthy and sustainable workplaces. In this mission, we are guided by an overarching vision of the Program's role: design and promote systems of production that are environmentally-sound, safe, healthy and rewarding for workers, communities, and consumers.

Our integrated approach to health and safety strives to answer the basic question, "What is the optimal design of a healthy workplace, and how can it be achieved?" It is our premise that specific problems, such as chemical exposures, postural demands, and psychosocial stress are best addressed as a system rather than individually. We seek to close the gap between occupational and environmental health sciences and politics by understanding the inter-relationships between environment, work, and other influences, both nationally and internationally.

The Program's integrated curriculum has three broad academic objectives: (1) recognition and evaluation of occupational health and safety hazards; (2) control and prevention of occupational and environmental health and safety hazards; and (3) development and implementation of workplace interventions including health and safety programs as well as other social and economic policies.

WE Program graduates include many successful practitioners and researchers whose careers in occupational safety and health indicate overall success towards these goals.

Public Health Relevance:

The NIOSH TPG at UMass Lowell trains occupational health and safety professionals in the identification and evaluation of health and environmental hazards and the design of safe and efficient alternatives, thereby promoting the development of healthy and sustainable workplaces. In this mission, we are guided by an overarching vision: to design and promote systems of production that are environmentally-sound, safe, healthy and rewarding for workers, communities, and consumers.

Key Personnel:

David Kriebel, Sc.D.

David_Kriebel@uml.edu

978-934-3270

David Kriebel is the Principal Investigator of the NIOSH TPG at UMass Lowell. He received his master's degree in physiology/occupational health and doctorate in epidemiology from the Harvard School of Public Health. He did post-doctoral work on exposure assessment for epidemiology with Dr. Tom Smith at the University of Massachusetts Medical Center, and spent a year as a scholar in residence at the Center for the Study and Prevention of Cancer in Florence, Italy on a Fulbright Fellowship. Since 1988, he has been on the faculty of the University of Massachusetts Lowell, where he holds the rank of full Professor. He teaches graduate courses in epidemiology, biostatistics and occupational health. Dr. Kriebel is also the Director of the Lowell Center for Sustainable Production, which collaborates with industries, government agencies, unions, and community organizations on the redesign of systems of production to make them healthier and more environmentally sound.

Laura Punnett, Sc.D.

Laura_Punnett@uml.edu

978-934-3269

Dr. Punnett directs the Occupational Ergonomics/Safety program in the NIOSH TPG. She received her doctorate in occupational health and epidemiology from the Harvard School of Public Health. She did post-doctoral work at The University of Michigan where she studied musculoskeletal disorders (MSDs) in the automobile manufacturing industry. Since 1987 she has been on the faculty of the University of Massachusetts Lowell where she teaches ergonomics and epidemiology. Dr. Punnett is also Co-Director of the Center for the Promotion of Health in the New England Workplace, a NIOSH Total Worker Health™ Center for Excellence, which also involves colleagues at two campuses of the University of Connecticut.

Margaret Quinn, Sc.D., CIH

Margaret_Quinn@uml.edu

978-934-3196

Dr. Margaret M. Quinn, ScD, CIH directs the Work Environment Policy program in the NIOSH TPG. She is a Professor in the Department of Public Health and Director of the Sustainable Hospitals Program in the Lowell Center for Sustainable Production at the University of Massachusetts Lowell. Her research and teaching focus on preventing harmful exposures and creating healthy environments at work, home, and in our communities. She is the principal investigator on grants funded by the National Institute for Occupational Safety and Health (NIOSH) and the U.S. Environmental Protection Agency (EPA). Dr. Quinn is certified in the comprehensive practice of industrial hygiene (CIH) by the American Board of Industrial Hygiene, and is a co-founder of the Lowell Center for Sustainable Production (LCSP) (www.sustainableproduction.org) at the University of Massachusetts Lowell.

