

# Center for Research on Occupational and Environmental Toxicology



Columbia River with Mt. Adams in the background. Photo by Dan Austin

## NEWSLETTER

### Inside

*CROET Spring Symposium  
“Creating a Healthy Work-  
force”* .....3

*CROET Financial Analyst  
Lynne Rowell* .....4

*OR-FACE Publishes New Log-  
ging Safety Booklets* .....5

*OHSU Health Discoveries Pro-  
gram: Let's Get Healthy!* .....6

*Mitchell Turker Featured at  
Bar Association Meeting*.....6

### CROET Scientists Study Training Effectiveness in 27 Oregon Counties

Training effectiveness — the extent to which knowledge and behaviors can be changed in a positive direction through training — is extremely important to those interested in preventing injury and lost productivity in the workplace. For the past several years, CROET Drs. Kent Anger and Diane Rohlman have been conducting training effectiveness research in a variety of occupational sectors, most notably in Oregon's agricultural community. Recently, they have had the opportunity to turn their attention to the issue of domestic violence in a project titled the “Domestic Violence and the Workplace” training intervention. The project is being conducted jointly by Johns Hopkins University, Oregon Health & Science University and Kaiser Center for Health Research (Portland, OR) and is funded by the National Institute for Occupational Safety and Health (NIOSH). Dr. Nancy Glass, of John Hopkins University School of Nursing, is the Principal Investigator, while CROET Drs. Kent Anger and Diane Rohlman, and Research Assistant Naima Laharnar, are leading the intervention phase of the



OREGON  
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project, all of which is being conducted in Oregon. Domestic violence (DV) - mental or physical abuse at the hands of a current or former intimate partner - is a serious public health problem affecting an estimated one-third of Oregon women between the ages of 20 and 55. And women are not the only victims of DV—it has been estimated that 40% of DV is perpetrated by women against men. DV affects the workplace, too. It results in serious negative health, safety and employment dilemmas for victims. Moreover, DV is costly to the workplace because of absenteeism and lost productivity of both victims and perpetrators of violence.

To help victims address DV, several states have passed DV leave laws. Oregon became one of those states on May 25, 2007, when Oregon Governor Ted Kulongoski signed Senate Bill 946 into law, allowing survivors of DV, sexual assault and stalking to take unpaid leave from their jobs to get services or treatment. This law is a significant step forward, but will only be effective if those who would benefit, both employers and employees, are aware of and understand how this important new law works. This is one goal of the current project.

The CROET research team visited up to 4 counties per week to provide computer-based training on the Domestic Violence and the Workplace intervention. The training was based on research and interviews conducted in Oregon of 300 victims of DV and 200 perpetrators, by Dr. Glass and others of the research team. “Our goal is to evaluate the effectiveness of the training, so we are tracking knowledge improvement, leave usage, and safety climate as measured by survey questions and walkthroughs of the county buildings to look for evidence of support for victims of DV,” said Dr. Anger. Over a 3-month period, more than 950 supervisors and managers in Oregon’s county governments completed training and showed substantial gains in knowledge about the Federal Family Medical Leave Act and DV and the workplace. In most cases, participants improved to 95-100%

correct scores on follow-up testing. Additional training on DV and the workplace will be given in late Fall in half the counties. By the end of June, the training had been delivered to 27 of 36 Oregon county governments; 9 declined to participate due mostly to recent staff losses in Human Relations, which would have collected the leave data.

In addition to computer-based training, the CROET research team posted flyers that invited victims of domestic violence to have private interviews to describe their abuse experience and to describe how they used the law, for example, for leave. Other flyers in county buildings invited supervisors and managers into private interviews to describe their experiences with victims and/or perpetrators of violence and to describe how the law has positively or negatively impacted the workplace. These assessments will allow all participants,



CROET Research Assistants Tara Moomey, Elliot Hohm, and Dr. Nancy Glass (R) assist county employees with domestic violence training.

both researchers and subjects, to learn about how serious a problem DV is. And perhaps most importantly, participants will have been given tools to effectively address DV spillover into the workplace.

