

Dr. Steven Shea named new CROET Director



Steven Shea, PhD

Dr. Steven Shea has been appointed as the new Director of CROET. Dr. Shea joins OHSU from Harvard Medical School, where he was an associate professor of medicine and director of the Sleep Disorders Research Program at Brigham and Women's Hospital. Dr. Shea is President of the American Sleep Medicine Foundation, on the boards of directors for the American Academy of Sleep Medicine and the American Board of Sleep Medicine, and is editor-in-chief of the journal *Nature and Science of Sleep*.

Dr. Shea received his Ph.D. from the University of London in 1989, joined the faculty of the Harvard University School of Public Health in Boston in 1992, and transferred to Harvard Medical School and Brigham and Women's Hospital (a teaching affiliate of Harvard Medical School) in 1996.

Shea conducts research on the effects of sleep and circadian rhythms on physiology and pathophysiology. In particular, he has pioneered investigation into the mechanisms underlying the day/night variations in the incidence of a number of episodic disorders, including the morning peaks in heart attacks and the nocturnal worsening of asthma. He also studies the adverse health effects of shift work in humans. Dr. Shea's research in sleep and circadian rhythms supports CROET's mission to promote health of Oregon workers because of sleep's impact on workplace accidents and overall health in shift workers. Sleep and wakefulness as it relates to work is one of CROET's key research areas. His research has been supported by National Institutes of Health (NIH) and NASA grants since 1992.

Upon accepting the position, Dr. Shea said, "I am eager to join their [CROET's] efforts. I have been at Harvard for 21 enjoyable and successful years, but I'm up for a new challenge, and this is a great opportunity at CROET and OHSU. The faculty and staff at CROET are very

("Dr. Shea" continued on page 5)

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June Symposium on Green Chemistry to be Sponsored by CROET and the Oregon Health Authority

CROET and the Oregon Health Authority will be hosting a symposium titled “Green Chemistry, Safer Alternatives and Work” on Friday, June 15, 2012, at the Ambridge Event Center, Portland, Oregon.

The objective of the symposium is to provide information and

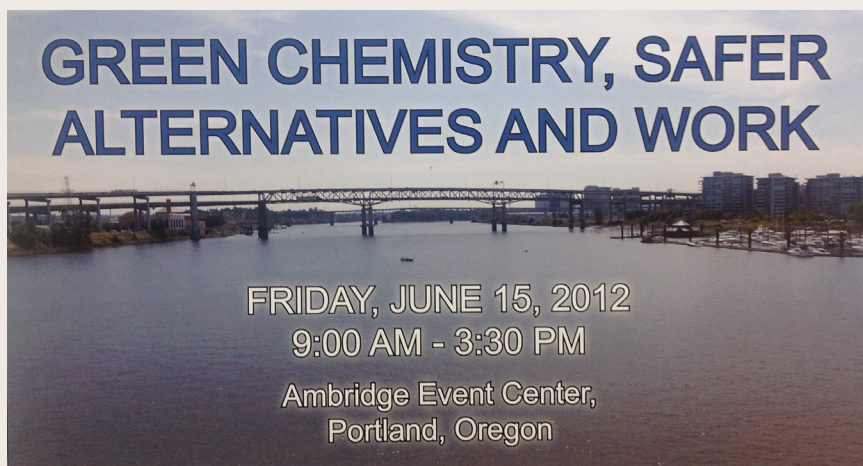
discussion on the economic and health benefits of reducing toxic materials in the workplace. Michael Wilson, PhD, MPH, will present the keynote address, “Green Chemistry and the Work Environment: Strategies for Practical Action”.

Dr Wilson is Director of the Labor Occupational Health Program at the Center for Occupational and Environmental Health, School of Public Health, and Associate Director of Integrative Sciences, Berkeley Center for Green Chemistry at the University of California, Berkeley. Current global and Oregon policies addressing and impacting the use of toxic materials in the workplace will be briefly summarized. Diverse workplaces will share success stories and lessons learned in moving towards safer chemical alternatives.

From our Blog: Why Green Chemistry?

You may be wondering why CROET’s June symposium is on Green Chemistry, Safer Alternatives and Work? Perhaps you could say that a discussion that was part of our 2009 symposium “Oregon’s Workplace Health and Safety: Looking forward to 2020” led us here. Perhaps you were there and remember the motivating words of Dr. John Howard of NIOSH? You may recall that he spoke about NIOSH’s Total Worker Health initiative – funny thing that we had no idea then that the Oregon Healthy Workforce Center would later be selected as a NIOSH Total Worker Health Center of Excellence.

