Emerging Issues in Occupational Health & Safety

Thursday, April 12, 2012

Deep South Center for Occupational Health & Safety
Research Symposium

Friday, April 13, 2012

University of Alabama at Birmingham
National Alumni House
Birmingham, AL

The Deep South Center for Occupational Health & Safety is one of 17 Education and Research Centers funded by the National Institute for Occupational Safety and Health (NIOSH). Our ERC offers graduate and post graduate programs in occupational health nursing, industrial hygiene and occupational safety and ergonomics. We provide strong programs of study for our students, which includes interdisciplinary and field work experiences. The Center’s Outreach Program shares information on occupational health and safety issues to other institutions, business owners, workers, minorities, youth and anyone with an interest in safety and health.

www.uab.edu/dsc
This one day program was built around the educational needs of health and safety practitioners. We selected the top topics of interest from our needs assessments and, working with our stakeholders, reached out to find dynamic professionals that will inform and enlighten. The workshop will begin at 7:30 am with registration and continental breakfast and end by 4:00 pm. Lunch will provide an opportunity for networking with your peers.

Topics

**Workplace Violence: Recognize and Diffuse**
Carol S. Dodgen, Principal, Dodgen Security Consulting
Carol will define workplace violence and discuss the different types of workplace violence (WPV). Carol will review recent cases, and you will hear from individuals who have been involved in WPV incidents through video/audio clips. Her presentation will help you build your skills in identifying red flags and pre-incident indicators and reveal methods of de-escalating situations before they turn violent.

**Injury Prevention through Pre-hire Functional Screening: A cost-saving measure for challenging times**
Deborah Lechner, PT, MS, President, ErgoScience
In times of economic downturn, all eyes turn toward cutting costs. A major cost for most employers is their workers’ comp. Ergonomic programs are an important approach; however, the other side of the equation is having workers who are physically capable of performing the work. Pre-Hire Functional Screening is an extremely effective cost-cutting measure that addresses the worker side of the equation. By hiring workers who have the physical abilities to perform the physical demands of the job, fewer injuries occur, thereby reducing medical and workers’ comp.

**Training: New and Innovative Approaches in Safety Training**
Tony Davis, Director of Safety, Health & Loss Prevention, Walter Energy
Through his experiences in driving a safety culture change involving workers at both underground and surface mining activities, Tony will share his lessons learned in developing new and innovative safety training programs, including state-of-the-art simulation techniques, to truly engage his diverse workforce.

**Why I Win**
Tom Edwards, The Law Offices of Thomas Edwards, PC
An attorney since 1987, Tom Edwards, has made a name for himself for successfully representing injured workers and their families. He is a true leader in his profession. Tom has served his profession in many leadership positions through the years and is considered a Super Lawyer in Alabama by his peers.

**Producing the Next Generation of Occupational Safety and Ergonomics Professionals**
Featuring Faculty and Graduate Students of Auburn University, Samuel Ginn College of Engineering. The Deep South ERC academic programs at Auburn continue to produce the leaders in occupational safety and ergonomics. From modeling to human factors, you will learn more about our dynamic and challenging programs at Auburn University.
By attending our annual Symposium, you will have an opportunity to hear about new research with a broad range of practice implications. The funding for these pilot projects is through the National Institute for Occupational Safety and Health, with projects selected for their innovative approach to a relevant safety and health issue in our region.

Our keynote speaker is, Davana Pilczuk, PhD, Corporate Wellness Manager for Gulfstream Aerospace, a division of General Dynamics. She is responsible for the corporate ergonomics and wellness programs for 13,000 employees at 11 Gulfstream sites across the US, Mexico and Great Britain. Due to the success of Gulfstream’s ergonomics program, Davana was recognized in 2010 as one of the top 10 performing women at Gulfstream and was selected as one of the top 20 performing managers in 2011. In 2011, she was nominated for the ‘Creativeness in Ergonomics Practitioner of the Year Award’ at the Applied Ergonomics Conference. Davana, an Auburn University College of Engineering alum and ergonomist, will share Gulfstream Aerospace’s vision for worker protection and health, both on and off the job, in her presentation:

**Becoming an Effective Leader in Corporate America**

Using Gulfstream and Gulfstream’s Environmental Health and Safety and Wellness programs as examples of the corporate environment, Davana will tie in all the ‘soft skills’ students may not realize they will need when implementing large programs. Davana’s presentation will focus on the things that can make or break programs. Many individuals are under prepared when entering the work force - while they may have great technical skills, many lack communication skills, business knowledge, and team building ability. Davana will share her insight on necessary skills to becoming an effective leader in corporate America.