#### Highlights - Oregon Crime Victims Leave Law (May 2007)

The Oregon crime victims leave law protects employees who are also victims of certain crimes (domestic violence, sexual assault, stalking). This law applies to employers with six or more employees:

- The crime victims’ law requires employers to grant an eligible employee a “reasonable” leave of absence if the employee or the employee’s minor child or dependent needs time off to deal with issues of domestic violence, sexual assault, or stalking. These arrangements might include seeking medical treatment, obtaining counseling, relocating, getting legal advice or contacting law enforcement personnel.
- Like the Oregon Family Leave Act (OFLA) and the Federal Family and Medical Leave Act (FMLA), crime victims’ leave is unpaid. However, as with OFLA and FMLA, the employer must allow or require an eligible employee to utilize vacation time or other paid leave for this purpose.
- As with all other kinds of protected leave, an employer cannot retaliate against an employee for using the leave.



## **“Creating a Healthy Workforce” the Theme of Recent CROET Symposium**

*Keynote address presented by Mark R. Cullen, MD*

“All health is occupational health” — that was the theme of the keynote address presented by Mark Cullen, MD, during the recent CROET symposium presented Friday, June 4, 2010 at the National Electrical Contractors Association (NECA)/International Brotherhood of Electrical Workers (IBEW) Training Center in Portland, OR. Dr. Cullen, Professor of Medicine and Chief of the Division of General Internal Medicine at Stanford University School of Medicine, is a widely recognized authority in the fields of occupational and environmental medicine and clinical epidemiology.

Dr. Cullen began with a brief history of occupational medicine in the U.S., and stated his case that corporations have typically made a distinction between ‘occupational health’ — workplace injuries and exposures that may impact health — and ‘personal health’, which includes chronic diseases such as obesity, diabetes and heart disease that are not typically associated with work. Personal health was not often considered an issue in workplace safety, nor was it considered important to meeting occupational safety and health mandates.

To press his point that it’s not just about occupational health, Dr. Cullen shared what he has learned from epidemiological research conducted while employed as Senior Medical Officer with Alcoa Inc., focusing on correlations between various workplace and health factors and the incidence of occupational injury seen among the Alcoa workforce. Under the category of workplace factors (‘occupational health’), Dr. Cullen showed that the odds of workplace injury increased as a function of increasing physical demand, psychosocial demand (for instance, increased demand for task accuracy), and as workers increasingly felt a lack of control over the work they were assigned. Other factors that increased the probability of an on-the-job injury included overtime hours in excess of 64 hours per week, being new to the job (more accidents happening in the first few weeks on a new job regardless of the person’s tenure in the com-

pany), temperature extremes, gender (rates among males are higher), and age, where it was found that older workers had lower rates of injury, possibly due to a redistribution of job tasks with age or to greater job experience.

When looking at ‘personal health’ factors, those that are not just about work, Dr. Cullen found that the relative risk for injury on the job increased as a function of increasing body mass index (obesity) and a variety of chronic disease states, including depression, diabetes, and asthma. Absenteeism also increased as a function of chronic disease state, including diabetes, chronic obstructive pulmonary disease, asthma and job demand conflicts.

Work organization was another factor that Dr. Cullen found correlated with either ‘personal’ or ‘occupational’ health categories. Here he showed that work organization, if not favorably structured, created stress that left workers tired at the end of the day, interfered with personal and family life, and made employees think about workplace issues during off hours. These effects had a potentially negative impact on both workplace health and personal health issues.

Dr. Cullen finished his address by focusing on the causes of chronic disease among working populations. When comparing salaried and hourly workers, a higher rate of chronic dis-

eases such as heart disease, diabetes and hypertension occurred among hourly workers and among women, possibly due to stress related to a lack of job control. Air pollution and smoking exposure also factored into the incidence of chronic disease. Workers exposed to nuisance dust at high levels had a risk for heart disease equivalent to that of smokers, and asthma among Alcoa workers also increased as a function of exposure to dusts that contained fluoride. Moreover, increased rates of depression were seen as psychosocial work demands increased. Finally, Dr. Cullen showed that sleep deprivation, getting less than 6 hours sleep nightly, resulted in a risk for hypertension equal to that produced by smoking a pack of cigarettes per day.

