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## Annual Progress Report

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### TPG Summary

#### 1. Program Description

Millersville University (MU) offers an undergraduate degree program in Occupational Safety & Environmental Health (OSEH). The OSEH program is one of only three schools in the nation that offers a degree that is accredited by the Accreditation Board for Engineering and Technology (ABET) under the Environmental, Health, and Safety Criteria. Historically, the OSEH program at Millersville University has provided a strong educational experience that prepares graduates for entry-level positions in safety and health or to pursue graduate degrees in specialized areas within Safety and Environmental Health.

The OSEH program is designed for people interested in professions in the safety and health fields. The general education courses are used to develop basic science knowledge, while the major courses focus on the application of science and mathematics in the technical and managerial aspects of safety and health. Objectives of the program include:

- Prepare students to enter the occupational safety and environmental health profession as a generalist with skills necessary to begin a successful career.
- Encourage interest in continued professional development through formal graduate study and through other professional development courses and programs.
- Provide fundamental education necessary for success on the Board of Safety Professionals' Safety Fundamentals Exam (ASP).
- Provide a solid educational foundation on which the graduate can build a career in an OSEH area, as well as develop a multitude of scientific, social, and culturally based pursuits.
- Prepare students to function within multidisciplinary teams.
- Provide information, knowledge, and training that can lead to safer and healthier work environments throughout the region.

In addition to overall program objectives, each course within the OSEH curriculum has a well-defined set of objectives specific to that course. Meeting the objectives of each course establishes the educational foundation necessary to support the overall program goals.

#### *ABET Accreditation and The Board of Certified Safety Practitioner's (BCSP) Program:*

ABET accreditation allows the OSEH program to participate in the Graduate Safety Practitioner (GSP) designation program offered by the Board of Certified Safety Professionals (BCSP) to ABET-accredited safety programs. All graduates of the OSEH program received the GSP designation. This designation is equivalent to the Associate Safety Professional (ASP) that is received upon successfully passing the Safety Fundamental Exam (ASP) portion of the BCSP certification process. Feedback from industry supervisors during the internship and cooperative education experiences continues to be very positive and highly complimentary with respect to students' preparation.

#### *Main Goals of the Training Program Grant:*

The main goals of the Training Program Grant (TPG) were to (1) provide financial assistance to students in the OSEH program. This being a key factor in attracting outstanding academic candidates, (2) Help in retaining those students through completion of the program, (3) attract and retain qualified minority students, (4) permit expansion of the undergraduate program course offerings and Continuing Education Courses and Programs, and (5) supplement student and faculty travel to professional conferences identified by NIOSH as essential to program objectives.

Over the last funding period, the TPG was been used to supplement student and staff travel to professional development conferences and to also support continuing education of full-time OSEH faculty. Continuing education opportunities are an important part of remaining up to date with current trends in safety and health, maintaining and improving current skills, and continuing to develop the professionalism necessary to properly train future safety and health professionals.

### **Key Personnel:**

#### **Jack Ogutu, Ph.D.,**

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Jack is the Principal Investigator for this project. Jack holds a Bachelor of Science degree in Mechanical Engineering from The University of Nairobi, Kenya and both Masters and PhD degrees in Industrial & Systems Engineering from Auburn University. His main focus was in Occupational Safety and Ergonomics. Jack's research interests include; Design for large individuals and development of ergonomics tools and methods for postural evaluation. Prior to attending Auburn University for his graduate studies Jack worked for three years with Bollore Logistics in Nairobi, Kenya. Jack is a trained ISO 9000 auditor and has also been approved as an OSHA 10 & 30 hour General Industry Standards trainer. Jack is a professional member of ASSE and affiliated with the Academic Specialty. Jack also serves as an ABET program evaluator under the ASAC commission.

#### **Mehdi Khalighi, Ph.D.,**

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Mehdi holds a BS degree in Mechanical Engineering majoring in Thermo-Fluidics. He was working as design engineer at International Civil Aviation Organization prior to starting his graduate studies. Mehdi received his MS and PhD degrees in Mechanical Engineering majoring in Ergonomics and Safety from University of Utah. His research studies during graduate program were focused on Noise Control and Cumulative Trauma Disorders. He has done extensive study on Carpal Tunnel Syndrome. He also recently finished his Master of Public Health majoring in Environmental Health and Safety degree from San Diego State University.