But back to Green Chemistry. One of the Cross-Cutting Issues discussed during the day was Work-



place safety and health implications of the transition to “green.” Key areas of concern identified during this 2009 discussion were: perception of “green” and its effect on safety and health; do we understand current safety testing and labeling of green products?; where are the

data gaps?; and, what are some of the problems and strategies for transitioning the public into using green products?

A lot has happened since 2009 relating to green chemistry and safer alternatives. Sometimes, however, we still find that the workplace is left out of the conversation. We are eager to revisit some of the things discussed back in our September '09 Symposium along with updated news and findings. We are really happy to partner with Oregon Health Authority's Public Health Division. And as with all of our symposia, we are thrilled to bring in great speakers with terrific knowledge of the topic. Won't you join us?



Karen Chase facilitates CROET “green” 2009 session.

For agenda and registration information, please visit <http://www.ohsu.edu/xd/research/centers-institutes/croet/outreach/green-chemistry-symposium.cfm>. This program will also be available as a live webinar.

O[yes]! Selects Video Contest Winners

We have winners for the 2012 Save a Friend, Work Safe video contest sponsored by O[yes]! All 9 finalist videos and 2 honorable mentions were shown on the big screen of Northern Lights Theatre in Salem on Saturday, April 14.

And the winners are!

1st Place (\$500) **Drew Corrigan & Mitch Keranen**, Sisters High, The Importance of Ear Protection

2nd Place (\$400) **Austin Coburn & Jonah Netland**, Salem Academy, The Safety Police

3rd Place tie (\$300) **Donald Sage & Carly Hamer**, Springfield High, Better to be Safe Than Sorry

3rd Place tie (\$300) **Michael Norris, Trent Bennett, Lauren Nollette, Nathan Reed, Mellanie Boeckel, Garrett Tolman & Kori Cox**, St. Helens High, Building Construction



First Place winners Drew Corrigan & Mitch Keranen

had about impacts to his hearing from noise exposure as a drummer. We were pleased to learn that Drew wears hearing protection when he practices his drums these days.

We share a big thanks to the contest sponsors giving O[yes] the opportunity to secure the venue,

provide refreshments and give cash prizes to students with matching cash prizes to their schools. 2012 sponsors include: Oregon OSHA, SAIF Corporation, local chapters of the American Society of Safety Engineers, the Center for Research on Occupational and Environmental Toxicology (CROET), Liberty Northwest, Hoffman Construction, and the Greater Portland Con-



Students from St. Helens High await the screening.

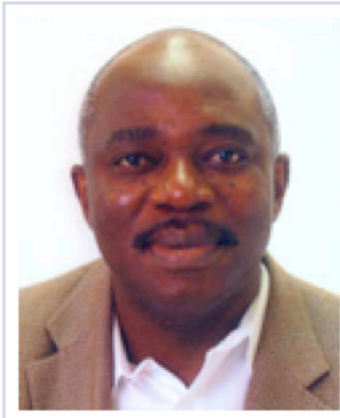
struction Partnership. We also thank Northern Lights Theater.

So what now?

The videos will be used by O[yes] during presentations and workshops with Oregon students to continue to create conversation about staying safe at work. All of the videos are available on YouTube – check them out at http://www.youtube.com/watch?v=X6CW4koQ1XI&list=PL25B50718EF5D73A1&feature=plp_p_play_all. And join us next year!



Where Are They Now?



Desire Tshala-Katumbay

Future discoveries that lead to a reduction in the burden of neurological disorders will require an outstanding cadre of scientists in basic, clinical, and translational research. Here we highlight **Dr. Desire Tshala-Katumbay**, Staff Scientist at CROET, Assistant Professor of Neurology, Oregon Health & Science University School of Medicine, Portland, Oregon, and Visiting Professor of Neurology, Kinshasa School of Medicine, Democratic Republic of Congo.

In 2005, Desire received a Diversity Award from the National Institute of Neurological Disorders and Stroke to develop his expertise in neurotoxicology, experimental neurology, and global health. Under the guidance of his mentor, former CROET Director Peter Spencer, Desire immersed himself into challenging technologies to understand the structural requirements for industrial solvents to induce neurotoxicity and identify biomarkers (proteins) that are associated with mechanisms of nerve degeneration. Desire's research continues to examine the physicochemical properties of natural/environmental neurotoxins to probe the pathophysiology of the motor system. For instance, he has been able to deliver small peptides selectively to neurons via retrograde axonal transport, thereby circumventing the hurdles posed by the blood brain barrier for drug candidates to reach the nervous system.

