environmental and occupational health sciences



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OUR DEPARTMENT IS ABOUT ... OCCUPATIONAL HEALTH & SAFETY

Professor Noah Seixas and colleagues partnered with a scrap metal recycling business (photo above) and its workers' labor union to define how the company's safety committee can effectively address safety and health issues in this high-hazard environment.

Photo: Carlos Dominguez

MAKING "SAFE" PART OF HIGH-RISK WORK

Researchers in our department work with industry and labor groups to improve worker safety in high-risk occupational sectors and collaborate with organizations and agencies to reach hard-to-reach populations. Highlighted in this article are some of these efforts across the Pacific Northwest.

More effective safety and health committees in Washington

Several years ago, an unfortunate accident at a scrap metal recycling business left one worker dead and two others maimed. This tragic incident spotlighted the high-risk environment that the employees work in and prompted the company to invest more resources in a safety program.

Professor Noah Seixas, Research Coordinator Carlos Dominguez, former Research Scientist Richard Neitzel (now at the University of Michigan), and Allison Crollard (MS student, Exposure Sciences) partnered with the business and the labor union representing its workers to help define how the company's health and safety committee can better address worksite safety and occupational hazards.

-continued on page 2



In Washington state, a company with 11 or more employees on the same shift must have a health and safety committee made up of equal numbers of workers and management. Workers' involvement ensures they are engaged in improving their company's health and safety program, explained Crollard, who also has a master's degree in Occupational Health Nursing. "They have the best sense of what the issues are."

Nearly half of the approximately 50 production workers at the company are from Spanish-speaking countries and many have limited English proficiency. Statistics show that immigrant laborers are at greater risk of injury than native-born workers.

The state's guidelines don't define how the health and safety committee operates—how often it meets or for how long. Neither are the members' roles and responsibilities specified, nor are members required to receive training in how to identify hazards. The goal of the UW project was to develop a curriculum and recommendations for a model health and safety committee that similar industries and workplaces could use statewide.

The members of the health and safety committee at the scrap metal recycling business participated in two four-hour bilingual trainings. The first activities, Crollard explained, stressed the importance of communication among committee members and between the committee and company workers and fostered a shared sense of purpose in terms of their individual and collective roles. The training also included information about health and safety research and air, noise, and other measurements the UW team had taken at the company.

The curriculum, recommendations, and exposure assessment results before and after the training will be provided to the Washington State Department of Labor & Industries, whose Safety and Health Investment Projects grant program funded the 16-month project.

Improving safety for fishermen in Oregon

The Discovery Channel's show, *Deadliest Catch*, depicts the often harrowing job of Alaskan king crab fishing in the Bering Sea. Dungeness crab fishing along the West Coast is no less deadly. The fishermen work on small vessels in precarious conditions. There are many 16- to 20-hour days, weather can change on a dime, and swells across the treacherous river bar—where the river meets the open ocean—can capsize the 30- to 80-foot boats before the captain or his crew has time to pull on a life vest, explained Gerry Croteau, a research industrial hygienist in our department's Field Research and Consultation Group (Field Group).

The West Coast Dungeness crab fishery represents one of the most dangerous work environments in the United States; the fatality rate is higher than the Bering Sea crab fishery. From 2003–2009, 14 deaths were recorded. None of the victims was wearing a personal flotation device (PFD), and most of the fatalities (79 percent) resulted from capsized vessels while crossing river bars or when fishing near shore.

To improve safety and to better understand the views and experiences of the Dungeness crab fishermen, Croteau, along with a team of researchers, surveyed commercial crab fishermen in Oregon on their practices and asked them to field-test five different PFDs. The researchers included members of the Field Group, Erika Zoller from the Oregon Health & Science University, and Jennifer Lincoln from the National Institute for Occupational Safety and Health Alaska Field Station.

The research team identified PFD use, safety training and on-board safety drills, and a better understanding of vessel stability as key to reducing fatality and injury rates. Vessel stability can be affected by how the boat is loaded with fishing gear, changes in balance caused by hauling a heavy catch back to port, or fishing operations that introduce a substantial load to one side of the vessel.

