

AgHealth News

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Western Center for Agricultural Health and Safety • University of California, Davis

Second COEH symposium includes voices from the workplace

Workplace injuries, illnesses and fatalities continue to plague America's immigrant workers. While several studies of these populations have concluded that they suffer a greater risk of injury and illness because they are employed in more hazardous jobs, other factors contribute to the problem. Immigration status, lack of training, language barriers and lack of health insurance are among the factors that compound the risks to workers.

A gathering of faculty, students and policy makers, along with industrial hygienists, safety professionals, insurers, occupational health nurses, physicians and union representatives gathered on Jan. 25 in Oakland, Calif., to participate in "Immigrant Workers II: Voices from the workplace." Sponsored by the Center for Occupational and Environmental Health (COEH) and facilitated by UC Berkeley's Robin Baker, MPH, and WCAHS Director Marc Schenker, M.D., MPH, the day-long symposium examined

current research on occupational health and safety hazards affecting immigrant communities.

The Honorable Carlos Felix Corona, Consulado General de Mexico/San Francisco opened the day with introductory comments, followed by featured speakers Len Welsh, chief, Cal-OSHA and Maria Echaveste, UC Berkeley School of Law.

COEH organized the symposium to highlight important occupational and environmental health and safety issues and to showcase research by Center faculty and students. Staying true to its theme – Voices from the Workplace – the 2010 symposium featured three Panels:

Healthy Jobs: Making Workplaces Safer, moderated by Barbara Burgel with guest panel members Khaled Hamoui, taxi worker representative; Victor Enriquez, supermarket janitors; and Jose Padilla, Bay Area Roofing and Waterproofing Apprenticeship Program.



From left (front row) WCAHS graduate students Chelsea Eastman, Hong Xiao, Emily Sousa and Erik Rodriquez at the Jan. 25, Immigrant Workers Symposium.

Healthy Lives: Issues Beyond the Workplace, moderated by Dr. Robert Harrison with panel members Aditi Vaidya, EBASE Port of Oakland program director; Jillian Hopewell, director of the Migrant Clinicians Network; and Ellen Wu, executive director of the California Pan-Ethnic Health Network.

Research for Action, moderated by Meredith Minkler with panel members Shaw San Liu, Chinese Progressive Association-Restaurant Worker Study; Linda Ayala and Maria Luisa Figueroa, Public Authority-Home Care Worker Study; and Eveline Shen, Nail Salon Workers Study—Asian Communities for Reproductive Justice.

Asking "Where do we go from here?" Dr. Robert Spear, COEH founding director set the stage for next steps – highlighting the critical need to identify and seize opportunities "to act," use political powerhouses and get

things done. He also encouraged the audience to read, or reread, *The Pittsburgh Survey* (1907-1908), a pioneering sociological study of the city of Pittsburgh, Pennsylvania, funded by the Russell Sage Foundation, which is considered a landmark of the Progressive Era reform movement still relevant today.

Dr. Marc Schenker summed up the day, saying, "This was an exciting and innovative conference because it presented for the first time the voices of workers addressing barriers to improving occupational health. There were many insights into the realities of health and safety among immigrant workers when workers themselves spoke about disincentives to report injuries or to obtain medical care. We need to work more with the people affected by our research to make it more relevant, and to improve our ability to translate findings into actual improvement in health."



1965 United Farm Workers' strike in Delano, California. Photo by Frank Brown, University of California Archive.

Students present work on farm-related dust, ammonia, pesticide exposure

Three young scientists working with principal investigators with the Western Center for Agricultural Health and Safety gave presentations on Feb. 1 for the 2009-2010 WCAHS Monthly Seminar Series.

Chelsea Eastman, Hee Joo Kim and Laurel Plummer were invited by seminar co-chairs Victor Duraj, associate development engineer in UC Davis Department of Biological and Agricultural Engineering; and William Kycia, district manager for Cal-OSHA, to present 10-minute synopses of on-going work on respiratory and pesticide exposures related to farm work in California.

During her presentation, titled "Respiratory health of

workers on large dairies in the San Joaquin Valley," **Chelsea Eastman** said that the large operational size of the dairies and some management practices may pose respiratory health hazards for workers. During the summer seasons, workers are exposed to dust created from dried manure, and during the rainy season, workers are exposed to gases like ammonia.

A fourth-year doctoral student at UC Davis in epidemiology, Chelsea graduated with a Bachelor's degree in biochemistry and foreign languages from New Mexico State University in 2004. Upon graduation, she spent two years as a Peace Corps volunteer, teaching math and science

in Guinea, West Africa. Chelsea works under the direction of Marc Schenker, M.D., MPH, and Dr. Debbie Bennett, along with Drs. Frank Mitloehner, Diane Mitchell and Maria Marois.

