

CROET's Best of the Blog Issue

For those of you who receive this newsletter but perhaps haven't yet visited our Oregon and the Workplace blog, we present to you the top blogs from CROET for 2013. Oregon and the Workplace has been presenting real-time news from CROET for just over two years, and along with our e-newsletter, has been reaching an ever-widening audience. This success at presenting news in real time has led us to reach out to our newsletter subscribers or recipients to encourage them to sign up for our e-newsletter, which you can do by visiting <http://www.croetweb.com/newslet.cfm>. Our goal is to reach as many Oregonians as possible.

This issue also marks a turning point in the history of the center, because as some of you may have heard, we are changing our name to better reflect the work that we do. As of January 1, 2014, the Center for Research on Occupational and Environmental Toxicology (CROET) will be known as the **Oregon Institute of Occupational Health Sciences**.

Dr. Steven Shea named new CROET Director



Dr. Steven Shea has been appointed as the Director of CROET, the Center for Research on Occupational and Environmental Toxicology at OHSU in Portland, Oregon. Dr. Shea joins OHSU from Harvard Medical School, where he is Director of the Sleep Disorders Research Program and an associate professor of medicine. 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*.

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. 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."

CROET Welcomes New Faculty Member



We are pleased to announce that Matthew Butler, Ph.D., joined CROET in September, 2013. Dr. Butler joins us as an Assistant Professor from Brigham and Women's Hospital and Harvard Medical School where he was a Post-doctoral Fellow in the Medical Chronobiology Program, Division of Sleep Medicine. Dr. Butler has a broad interest in how endogenous clocks are synchronized, and his research has great relevance to the adverse health effects of shift work and how to adapt to altered work schedules. Dr. Butler joins other researchers at Oregon Health & Science University, and specifically at CROET, who investigate circadian rhythms, sleep biology, and impacts on health, performance and disease.

Learn more about sleep research at CROET by visiting faculty and laboratory webpages for Dr. Steven Shea and Dr. Charles Allen.



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Oregon House Bill 2909 – to change the name of CROET to “Oregon Institute of Occupational Health Sciences”



CROET Director, Steve Shea (L) and John Mohlis, Executive secretary of the Oregon State Building and Construction Trades Council, at the Oregon State Capitol in Salem.

Oregon House Bill 2909 passed unanimously through the Oregon House in April, 2013. On April 29, Steven A. Shea, PhD, Director of CROET, and John Mohlis, Executive secretary of the Oregon State Building and Construction Trades Council and co-chair of the Oregon Management and Labor Advisory Committee, provided testimony in support of the bill to the Oregon Senate Business & Transportation Committee. That committee recommended to the Senate to pass the bill. The bill passed the senate and the name change will officially occur January 1, 2014.

The Center for Research on Occupational and Environmental Toxicology (CROET) was established by the Oregon Legislature in 1985. CROET's mission is to promote health and prevent disease and disability among working Oregonians and their families during their employment years and into retirement. The current name does not fully encompass all of CROET's outreach, research and education activities. Changing CROET's name to the broader “Oregon Institute of Occupational Health Sciences” will more accurately describe the activities and vision of the center, potentially will help with obtaining research funding and with faculty recruitment, and will help the public more accurately recognize what we do.

What's New at the Toxicology Information Center

Fall is the season of change: summer's heat and dryness yields to cool, foggy dampness as the sun lowers its arc over the horizon. And with the changing weather comes a shift in the types of calls received by our Toxicology Information Center (TIC). As people seal up their homes and workplaces from the cold and wet, we begin to hear more about indoor air quality (IAQ) issues; in particular, ailments associated with stuffy air and mold growth.

Here are a few tips to avoid these problems: first, have your heating and air conditioning (HVAC) system checked and maintained annually by a qualified specialist. Clogged or dirty filters, standing water, and poorly functioning combustion units are a primary source for IAQ complaints. Moreover, poorly functioning HVAC systems can become a dangerous source of carbon monoxide, which is an insidious and far too common cause of serious illness, debility and death every Fall and Winter in the United States.

Second, now is a good time to check for structural problems that can lead to dampness and water intrusion into the home or workplace. Standing water in basements and subfloor areas, increased humidity from poor air exchange (kitchens and bathrooms in particular), and water-soaked structural materials are all good places for mold to grow. Mold is a problem of dampness, so correction of these problems will prevent ailments associated with indoor mold growth.



The entrance to our TIC and outreach area. Look for our new name here soon!

And finally, take care of your own health and well being during this time of decreasing daylight. Now is a good time to get your flu shot. And seasonal affective disorder is a common, but treatable ailment that reduces our happiness and productivity. Get adequate exercise, eat a healthy diet, make sure you get enough sleep, and if necessary, use a 'happy light' to increase your sense of well-being and reduce depression.