Many captains and crew members do not regularly wear life vests despite the high risk. Survey results showed that almost 70 percent of the participants do not regularly practice on-board safety drills, and nearly half of crew members have not received safety training.

The US Coast Guard recently distributed a handout to Oregon fishermen on fishermen-recommended PFDs that was developed by the Field Group. Croteau said other findings from the report will be distributed to fishermen in a format they can use.



The project is sponsored by our department's Pacific Northwest Agricultural Safety and Health Center, which focuses on reducing work-related injury, illness, and death in the agriculture, forestry, and fishing sector. The Center is funded by the National Institute for Occupational Safety and Health.

Safe cleanup in rural Alaska

Mike Willis, the acting director of our Continuing Education Programs, has been organizing trainings with the Yukon River Intertribal Watershed Council for a number of years. The Council is an Indigenous grassroots organization, consisting of 70 First Nations and Tribes dedicated to the protection and preservation of the Yukon River Watershed. The enormous area includes a large swath of Alaska and a portion of Canada.

Three years ago the partnership grew into a formal training program that provides the Council's backhaul workers with skills in safe and effective waste management and disposal. In October, Clarence Alexander, a co-founder of the Council, received the 2011 Presidential Citizens Medal from President Obama. The second highest civilian honor in the Unites States, the award recognized Alexander's role in the work being done by the Council and his efforts to lead the closure of open-burning dumps and the removal or recycling of millions of pounds of waste.

It is the Council's backhaul workers who clean up garbage on the water's shores, then characterize, package, and ship it on barges to a landfill. The certificate program offered by our Continuing Education Programs consists of 8–10 courses that range from one to three days in length. Chuck Mitchell teaches the hazardous waste operations and emergency response standard (HAZ-WOPER) and first-aid and CPR courses, and John Wolfe trains workers in oil spill response and hazardous materials transport.

Support for the training comes from the US Department of Agriculture and the National Institute of Environmental Health Sciences.

1911 POWDER COMPANY fire tragedy

November 4, 2011, marked the UW's 150th birthday and the launch of a year's worth of activities that commemorate the integral role the UW has had in our region. Our department is part of this legacy; our faculty, staff, students, and alumni have helped make the public healthier and workplaces safer.

This story highlights an important event in Washington state's history that calls attention to the need for occupational health research to better protect workers and a department like ours committed to educating occupational health professionals.

Vera Mulford was only 14 when she went to work at Imperial Powder Co. near Chehalis, Washington. Its product: blasting powder needed to clear fields and mine for coal.

On November 1, 1911, Vera and seven other young women died when they were trapped behind a counter in the packing room as a flash fire engulfed the plant.

The women's bodies were burned beyond recognition, and six were buried in a common grave. Two other families —who identified their daughters through dental records and a ring—buried them nearby.

A century later, the Thurston-Lewis-Mason Central Labor Council launched "The Girls Monument Fund," saying "No child deserves to be buried without a proper marker, especially these eight young women." A monument in the cemetery honors Ethel Tharp, 20; Tillie Rosbach, 18; Ethel Henry, 18; Sadie Westfall, 16; Eva Gilmore, 16; Bertha Hagle, 16; Vera Mulford, 14; and Bertha Crown, 14.

At the dedication ceremony, Judy Schurke, director of the Washington State Department of Labor & Industries, called the Imperial Powder fire "our watershed event," adding, "we're grateful that today Washington's workplaces and industries are safer and our safety laws are stronger."

Professor Noah Seixas, the director of our department's Northwest Center for Occupational Health and Safety, noted the past century has brought mixed results for worker safety. "We now have better standards and enforcement, especially for fires and explosions, so those events are



Photos of seven of the eight girls who died in the fire were published in the November 7, 1911, edition of Centralia's *Evening News-Examiner*. Top, I to r: Bertha Hagle, Bertha Crown, Tillie Rosbach. Center: Sadie Westfall. Bottom, I to r: Vera Mulford, Eva Gilmore, Ethel Tharp.

relatively infrequent, if still just as tragic." But two groups continue to be at disproportionate risk for injury and death—young workers and immigrant workers.