In 2009, Desire was awarded a research grant from the National Institute of Environmental Health Sciences to develop a Global Health line of research in relation to cassava cyanogenesis and motor neuron disease. This grant led to the successful submission in 2011 of a grant to continue with this research, which helped to propel Desire to positions with both national and international recognition. He currently serves on the National Academy of Sciences North American regional committee of the International Brain Research Organization and National Institutes of Health study sections while pursuing research on mechanisms underlying neurodegenerative diseases.

Desire's current line of research focuses on the complex interactions between diet, environmental

factors, and genetic polymorphisms in the pathogenesis of motor system degeneration.

Research findings, publications, and description of global health activities can be found at http://www.ohsu.edu/xd/research/centers-institutes/croet/faculty/tshala_katumbay.cfm.

CROET has Gone Social!

CROET has entered the world of social media. Now you can follow the activities, interests and concerns of CROET on **Twitter** (<https://twitter.com/#!/CRO-ETatOHSU>), **Facebook** (<http://www.facebook.com/croet.ohsu>) and our own **CROET "Oregon and the Workplace" Blog** (<http://www.ohsu.edu/blogs/croet/>). Please check us out, and if you like what you see, sign up to follow us in the world of social media!



[Oregon and the Workplace](http://www.ohsu.edu/blogs/croet/)

CROET Research on Truck Driver Ergonomics Highlighted

Ergonomics: Practical Guidance for Assessing Truck Drivers, is the title of a peer-reviewed research article featured in the April, 2012 issue of Professional Safety, the journal of the American Society of Safety Engineers. The research, conducted by CROET Associate Scientist Ryan Olson (PI), CROET Research Assistant Brad Wipfli, and Lucas Ribas Garcia of Engevix Engenharia S.A., focused on short-haul truck drivers, who perform frequent material handling tasks and suffer an elevated incidence of musculoskeletal disorders. The authors analyzed data collected using a camera system that recorded incidences where severe body postures were required by drivers to complete work tasks. The authors used this information to assess what are the strengths and limitations of this observational data collection system to accurately reflect actual conditions. From these studies, the authors determined that observational assessments should be supplemented with non-observational data gathered from drivers or their customers in order to accurately assess and remediate adverse ergonomic situations that produce injury.

Dr. Buxton Speaks on Altered Sleep Schedules and Disease Risk

Dr. Orfeu Buxton of Harvard University spoke at CROET on “Causes and Consequences of Sleep Deficiency: Clinical and Workforce Impacts” on Tuesday, April 17. Dr. Buxton spoke at the invitation of the Oregon Healthy WorkForce Center and CROET. The Oregon Healthy WorkForce Center, a NIOSH Center of Excellence, is a collaboration of Oregon Health & Science University, Portland State University, Kaiser Center for Sleep Research, and the University of Oregon.

Dr. Buxton’s research primarily focuses on 1) the causes of chronic sleep deficiency in the workplace, home, and society, and 2) the health consequences of chronic sleep deficiency, especially cardiometabolic outcomes, and the physiologic and social mechanisms by which these outcomes arise. Successful aging is a central focus of this work. Ongoing interdisciplinary human studies involve sleep loss, aging, and insomnia, as well as health disparities.

Dr. Buxton’s research, published last month in the journal *Science Translational Medicine*, showed that adults with extended sleep disruption – such as occurs in shift work – could be at an increased risk of obesity and diabetes.

Dr. Buxton speaks to a full house at CROET. (Photo at right)



Dr. Buxton (R) speaking with Dr. Kerry Kuehl of the Oregon Healthy WorkForce Center at OHSU, during the Associated Press (Rick Bowmer, L) interview of Orfeu about his sleep research.



(“Dr. Shea” continued from page 1)

accomplished, are performing excellent basic research aimed at understanding the mechanisms of disease and important field research with relevance to the workforce, as well as educational and interventional outreach into the community. My own research will include studies of sleep and circadian rhythms as these relate to accidents and overall health of shift workers and people suffering from sleep disorders. Beyond that, I will support CROET’s current activities whilst helping to expand the research and outreach to more fully encompass overall health and safety in the workplace, and to engage in collaborations across the whole campus and beyond in order to make this happen.”

Dan Dorsa, Ph.D., vice president for research, is looking forward to seeing CROET move in an ever more translational direction. “Under Dr. Shea’s leadership,” he said, “the center will expand its impacts even further in promoting a healthy workforce and improving the safety of workers all across our state.