Do you have questions for our TIC or Occupational Health and Safety Information Center? Contact the TIC Director, Fred Berman, Ph.D. You can also submit questions directly through CROETweb or to Dede Montgomery.

How Digitization, Twitter and Sensors Will Put You in Control of your Health Care

Dr. Eric Topol was a speaker at "Imagine the future with us", a lecture series to mark the 125th anniversary of the OHSU School of Medicine. Dr. Topol began by asking the audience how many were on Twitter and then illustrating why Twitter is an important source of medical information and will only get more so. One example was that patients with a particular disease now find other patients with the same disease and get their medical information from those patients ... who they don't even know and have never met.



Topol on Digitizing

Reflecting on his book, the Creative Destruction of Medicine, Dr. Topol spoke persuasively about the impact of digitization of our medical records and the power of sensors to provide critical information to our doctors. Most interesting was his discussion about sensors that are now available to connect with our smartphones. They include sleep, blood pressure, heart rate, oxygen saturation, glucose and even cardiogram sensors to allow us to monitor ourselves, identify our problems and even our needs using apps available for our smartphones. Imagine checking our glucose levels to see if we really need that big meal in front of us. Or getting a reading on whether or not we have sleep apnea. Or identifying that high stress event that runs our blood pressure through the roof. These examples and more were described.

Dr. Topol's big 4 ways we humans are being digitized – with direction on how we can contribute to and control that digitization – are social media, sensors, scanners and sequencing, and he describes each of them clearly. He even shows a movie of Stephen Colbert's broken ear drum that he visualized with an app on his smartphone during his interview on the Colbert show.

You can see this all for yourself at: http://www.ohsu.edu/edcomm/flash/flash_player.php?params=1%60/sch/som/125th/lecture061213e.flv%60vod&width=640&height=480&title=125th%20Anniversary%20Lecture%20Series%2006/12/2013

NIOSH Holds National Expert Colloquium on TWH

NIOSH convened the 3rd National Expert Colloquium on Total Worker Health (TWH) Thursday (September 19) in Washington, DC. Shown in the picture (from the right) are NIOSH TWH program managers Casey Chosewood and Anita Schill who convened the Colloquium, and NIOSH Director John Howard (Dr. Howard has visited Oregon 2 times to speak at meetings sponsored/supported by CROET). About 20 people attended the Colloquium in addition to members of the NIOSH TWH team, some also shown in the picture.



NIOSH has recently updated it's list of issues relevant to TWH, which helps us recognize the breadth of this concept that is leading the nation to redefine health and safety in the workplace. This is a dramatic expansion of the scope of workplace safety and health. The graphic is shown below.

NIOSH has expansive and important goals for the TWH program. Selected NIOSH goals and the years they propose to accomplish them, are:

- Develop a bibliography of TWH literature and reports (2013)
- Publish a 'Let's Get Started' brochure in TWH (2013)
- Develop a national standard/state-ment of prevalent and promising practices through the National Academy of Sciences (2014)
- Partner with large organizations (they are looking for large employers) to initiate collaborative TWH projects (in the organizations)
- Establish certificate (2016) and graduate (2018) programs and a journal supported by a profes-



sional society (2023) in TWH

- Establish mechanisms to promote corporate TWH responsibility (2019)

NIOSH has evolved it's TWH website in 2013 where you can download the seminal articles on TWH.

People invited by NIOSH to discuss TWH came from private industry (e.g., Safeway, IBM, Sodexo), labor (e.g., SEIU, Farmworker

Justice), government (e.g., Office of Personnel Management), Universities (e.g., OHSU, SUNY, University of Colorado, Dartmouth) and Health Management organizations (e.g., Viridian, US Healthiest). Kent Anger represented the Oregon Healthy Workforce Center (OHWC) at the meeting. He can be contacted for details.

Sleep Loss Costs US Workers ... and Industry's Bottom Line

The Sleep and Shift Work: Impact on Health, Safety and Productivity Symposium reported that insomnia costs US industry an estimated \$63 billion per year based on a loss of 8 days of productivity per year determined in a survey of nearly 8000 people (published in *Sleep*, 2011, by Kessler). Turning to an example of impact on working people, shift workers, who have disturbed sleep, have a 5-fold increased chance of developing diabetes. These findings were described by CROET Director Dr. Steve Shea, shown in the picture speaking to the 80+ registrants from industry, labor, government and academia.



The second speaker, Dr. Orfeu Buxton of Harvard Medical School, picked up on this theme, pointing out that sleep insufficiency is widespread in the US and that the areas of the country with the highest degree of sleep insufficiency have the highest levels of obesity and diabetes. In a laboratory study, reduced sleep led to increased glucose levels, which is associated with increasing obesity.

Dr. Bryan Vila of Washington State University addressed the immediate problems of poor sleep and how to

combat poor sleep and the fatigue that comes from it. Naps and keeping a dark quiet place to sleep were among the ways to combat poor sleep.