At the Chehalis ceremony, Schurke noted that just a month before the fire, Washington had become one of the first states to pass mandatory no-fault industrial insurance for workers in hazardous industries. Still, it took years for the women's families to receive compensation.

A day after the fire, an inquest jury ruled the disaster to be purely accidental and held the powder company free from blame.

The new compensation law was industry specific, and both DuPont Co. and Imperial Works (parent company of Imperial Powder Co.) fell in the same category as gunpowder manufacturers. DuPont Co. balked at paying for the deaths, saying its plants were safer than the Imperial Works. The state sued, but for months the families received pension checks stamped "not paid due to lack of funds." Eventually, the lawsuit was settled, DuPont paid its share, and the families received their compensation.

Imperial Powder was found liable only in Vera's death, as the State Industrial Insurance Commission ruled that it had violated a child labor law.

painthealthy collision repair

Part artist, part craftsman.

The autobody painter who smooths over the dings and dents on your car is an artist working in an increasingly hazardous medium. That shiny new paint job is likely a twopart polyurethane system that uses hardeners from a family of chemicals called isocyanates.

Isocyanates are highly reactive chemicals that can irritate the eyes, nose, and throat. Isocyanates can also cause immune sensitization, which may lead to acute or chronic asthma. Statistics from Washington state's work-related asthma surveillance system (1995–2002) show the auto repair industry to have the second highest rate of compensable asthma claims.

Asthma can be serious, even deadly. University of Washington researchers—in collaboration with colleagues at University of Massachusetts, University of North Carolina, and the Safety & Health Assessment & Research for Prevention (SHARP) Program at the Washington State Department of Labor & Industries—have been studying ways to prevent exposure to isocyanates.

The latest project from Professor Michael Yost's lab is *PaintHealthy* Collision Repair, a research-to-practice initiative that works with shop owners and painters to develop work gloves that protect workers while providing the tactile sensations they need for their craft. The project is funded by the National Institute for Occupational Safety and Health and the department's state allocation through Washington State's Medical Aid and Accident Fund.

The autobody industry is close-knit; a state study co-authored by SHARP scientist Carolyn Reeb Whitaker (MS, Industrial Hygiene & Safety, 2001) found 83 percent of the shops to be family-owned and operated. Safety is a high priority, but insurance reimbursements offer a slim profit margin. Part of the research strategy is to develop affordable protective measures.

Painters are exposed to isocyanate vapors, so half-face or full-face respirators are standard in the industry. Another pathway—absorption through their skin—can be just as hazardous. Nitrile gloves 8 mil or thicker appear to provide the necessary protection, as do the less flexible butyl rubber gloves. A mil equals one thousandth of an inch. The project is in the data collection phase, with painters testing gloves and coveralls under real working conditions and reporting their impressions to researchers. On the first two site visits, painters wear their normal gear; on the last two visits, they are asked to test chemically resistant gloves. They are also asked to provide urine, breath, and blood samples.

Yost praised the industry for its cooperation. Autobody trade associations are so far ahead of the issue, he said, that it was hard to find shops still using less effective latex gloves. His research team has developed a strong alliance with Green River Community College to develop new testing techniques. "The students are totally into it," Yost said.

Another potential collaboration is with glove manufacturers. Yost would like to see them develop gloves that combine butyl rubber and nitrile.

Workers in the collision repair industry can be exposed to chemicals called isocyanates while painting vehicles. Isocyanates are recognized as a primary cause of work-related asthma. *Photo: Kendra Broadwater*



air pollution in the duwamish

South Seattle residents participate in a community meeting at the South Park Community Center. Photo: Courtesy of Duwamish River Clean-Up Coalition/Technical Advisory Group

Although air quality in the United States has improved over the last 30 years, some communities-particularly communities of color and those with lower socioeconomic status -may be exposed to higher levels of air pollutants than prosperous ones. Long-term exposures to diesel exhaust, a major contributor to air pollution, have been linked to respiratory and cardiovascular health problems as well as cancer. Research on air quality in vulnerable communities can help uncover health problems that may result from disproportionate exposures. A recent \$385,000 award from the Kresge Foundation will support a collaborative two-year project to assess air pollution exposures in the Duwamish Valley that can be used to help achieve sound environmental policies for the Georgetown and South Park communities. The project involves researchers from our department, South Seattle neighborhood residents, and Puget Sound Sage-a local nonprofit organization.