**Topics**

**Characterization of Wildland Firefighter Exposure to CO and PM2.5 Using Aerosol Real Time Monitors**
Olorunfemitosin Adetona, PhD
University of Georgia

Exposure to PM2.5 in this study is characterized in real time and the data used to explore whether PM2.5 and CO are correlated in real time. We investigated the contributions of peak exposures to the overall exposure, and determined the effect of job task on exposure. Sixty individual person-day real time CO and 37 PM2.5 samples were collected from firefighters over 10 burn days at the fireline while they worked at prescribed burns. Results indicated that exposure to both pollutants correlated well over shorter temporal resolutions. Exposures to both CO and PM2.5 differed by task.

**Investigating the Role of Genetic Factors in Low Back Pain in Workers to Predict Severity**
Narathi Kerrthi Govindu, Doctoral Student, Industrial and Systems Engineering
Mississippi State University

Low back pain (LBP) is the most prevalent work-related musculoskeletal disorder resulting from personal, psychosocial and occupational risk factor exposures. Occupational risk factors have been studied for current ergonomic prevention strategies; however, other underlying mechanisms may exist since not all workers performing the same task develop the same severity. Four previously studied genes were investigated in a low back pain population to study the role of genetics factors in LBP severity. Results obtained may help to develop a more reliable way to predict and, hence, prevent chronic LBP.
Testing the Effective of Dynamic Message Sign with a Driving Simulator
Lesley Strawderman, PhD, PE, Assistant Professor, Industrial and Systems Engineering
Mississippi State University

Work zone safety has long been a critical issue for transportation researchers. Results from a study that utilized a high-fidelity driving simulator to test how various Dynamic Message Sign (DMS) designs impact driver behavior will be presented. Driver compliance with posted speed zone signs was measured in order to make design recommendations and reduce work zone related injuries and fatalities. Significant results regarding the placement of signs, sign type (content) and user characteristics were found. The results provide important guidelines and suggestions on future DMS design and placement with the aim to reduce work zone injuries and fatalities.

Development and Validation of Portable Arm Supports for Mobile Laptop Users
Michael Porter, Master Candidate, Industrial and Systems Engineering
Auburn University

Computer users working in desk settings commonly utilize various Forearm/Wrists (FW) supports to reduce work-related physical stresses and discomforts. In contrast to the wide use of FW supports in desk settings, computer users rarely utilize them when working with laptops in non-desk environments. In order to reduce physical stresses for laptop users working in non-desk settings, the purpose of this study is to develop novel, low-cost, portable, easy-to-use FW supports for non-desk laptop tasks and empirically confirm their utilities in reducing physical stresses. An emphasis will be placed upon creating designs that are capable of fully supporting the forearms segments so as to eliminate the floating-arm posture problem.

An Efficient Method for Modeling an Individual’s Perception of Postural Stress
Jack Ogutu, PhD Candidate, Industrial and Systems Engineering
Auburn University

Various Posture Analysis Tools (PAT): OWAS and RULA, are used to evaluate and control work-related postural stresses. These tools do not consider substantial individual differences in the perception of postural stresses. An alternative is to develop individual-specific PAT and use them for protecting individuals. With a large database of individual-specific PAT, population level analyses become possible. As an initial effort towards individual-specific and population-level posture analyses, our goal was to develop a procedure for creating individual-specific PAT. This study was conducted to test the feasibility of the PSM function concept.