In the end, Dr. Cullen very effectively made the case that all health is occupational health. His



Mark Cullen, MD, and CROET Associate Director, Kent Anger.

presentation set the tone for the rest of the symposium. Dr. Cullen's address, as well as the following symposium presentations, can be viewed at <http://www.ohsu.edu/xd/research/centers-institutes/croet/outreach/health.cfm>

- Kerry S. Kuehl, M.D., Associate Professor in Health Promotion & Sports Medicine at OHSU: "What We Know About Obesity, Nutrition, Sleep and Health".
- Bradley Wipfli, Ph.D., Research Associate at CROET: "Mental Health, the Workplace and Exercise".
- Helen Moss Instructor, Labor Educator and Research Center, University of Oregon: "Impact of Domestic Violence on the Workplace".
- Jason Roberts, Sumerra Environmental, Safety and Health Management Company, Portland: "The Business Case for Health and Wellness".
- Iris Tilley of Barran Liebman LLP, Portland: "Wellness Program Guidelines: A Legal Perspective".
- The symposium ended with a panel discussion titled "Model Employers Share Their Stories". Heather Goodrich, Wellness Coordinator, Clackamas Fire District #1, Kim Hutchinson, Director of Nursing, Our House, Randa Brooks, Managing Partner, Pittman & Brooks, and Tony Howard, Safety Manager, Hoffman Construction spoke about their respective organizations efforts to create a healthy workforce.

For the first time, this symposium was offered as a webinar to viewers in Oregon outside of Portland-Metro, Salem and Eugene. While audio was sometimes dropped, this option proved popular for those attendees. CROET will continue to refine this option in an effort to extend symposium offerings to as many Oregonians as possible.

## Oracle for dummies

### New CROET Financial Analyst Takes Charge of PI Sponsored Projects

*by Terry Hammond*

At the center of the CROET institute, everyone sooner or later comes into contact with one or both of the financial analysts – Marcia Hindman and Lynne Rowell, working under Assistant Director for Business Affairs Janice Stewart – who seem to know more about your business than you do. This is because, of course, they work at it.

Lynne Rowell, the newest member of the team,

took over from Doug Church in September 2009, to administer grants brought to CROET by 9 of 11 principal investigators (PI), mostly senior staff. The grants vary in size, complexity, and tone; some operate with multiple departments and subcontracts. Most grants derive from the National Institutes of Health, but others are funded by the American Heart Association, Collins, Medical Research Foundation, Tartar (fellowships), National Research Service (NRS), NRSA (tuition, stipend, fees), and other awards and training grants that help PIs hire lab research assistants.

Asked how she uses the cool pivot tables in Excel that Doug used to use to explain fund projections to PIs, Lynne first responded with her typical bright smile:

"Lucky I came here with all this already in place!" –



Lynne Rowell

thanks to Marcia and Doug. Then she explained how it works. The Oracle grants accounting system only provides a snapshot of available funds; transition to Excel is necessary to develop projections, and most important, arrange and label them in a way the PIs can readily understand. "My job," she joked, "is to pester the PIs" – which must mean, given the territory, being armed with good data.

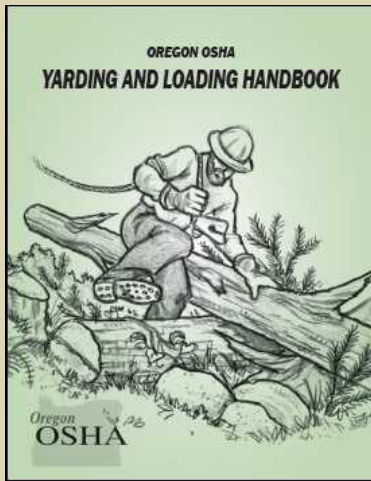
OHSU Sponsored Projects does financial reporting directly to the granting agencies (sponsors), but CROET has its own independent analyst, plus the financial team. Numbers, salaries and purchases are only part of the picture. The financial analysts must get the numbers in the correct categories, stipulated by the terms of the sponsor. "They do conduct audits," Lynne said of the federal government, the primary source of funds. The CROET financial analysts are like mini-feds. "Marcia knows the rules and stipulations," Lynne added.