What's New From OR-FACE

The Oregon Fatality Assessment and Control Evaluation (OR-FACE) program exhibited, as a part of CROET Outreach, at the 11th Annual Mid-Oregon Construction Safety Summit on January 24. The conference was hosted by Oregon OSHA, and several hundred residential and commercial construction workers attended. Construction safety is a principal area of concern for OR-FACE because, over a 5-year period (2003-2007), falls in the construction industry accounted for 42% of all fatal occupational-related falls. While at the event, OR-FACE connected with industry leaders and administered a survey to construction supervisors and safety professionals about safety practices at their worksites. Data from the survey, in addition to data from OR-FACE worksite investigations, will be used to develop an intervention to reduce occupational fatalities associated with falls, particularly involving ladders and construction.

To receive new investigative reports and other Oregon FACE publications, join our electronic mailing list at <http://www.ohsu.edu/croet/face/emaillist.cfm>. Visit our website for all previously released publications and investigative reports at <http://www.ohsu.edu/xd/research/centers-institutes/croet/outreach/or-face/>.

Let's Get Healthy! Studies Sleep and Health in Hospital Employees



St. Charles employees check out Let's Get Healthy! bright and early in the morning.

On January 30 – February 1, Let's Get Healthy! traveled to Bend, Oregon, to kick off a one year study on sleep and health in employees at the St. Charles Medical Center. This study will examine how work schedule and sleep patterns may influence dietary habits, body composition, attention, and short-term memory among hospital employees. This event was the program's first trip to Bend and is part of an exciting new partnership between OHSU and St. Charles!

The kicker? In order to study the effects of sleep on workers, team members had to experience sleep deprivation themselves. The research team aimed to enroll participants in one fell swoop, where they could sign a consent form and complete their baseline health assessment in one sitting. Since the goal was to enroll hospital

employees with a range of work schedules, the team had to accommodate the 24/7 nature of a hospital workplace. They weren't quite there 24/7, but seven members of Dr. Jackie Shannon's research team—plus Allison McCormick, their collaborator at St. Charles—were at the hospital conference room from 4am – midnight one day and from 4am – 2pm the next day. Yep, that's 30 hours over the course of two days. And that doesn't include exhibit setup, volunteer training, and exhibit pack-up!

Despite the absurdity of 2:45am wake-up calls, the event was a success. The team exceeded their enrollment goal of 200 participants, and shared in-group bonding that can only come from an extremely sleepy frontal lobe. Around hour 26 of the event, programmer Stephano Cetola stared into the distance and said—tiredly, almost in a whisper, and to nobody in particular—“We are studying sleep deprivation in a very, very personal way.”

About Let's Get Healthy! We are an interactive education and research exhibit based out of CROET. We seek to educate the public about health in a fun way while linking scientists, students, and communities together in collaborative health research. Attendees of our events can visit various interactive stations to learn about their own health (e.g. diet, sleep quality, blood chemistry, and body composition) while also contributing their anonymous data for scientific research. The program started in 2007 and has held over two dozen events (with over 7000 participants!) across Oregon as well as in Washington state, Kansas, and Washington, D.C.! To learn more, visit our website, follow us on Facebook, or check out our video! Look for Let's Get Healthy! at the 2013 Oregon Governor's Safety and Health Conference!

CROET

CROET, the Center for Research on Occupational and Environmental Toxicology at Oregon Health & Science University, conducts basic and applied research, provides consultations and offers information on workplace health and safety. CROET's scientists and research staff explore a range of questions relating to health and the prevention of injury and disease in the workforce of Oregon and beyond. CROET's Toxicology Information Center is open to the public and is staffed to answer Oregonians' questions about hazardous substances in the workplace and elsewhere. CROETweb.com provides information about health and safety relevant to industries found in Oregon through links on a series of pages devoted to industry-specific topics.

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Oregon Health & Science University includes the Schools of Dentistry, Medicine and Nursing; OHSU Hospital; numerous primary care and specialty clinics; multiple research institutes and several outreach and public service units. OHSU is an equal opportunity, affirmative action institution.

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Join CROET's e-mail list for monthly updates about additions to the CROET web site, news and upcoming events. To subscribe or read past updates, go to <http://www.croetweb.com/newslet.cfm>.

Blue Mountain Occupational Safety & Health Conference
Pendleton Conference Center - Pendleton, Oregon
June 13, 2012

Central Oregon Occupational Safety & Health Conference
Eagle Crest Resort - Redmond, Oregon
September 19-20, 2012

Oregon Small Business Fair
Ambridge Center - Portland, Oregon
September 24, 2012

Southern Oregon Occupational Safety & Health Conference
Smullin Center - Medford, Oregon
October 16-18, 2012

OUTREACH