Prior to joining Millersville, he served as Research Assistant at San Diego State University, where he conducted research studies in the area of Air Quality by conducting data analysis for air pollution in cross border commuting between US and Mexico. Prior to that Mehdi was working overseas as assistant professor in SBMU Medical University at the department of occupational health and safety

#### **Len Litowitz, Ph.D.,**

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Dr. Len S. Litowitz presently serves as chairperson of the Department of Applied Engineering, Safety & Technology. He has been employed as a faculty member at Millersville University for more than 30 years. His teaching experiences include providing instruction to students at all levels from grades three to post-secondary on topics such as alternative energy, sustainability, energy conservation, electricity and automation. In 2012 the second edition of his textbook entitled Energy, Power & Transportation Technology was issued by Goodheart-Willcox publishers.

#### **Amy Fasano, MS, MPH**

Adjunct Professor of Occupational Safety & Environmental Health

*Dept. of Applied Engineering Safety & Technology*

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Amy Fasano is a graduate of Millersville University's Occupational Safety and Hygiene Management program. She obtained her Master of Public Health, Community Health Education degree from East Stroudsburg University. Ms. Fasano is in the current Safety Sciences Doctoral cohort at Indiana University of Pennsylvania, with an anticipated course completion date of August 2017. Ms. Fasano plans to conduct her dissertation research on measuring learner outcomes to enhance continuous program improvement in higher education. Ms. Fasano started her career conducting environmental compliance management for a major automotive service industry. Her safety management career included positions in the electronic shielding component industry, a manufacturer of industrial brushes and an international foundry operation. Ms. Fasano started her own consulting company, AimSafe, Inc. in 2008. Ms. Fasano serves as the secretary on the OSEH External Advisory Committee; a group of safety and health professionals tasked with ensuring students are receiving appropriate educational experiences so that they are prepared for the responsibilities of entry-level OSEH professionals.

## **Julie Keich, MS**

Adjunct Professor of Occupational Safety & Environmental Health

*Dept. of Applied Engineering Safety & Technology*

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Ms. Keich has a Masters in Adult Education/Training & Development from Penn State University and a Bachelor of Science in Occupational Safety and Industrial Hygiene Management from Millersville University. She has been a Certified Safety Professional since 1997. Ms. Keich has been a working safety professional for the past 25 years in a variety of industries. She is currently the Environmental, Health & Safety Manager for Snyder's Lance Hanover manufacturing facility. Ms. Keich joined Millersville University as an adjunct professor in 2013.

**TPG Web Link:** <http://www.millersville.edu/academics/educ/aest/degrees/oseh/index.php>

## **2. Program Highlights**

The OSEH program continues to successfully prepare students to enter the EHS profession. In spite of the economy during the past year, placement of graduates into jobs or graduate programs following graduation remains at approximately 95 percent. Over the past budget year, funds from the TPG grant have helped provide financial assistance to 12 students working towards a B.S. degree in OSEH in tuition and fees assistance. In addition to tuition and fees assistance, the NIOSH grantees accomplished the following:

1<sup>st</sup> Place Student Poster: Safety 2016 Poster Sessions Highlight OSH Research

Topic: Exposure to Toxic Byproducts in Smoke and Their Effects on Cancer in Firefighters

Research team: Nicholas Oakes (student), Dr. Jack Ogutu, Dr. Duane Hagelgans and Dr. Aimee Miller, Millersville University of Pennsylvania.

Academic Forum and ABET Workshop

Two OSEH faculty members gave a presentation at the ASSE PDC in Atlanta this past June. The presentation was entitled "Measuring Learner Outcomes at an ABET Accredited Occupational Safety and Health Undergraduate Program Utilizing a Pre and Post Comprehensive Exam" Presenters: Amy Fasano, MPH and Jack Ogutu, Ph.D. The session was sponsored by the Academics Practice Specialty and ABET.

OSHA 10 & 30 hour Trainer for General Industry

Dr. Jack Ogutu was recently certified by OSHA as a 10 & 30 hour General Industry Standards Trainer. This has added value to the program. The students will now be able to graduate with the OSHA 10-hour cards upon successful completion of the required classes.

Continuing education for the full time OSEH faculty is an important part of remaining up-to-date with current trends in safety and health, maintaining and improving current skills, and continuing to develop the professionalism necessary to properly train future safety and health professionals. During this funding period, program faculty and students attended the following conferences and professional development events:

ASSE PDC in Atlanta Georgia, from June 26 – 29, 2016

AIHA Conference in Baltimore, MD from May, 22 – 26, 2016

CPSA – AIHA – ASSE 2016 PDC in State College, PA. April 6 -7, 2016

Four students were funded (travel and accommodations) to tour the NIOSH facility in Pittsburgh, PA.