Hee Joo Kim is working on the development of a novel type of immunoassay for the detection of small molecular toxic compounds, using phage-displayed peptide technology to enhance the performance of competitive types of immunoassays.

During his presentation, titled "Use of phage displayed peptides in monitoring pesticide exposure," he explained basic information about the classical type of immunoassay and how Dr. Bruce Hammock's Lab is using this technology to improve assay sensitivity. The overall aim of this project is to identify rapid, sensitive and cost-effective immunoassays that will provide high-quality analytical data for use in exposure assessment, model development and mechanistic research.



Dr. Stephen McCurdy makes suggestions to Laurel Plummer for her upcoming national presentation.

Hee Joo Kim is a postdoctoral researcher in UC Davis' Department of Entomology under the guidance of Dr. Bruce Hammock and Shirley Gee, MS.

With direction from Dr. Kent Pinkerton, **Laurel Plummer** presented her work, titled, "Exposure to Ambient Fine and Ultrafine Particle Matter Induces Seasonal and Regional Dependent Pulmonary Inflammation in Mice."

Laurel is a fourth-year graduate student in pharmacology and toxicology. Her research focus is pulmonary and systemic inflammation and oxidative stress induced by exposure to ambient particles.

For more information on these projects, please contact WCAHS at (530) 752-4050.



From Left, Victor Duraj, associate development engineer, UC Davis Department of Biological and Agricultural Engineering; with grad student researchers Hee Joo Kim; Chelsea Eastman; and Laurel Plummer.

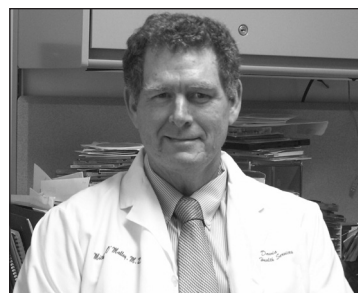
Application of agricultural fumigants need stricter regulations

By Francesca Perrone

Dr. Mike O'Malley, the medical director of Occupational Health Services at UC Davis and medical consultant for the California Department of Pesticide Regulation, gave a seminar, titled "Community Exposure to Agricultural Fumigants," on Nov. 4 as part of the Western Center for Agricultural Health and Safety's 2009-2010 Seminar Series.

Fumigants are broad-spectrum biocides which are extremely volatile (become airborne easily). They have the potential of causing harm to those not fully equipped with protective wear, as they cause skin damage, irritate the eyes and

cause inhalation hazards. Many fumigants are flammable and, if spills occur, require proper decontamination. When buffer zones between agricultural fields and local communities are inadequate, volatile compounds can drift off-site and expose



Dr. Mike O'Malley

people of the communities around the fumigated area.

For many fumigants, the severity of symptoms depends on each individual's susceptibility to the chemical, which may range from mild eye irritation to severe pulmonary problems. In addition, bio-monitoring strategies (testing levels of chemical compounds in the urine or blood) are currently unavailable for many fumigants, so it is difficult to determine the level of exposure each individual experienced.

Although government regulations put limitations on the application of fumigants, unforeseen events, such as

changes in wind direction, can lead to severe instances of community exposure. Inadequate buffer zones are the main reason why wind changes are such a problem. Agricultural fields may be surrounded on all sides by housing developments, so that no matter which way the wind blows, the surrounding communities will be affected.

Stricter regulations on the amount of fumigants used, as well as which kinds of fumigants can be allowed in certain situations, needs to be put in place, and tarps should be used to limit the spread of fumigants needs to be enforced.

Using social media to promote sharing of safety and health information

Social media, which caught on quickly among the younger generation to stay in touch, develop friendships and share photos, has ultimately gained acceptance in the business world as a legitimate tool for professional networking.

On Dec. 7, the Western Center for Agricultural Health and Safety Seminar Series featured Max Lum, director of the Office of Health



Max Lum

Communication and Global Programming at the National Institute for Occupational Safety and Health (NIOSH). His seminar, titled, "Impacting Our

Occupational Safety and Health Community: Is MySpace Really Our Space," presented an overview of the impact various social media strategies can have on influencing the general public.

Lum's primary goal as director is to disseminate information to the general population about research NIOSH has conducted, report on new findings, and collect direct input from the public. While this process has been difficult in the past, the age of "social media" has opened the doors for a much broader interaction.

Lum defines social media as technology and social networks that promote sharing, not just dissemination. Although traditional dissemination sources such as local newspapers may be on the rise, social media, such as blogs, have been shown to get people truly "hooked" on a topic. For this reason, NIOSH began a science blog.

According to Lum, the scientists were wary at first, but they have now begun to embrace the concept as readers from the general public ask questions about their research, and make interesting additions and suggestions.