Prior to her position at CROET, Lynne worked for a PI in a clinical department at OHSU administering pharmaceutical grants. "I enjoy working here, people are great," she beamed. The positive mood must come partly from her exceptionally good humor, and also as with Doug's earlier presentations, through the masterful use of pivot tables and clear projections telling you you're broke; so all you can say at the end is: "Thank you, now I get it."

## CROET Team Finishes Logging Safety Books for Oregon OSHA

The new Oregon OSHA *Yarding and Loading Handbook* was published online in June ([www.orosha.org/pdf/pubs/1935.pdf](http://www.orosha.org/pdf/pubs/1935.pdf)), providing an updated and much-improved field guide for Oregon loggers. The previous edition of the handbook was published in 1993. The new edition of the handbook intends to be engaging and easy to use.

A CROET team produced the *Yarding and Loading Handbook* through an Oregon OSHA small grant, with editor Terry Hammond and logging safety expert Jeff Wimer, both associated with the Oregon Fatality



Assessment program (OR-FACE); and illustrator Phil Fehrenberg, who previously produced all the images in Oregon OSHA's *Division 7 Forest Activities* safety and health standards, and other Oregon OSHA publications.

Yarding systems are the most common type of logging in Oregon, using towers and cables to haul logs over steep hillsides. The handbook covers, in three sections: planning and setup, operations, and a safety guide; all encompassing a broad array of topics, technical information, and pages of principal hazards with safety precautions for workers yarding, landing, and loading logs.

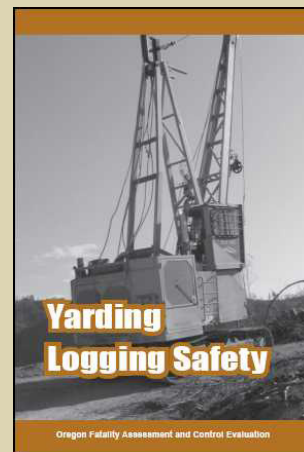
The challenge of producing a comprehensive view of yarding, the authors say in the introduction, was "greatly helped by 40 years of attention to best practices in other published resources." Oregon OSHA's Division 7 is an influential standard for logging safety. The list of primary sources also includes yarding handbooks from British Columbia and New Zealand, and several publications from Oregon State

University and the U.S. Forest Service, Pacific Northwest Region.

The new handbook underwent extensive review by the Oregon Forest Activities Committee, under the leadership of Mike Lulay at Oregon OSHA. The online publication is intended to ferret out any remaining errors through reader response prior to print publication.

A second Oregon OSHA grant funded the production of an OR-FACE *Yarding Logging Safety* booklet as a companion volume to the earlier OR-FACE *Fallers Logging Safety* booklet, both produced by the same team.

The *Yarding Logging Safety* booklet contains a sum-



mary of hazards in logging and yarding, and a series of 18 narratives with accompanying safety precautions for worker fatalities in Oregon (2003-2008), in events at the rigging, the landing, in skidding, helicopter yarding, and transportation of heavy machinery.

The booklet also presents seven elements in "Effective Logging Safety," which adapts safety factors from other contexts to logging, including critical issues in management commitment, planning, supervision, communication, human factors, environment, and risk management.

The content distinguishes the OR-FACE booklet from the predominantly technical information presented in the Oregon OSHA handbook, though key issues appear in both.

The *Yarding Logging Safety* booklet just completed an extensive review process, following the *Yarding and Loading Handbook*, and will be published soon online at the OR-FACE website (<http://www.ohsu.edu/croet/face>).



## OHSU Health Discoveries Program: Let's Get Healthy!

CROET scientist and nutritional epidemiologist, Jackie Shannon, has developed a "Research to the Public" exhibit titled "Let's Get Healthy!" Originally titled "Nutrition World", the exhibit debuted for 2 weeks in 2007 at the Oregon Museum of Science and Industry (OMSI) in Portland, in conjunction with the museum's Body Worlds 3 exhibit.