Sleep, Cognition, and Medication Use in Older Truck Drivers
Karen Heaton, PhD, CEN, FNP-BC, Assistant Professor, School of Nursing
University of Alabama at Birmingham

This study explores the relationships among cognition, sleep, and medication use in a group of older truck drivers. The study is highly significant because: (1) increasingly, new entrant truck drivers are over 50 years old; (2) increased sleep difficulties occur with aging; (3) cognitive processes, such as processing speed, degrade both as part of the aging process and in conditions of sleep loss; (4) driving performance deteriorates in sleep loss and cognitive decline. The study impacts both occupational and public health. Among U.S. workers, truck drivers have the highest risk of occupational motor vehicle crash fatalities. As this population ages and experiences changes in sleep and cognition, increased risk of motor vehicle crash and subsequent injury to truckers and the driving public may follow.
Information
Both programs will be held at the UAB National Alumni House on the UAB Campus. Emerging Issues will be held 8 am - 4:00 pm, with registration beginning at 7:30 am. The Research Symposium will be held from 9 am until 2:30 pm with registration beginning at 8:30 am. Continental breakfast and lunch will be provided both days. Limited parking is available at the UAB National Alumni House.

Visit our website to view listing of nearby hotels.

Registration must be received in advance. A confirmation letter with details will be sent once registration has been received.

As an AL Board of Nursing Approved Provider, the Deep South Center for Occupational Health & Safety awards Emerging Issues in Occupational Health & Safety 6.0 contact hours and the Research Symposium 5.0 contact hours (expiration date 01/03/2015).

Registration
Please check which program you will be attending: □ Emerging Issues $75 □ Research Symposium $50

☐ BOTH: Emerging Issues & Research Symposium $105

Name________________________________________Title______________________________

Company_______________________________________________________________________

Address__________________________________________________________________________
_______________________________________________________________________________

City, State, Zip____________________________________________________________________

Phone__________________________Email_________________________

Registration fees must be received in advance. Refund requests must be made in writing two weeks prior to course. A 20% processing fee will be deducted.

Make checks payable to University of Alabama at Birmingham.

If payment by credit card, please complete the following:  ___ VISA  ___ MasterCard  ___ Discover___ AMEX

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Mail to:  Deep South Center for OH & S
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REGISTER BY PHONE:  205-934-7178  EMAIL:  dsc@uab.edu  www.uab.edu/dsc
In the fall of 2009, the Executive Committee of the Deep South Center for Occupational Health and Safety voted to rename the Center’s Research Pilot Project Program to the H. Kenneth Dillon - Brian J. Carnahan Pilot Project Research Program in honor the memory of H. Kenneth Dillon, PhD and Brian J. Carnahan, PhD. Both Drs. Dillon and Carnahan contributed greatly to their respective fields in industrial hygiene and occupational safety and ergonomics.

The Center’s Dillon-Carnahan Research Program promotes and expands the research training mission of the Center by providing support for new investigators’ research ideas. Funded projects have had new and creative research approaches and many of the funded projects have allowed trainees to complete research projects or their dissertations. A panel of external reviewers considers if the application meets research priorities and regional needs; builds research capacity; and encourages new innovative approaches and involves stakeholders.

‘This is one step we take to honor the work and memory of two of our most distinguished colleagues and finest researchers. Both Ken and Brian were dedicated faculty who mentored students through their research to promote a healthier and safer work environment. Re-naming our research program to honor them is very appropriate,’

Center Director, R. Kent Oestenstad, PhD.

The Dillon-Carnahan Pilot Project Research Program is under the direction of Claudiu T. Lungu, Ph.D., an Associate Professor in the Department of Environmental Health Sciences at the UAB School of Public Health. Dr. Lungu is the director of the Industrial Hygiene program of the NIOSH supported Deep South ERC.

Dr. Lungu's background is in Environmental Health, Physics and Engineering and his current research effort is directed towards the use of innovative 3D technology for designing respirator face pieces, the use of carbon nanotubes for air sampling involving photo-thermal desorption, and the development of novel composite adsorbent materials for respirators and environmental engineering.