Susan Woskie, Ph.D., CIH

Susan_Woskie@uml.edu

978-934-3295

Dr. Susan Woskie, PhD, CIH directs the Occupational & Environmental Hygiene program in the NIOSH TPG. She is a Professor in the Department of Public Health at the University of Massachusetts Lowell. Dr. Woskie is certified in the comprehensive practice of industrial hygiene by the American Board of Industrial Hygiene. She also directs the Mahidol University (Thailand) --UMass Lowell Center for Work, Environment, Nutrition and Human Development (CWEND) which is funded by the Fogarty International Institute. Her research focuses on methods for sampling and analysis of personal exposures to chemicals and noise, biomarkers and dose modeling, estimating personal exposures in occupational and environmental settings, and evaluation of environmental and process factors for predicting and controlling workplace exposures.

TPG web link:

<https://www.uml.edu/Health-Sciences/Public-Health/Programs-of-Study/masters/Hygiene.aspx>
<https://www.uml.edu/Health-Sciences/Public-Health/Programs-of-Study/masters/Ergonomics.aspx>
<https://www.uml.edu/Health-Sciences/Public-Health/Programs-of-Study/Environment-Policy.aspx>
<https://www.uml.edu/Health-Sciences/Public-Health/Programs-of-Study/Epidemiology.aspx>

SECTION II

Program highlights:

There were 51 enrolled students and 22 graduates of the Work Environment graduate training programs at the University of Massachusetts Lowell in 2015-16. Six of the graduates were NIOSH trainees. The training programs continued to have significant enrollment by under-represented minority students: in 2015-16, 11 of the 51 enrolled students (22%) were from URM groups.



2015-16 NIOSH trainees. Left to right: Meghan Callanan, Erica Lancaster, Angela Lumenello, Maria Rocelyn De Leon, Rosemary Rungu, Rhoda Ghindi, Shavana Ohneswere, Daisy Bilenkin, PI David Kriebel, Shaniece Cola. Missing from photo: Daniel Okyere, Ankit Patel, Nicole Karlsson, Robert Miller

The Occupational & Environmental Hygiene program is accredited by the Accreditation Board for Engineering and Technology (ABET) and our accreditation is valid through 2018. There were eight graduates of the OEH program in 2015-16, two of whom were NIOSH trainees.

One of the NIOSH trainees, Rocelyn De Leon, did a summer internship in the Occupational Health Internship Program (OHIP) sponsored by the Association of Occupational and Environmental Clinics (AOEC) with funding from NIOSH. She worked in San Francisco on a project to increase awareness of occupational health and safety hazards and legal protections among retail workers. The project focused particularly on the Chinese-American community.

The Occupational Safety/Ergonomics program had three graduates in 2015-16, one of whom was a NIOSH trainee. Master's students in Work Environment are increasingly choosing to get a "dual degree" in Occupational & Environmental Hygiene and Occupational Safety/Ergonomics. The faculty encourage this, as we have observed that employers increasingly expect to hire a single professional to manage both areas of occupational health. This combined training is possible with a 42 credit program, which is the same number as is required for the master's of public health degrees. In 2015-16, there were nine students enrolled in OS/E, and all but two of them were pursuing the dual program.

The Work Environment Policy program had four graduates in 2015-16, two of whom were NIOSH trainees. NIOSH trainee Daniel Okyere completed his doctoral degree in Work Environment Policy in May 2016. His dissertation "Healthcare worker and patient safety: an integrated approach" built upon his undergraduate training and work experience as a nurse and was a part of the NIOSH-funded Safe Home Care Project directed by Professor Margaret Quinn. Dr. Okyere presented his findings at the 25th International Occupational Epidemiology Conference in Barcelona in September 2016.

The Occupational Epidemiology program had seven graduates in 2015-16, one of whom was a NIOSH trainee. One of the NIOSH occupational epidemiology trainees, Erica Lancaster, did an internship at the NIOSH Alaska Field Station in summer 2016. She worked with Dr. Jennifer Lincoln on safety programs for commercial fishermen. Another current trainee, Angela Lumenello, worked during the summer with the Occupational Health Surveillance Bureau of the Massachusetts Department of Public Health. Angela conducted a survey among healthcare workers on reporting behavior following sharps injuries, with support from NIOSH.