In 2008, Dr. Shannon expanded Let's Get Healthy! into a popular interactive education and research exhibit that allows community members to learn important information about their body while contributing to science. The exhibit not only educates the public about relationships among diet, weight and chronic disease, but also introduces attendees to biomedical research and invites them to become research participants by providing them an opportunity to obtain tailored feedback on their diet. This includes measurements of height, weight, waist circumference and percent body fat, measurements of blood glucose, HDL, LDL and total cholesterol levels. Participants can contribute their health information anonymously to a population database that researchers use to study the relationship between eating habits, body composition and genetics.

Now, schools and communities are allowed access to the anonymized data that can be used to encourage healthy living in the community or teach scientific inquiry to students using real data. The program also partners with schools to help teachers meet Oregon's state standards in health education. "Let's Get Healthy" is housed within the Health Discoveries Program, a program designed to support research, data collection and data analysis activities resulting from implementation of the exhibit.

In 2008, the Oregon Clinical and Translational Research Institute (OCTRI) and OHSU's Science Education Partnership Award (SEPA) program became engaged in furthering the development and promotion of the exhibit. OCTRI and SEPA were awarded two National Institutes of Health (NIH) administrative

supplement grants to take "Let's Get Healthy!" to rural Oregon communities. The grants have supported a partnership between OCTRI and SEPA at OHSU, OMSI, and the Oregon State University School of Pharmacy. Two new partners were also brought into the project: Oregon Area Health Education Centers (AHECs) and the Oregon Rural Practice-based Research Network (ORPRN). ORPRN and AHEC are helping to bring the "Let's Get Healthy!" exhibit to the rural communities that they serve, and are facilitating direct community access to the data – in both community venues and medical facilities – thereby serving the interests of the communities, OCTRI and OMSI investigators. This work supports CROET's goal of improving the health of the Oregon workforce.

For more information about participating or helping with the fair as a volunteer, visit the "Let's Get Healthy!" website at: [www.octri.org/letsgethealthy](http://www.octri.org/letsgethealthy).



A young participant has his waist circumference measured by a "Let's Get Healthy!" volunteer.

### Mitchell Turker Featured Speaker at Oregon Bar Association Meeting

CROET Senior Scientist Mitchell Turker, PhD, JD, presented a talk titled *"Legally Bound: The Link between Occupational exposure and Cancer"* to the Worker's Compensation Section of the Oregon State Bar 28<sup>th</sup> Annual Meeting held at Salishan Lodge May 14-15, 2010. Turker, who also holds positions as Professor, Molecular & Medical Genetics, OHSU School of Medicine and Graduate Faculty, Environmental & Molecular Toxicology, Oregon State University, obtained his law degree from the Lewis and Clark Law School in 2008 and his PhD in Pathology from the University of Washington. His research interests include elucidating the mechanisms behind abnormal gene function as they relate to cancer and aging.



Mitch Turker, PhD, JD

# Center for Research on Occupational and Environmental Toxicology

CROET, the Center for Research on Occupational and Environmental Toxicology at Oregon Health & Science University, conducts research, provides consultations and offers information on hazardous chemicals and their health effects. 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. CROET's Web site also provides answers to questions about industries found in Oregon through links on a series of pages devoted to industry-specific topics.

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# OUTREACH

## **Central Oregon Occupational Safety & Health Conference**

Eagle Crest Resort - Redmond, Oregon - September 22-23, 2010

## **Oregon Small Business Fair**

Oregon Convention Center - Portland, Oregon - September 11, 2010

## **2010 Northwest Occupational Health Conference**

Sheraton Portland Airport Hotel - Portland, Oregon - October 13-15, 2010

## **Southern Oregon Occupational Safety & Health Conference**

Smullin Center - Medford, Oregon - October 20-21, 2010

## **Western Pulp and Paper Workers Safety & Health Conference**

Red Lion Hotel on the River - Jantzen Beach - Portland, Oregon

November 30 - December 3, 2010

## **Oregon Governor's Occupational Safety & Health Conference**

Oregon Convention Center - Portland, Oregon - March 7-10, 2011

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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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