Dr. Kim Hutchinson (OHSU) discussed sleep disorders that affect 40 million Americans. Insomnia is the most common disorder: 15% of adults report having chronic insomnia (more than one month duration is 'chronic') and 58% of adults report insomnia events at least once per week. Insomnia can be treated with cognitive behavioral therapy or with medications. She also discussed sleep apnea - the largest risk factors for sleep apnea are obesity and large neck size, and the problem is worse if you sleep on your back.

For sleep hygiene (good sleeping habits), Dr. Hutchinson's recommendations included:

- Sleep only when you are sleepy
- If you don't fall asleep in 20 minutes, get up and do something boring
- Don't take naps
- If you do take naps, take them before 3 PM and nap less than an hour when you do nap
- Keep a regular sleep routine (same time)
- Develop sleep rituals (listen to relaxing music, read something soothing, turn TV off)
- Get regular exercise, but don't exercise just before your time to fall asleep
- Don't drink caffeine, nicotine and alcohol 4-6 hours before bed
- If light bothers you, get a blackout shade; if noise bothers you get a white noise machine

Dr. Ryan Olson of CROET at OHSU began with an audience poll.

- One question was: During the past 4 weeks, how often did you wake up in the middle of the night? Most of the audience answered "3-4 times a week".

Dr. Olson described the Work Family Network training/work organization change study in information technology professionals (only a part of the study) increased sleep at night (measured by an actigraph wrist monitor).

Questions were answered by panelists listed below and pictured right; the panel was chaired by Dr. Steve Shea.

- Ryan Olson – OHSU
- Bryan Vila – Washington State University
- Deb Fell-Carlson – SAIF Corporation
- Alfred Lewy – Sleep and Moods Disorders Laboratory, OHSU



Resurfacing Bathtub Causes Death in Oregon

NIOSH, OSHA, and California Department of Public Health – all have issued recent alerts on the hazards of using strippers containing methylene chloride when refinishing bathtubs. And yet, just a few weeks ago, another person – this time an Oregonian – died refinishing a bathtub while removing two layers of bathtub coating with the use of Aircraft Stripper.

Most chemical strippers, including this one, contain methylene chloride. If you are a chemist, you know that methylene chloride has a very high vapor pressure. This means that when you use it, it rapidly goes from liquid to vapor – vapors that can collect in the bottom of a tub and in a small, unventilated bathroom – providing an easy pathway into your lungs. If you are a toxicologist, you know that methylene chloride is an anesthetic and a recognized carcinogen. It can make you feel drunk, sleepy and potentially kill you if you haven't provided enough ventilation. In this case, the victim was found by the homeowner in a small, poorly ventilated bathroom. Sadly, although the homeowner attempted resuscitation, the victim later died in the hospital.



Photo credit: NIOSH

Methylene chloride is a bad actor. It's a great stripper, perhaps, but its health hazard has caused many workplaces to ban it and require safer alternatives. Unfortunately, many smaller contractors who use it are unaware or haven't paid attention to warnings about its hazardous nature. So share this! Share these alerts with those who need to know.

Must Reads!

California Department of Public Health: Preventing Worker Deaths from Paint Strippers Containing Methylene Chloride (<http://www.cdph.ca.gov/programs/ohb/Pages/methylenechloride.aspx>)

This site contains many resources, including a listing of safer alternatives. (<http://www.cdph.ca.gov/programs/hesis/Documents/MethyleneChlorideAlert.pdf>)

NIOSH Science Blog: Dangers of Bathtub Refinishing (Feb. 4, 2013) (<http://blogs.cdc.gov/niosh-science-blog/2013/02/04/bathtub-refinishing/>)

OSHA/NIOSH Hazard Alert: Methylene Chloride Hazards for Bathtub Refinishers (<http://www.cdc.gov/niosh/docs/2013-110/>)

Oregon FACE (Fatality Assessment and Control Evaluation) (<http://www.ohsu.edu/xd/research/centers-institutes/croet/outreach/or-face/>)

Highlighting 2013 CROET Intern Research

Summer Student Research Awards are three-month paid summer internships designed to introduce college freshman, sophomores, juniors, and seniors to various fields of biomedical research. Selected interns are Oregon residents or attend colleges and universities in Oregon. Learn more about the CROET Summer Intern Program. See more photos from the poster session on CROET's Facebook page.

<https://www.facebook.com/croet.ohsu>

<http://www.ohsu.edu/xd/research/centers-institutes/croet/outreach/awards.cfm>



2013 Summer Interns

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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Mid-Oregon Construction Safety Summit
January 27-28, 2014
The Riverhouse Resort and Convention Center, Bend, Oregon

Cascade Occupational Safety & Health Conference
April 2-3, 2014
Valley River, Inn, Eugene, Oregon

Blue Mountain Occupational Safety & Health Conference
June 3, 2014
Pendleton Convention Center, Pendleton, Oregon

OUTREACH