However, a science blog was just the beginning. Next was

the idea to make a conversation tool between NIOSH and a more specific occupational target – firefighters. Although it appears as if Facebook is the more popular networking tool, it actually turns out that a great percentage of Facebook users are international. In addition, 80 percent of firefighters are on MySpace, not Facebook. This fact confirmed that it is important to delve a little deeper to understand each community separately, not just go by the overall statistics.

Even YouTube can be used as a communication device. After uploading five-minute segments of a training video, a member of the U.S. Coast Guard took the video, shortened it to four minutes and sent it back, showing that some of the material was unnecessary, and that the video would be a more effective teaching tool if it was shorter in length. Lum added that videos could also be used for scientists to increase their networking potential. By making three-minute videos about articles they have written, it matches a face to the research, and may help to encourage viewers to read and become interested in their work.

The online encyclopedia, Wikipedia, has been another great way to interact with the general public. Research has shown that when people want information, they go to Wikipedia, not the NIOSH Web site. However, if NIOSH adds entries to Wikipedia, regularly updates (and removes extraneous information others have added to the page), and adds links back to NIOSH, the "click-through" rates (leading readers to the NIOSH Web page) has increased substantially, therefore increasing traffic to the NIOSH Web page. Wikipedia has also allowed NIOSH to alert the general public of the more obscure things people would not know to go to the NIOSH Web site for (such as tractor roll-over safety), and enables user-generated content

Two other tools are Flickr and Twitter. Flickr allows for controlled posts of pictures by NIOSH, but allows the public to comment and send e-mails, as well as make the pictures available for their own use. The pictures show up in Google searches, and can help increase Google ranking of NIOSH. The key to Twitter is followers. Followers are constantly updated on NIOSH's postings, and if a follower likes these posts, they will "re-tweet" the message to their own set of fol-

lowers. In this manner, although 569 people or organizations are "re-tweeting" NIOSH's message, this actually leads to a total exposure of 422,155 who are followers of the "re-tweet-ers."

Lum suggests that those trying to promote their own organiza-

tions or information by social media start small and not get carried away. A first step may be recognizing who the influential people are: the "nodes of influence." Also, "double-blind" studies are no



longer necessary, as marketing research is sufficient to uncover this type of information. More information on these "nodes of influence" can be found in the book *Connected* by Nicholas A. Christakis and James H. Fowler.

15 Worker Occupational Health and Safety specialists certified

By Teresa Andrews

Another great group of people have been trained as Worker Occupational Safety and Health Specialists in the Central Valley.

For some people, Jan. 20–22 may only bring memories of one of the worse series of storms across California, but for a special group of 15 committed workers in Visalia, Calif., those days will be remembered as the days they received their certificate as Worker Occupational Safety and Health Specialists, issued by the California Commission on Health and Safety and Workers Compensation. In spite of the rain, every day all members of the group arrived punctually to take part in their training. During the three days, the group participated in diverse activities that helped

them to better understand job hazards, look for underlying causes of accidents and diverse methods to control hazards and how to make the case for safety.

One of the main goals of the WOSH training is to strengthen workers' skills to take leadership roles in promoting health and safety in their workplaces. The methods used are participatory and interactive. At the end of the 24-hour training, participants not only have a new fresh approach to occupational health and safety, but also join a state-wide network of specialists.

For more information about the Worker Occupational Safety and Health training, send an e-mail message to Teresa Andrews at terandrews@ucdavis.edu.



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Calendar of Events

March 1

Rob Atwill, DVM, MPVM, Ph.D., director of the Western Institute for Food Safety and Security, will discuss pre-harvest food safety, food safety and farmworkers during the WCAHS Seminar Series, 4-5 p.m., 3201 Hart Hall, UC Davis Campus

April 5

Robin Nicola, agricultural safety and risk analyst for Diageo Chateau and Estate Wines in Calistoga, will discuss Napa Valley's "Vineyard Safety Training and the Agricultural Safety Research Alliance" during the WCAHS Seminar Series 4-5 p.m., 3201 Hart Hall, UC Davis Campus

May 3

Victor Duraj, associate development engineer, UC Davis Department of Biological and Agricultural Engineering, and director of the Heidrick ag equipment Center, will discuss "Harvesting Aids for Reducing Ergonomics Risk Factors in Fruit Orchards" during the WCAHS Seminar Series, 4-5 p.m., 3201 Hart Hall, UC Davis Campus

June 7

Shrini Uphadyaya, professor in the UC Davis Department of Biological and Agricultural Engineering, will discuss agricultural engineering developments during the WCAHS Seminar Series, 4-5 p.m., 3201 Hart Hall, UC Davis Campus

The 2009 WCAHS seminar series is available via video webcast at http://agcenter.ucdavis.edu/seminar/webcast_2009.php