"Our role is to provide the scientific knowledge, skills, and expertise," said Julie (Richman) Fox, a postdoctoral scientist in our department who is helping lead the project, "and to conduct a research project with the engagement of community residents so that they'll fully understand our research and be able to use it to address their concerns."

The Duwamish Valley, which includes the Georgetown and South Park neighborhoods, is at the center of one of the most heavily trafficked areas of the city. Arterial routes through the area serve as conduits to two major transportation corridors that border and bisect the communities, Interstate 5 and State Route 99. These thoroughfares route commercial goods from the Port of Seattle to distribution points across the Pacific Northwest, carry approximately 200 school buses to and from the school bus depot, and truck materials to and from the 11-acre recycling and transfer facility. Despite the large volume of traffic, pollution levels have not been quantified at the neighborhood scale.

Puget Sound Sage will help establish a community advisory board to identify specific air pollution concerns and set the direction of the research project.

It is important for community stakeholders to be engaged, said Genevieve Aguilar, the port campaign coordinator at Puget Sound Sage, "so they can identify data that will be useful to them." For example, she explained, they can help contribute to the effort to control the sources of diesel emissions and improve the community's health.

UW researchers, including Fox; Sheryl Magzamen, a former postdoctoral scientist in our department; and Professor Joel Kaufman, will train residents to use exposure assessment tools to monitor traffic-related air pollution. The scientific data collected will be available online and could be used by the community to help inform policies that reduce ambient air pollution in these residential neighborhoods.

DAVID EATON ELECTED TO institute of medicine



In October, the Institute of Medicine (IOM) announced that Professor David Eaton had been elected a member. One of the highest honors in the fields of health and medicine, membership recognizes individuals who have demonstrated outstanding professional achievement and commitment to service.

"I am deeply honored by this recognition from my peers," said Eaton, who is associate vice provost for research-external relations in the UW Office of Research. "To share in this distinction with faculty from the UW who have been elected in past years is the greatest honor I could ever hope to achieve. I'm humbled to be included in this distinguished group."

Eaton is highly regarded for his work on toxins in the environment. His research has focused on environmental mechanisms that lead to cancer and how human genetic differences may increase or decrease an individual's susceptibility to disease when exposed to chemicals.

He has chaired or served on numerous national Academy of Sciences committees dealing with controversies in toxicology, such as the health and safety issues related to nanomaterials, the US Environmental Protection Agency's (EPA) risk assessment on dioxins in the environment, and EPA's standard for "safe" levels of arsenic in drinking water.

Presenting the findings on the latter was particularly memorable, Eaton explained. He helped brief the EPA administrator in Washington, DC, and then flew back to Seattle for an important meeting. The next day was September 11, 2001. His colleagues were presenting on the committee's findings in the White House when they were told to evacuate. An airplane that was being tracked on radar was headed for the White House; it was the plane that crashed into the Pentagon.

"Needless to say, that report didn't receive a whole lot of press attention," Eaton said, adding that the drinking water standard for arsenic was lowered from 50 parts per billion to 10 parts per billion, based on that report.

Eaton is past president of the Society of Toxicology, treasurer of the American Board of Toxicology, and active on boards and commissions studying environmental health. He holds adjunct faculty appointments in Public Health Genetics and Medicinal Chemistry.

In 1995, Eaton founded the Center for Ecogenetics and

David Eaton Photo: Courtesy of the Society of Toxicology

Environmental Health, funded by the National Institute of Environmental Health Sciences (NIEHS). The center, which he still directs, funds and fosters collaborative research on genetic factors that influence human susceptibility to environmental health risks. The center also brings research findings to a wider audience through programs, materials, and activities. For Eaton, using science and the data available to educate the public has always been important.

He was one of the first to receive an NIEHS-funded K–12 curriculum development grant, which was renewed for an unprecedented seven years. When he was appointed the first Rohm & Haas Professor of Public Health Sciences in 1992, he hired two high school teachers to develop curricula. Eaton noted, "I've always felt that toxicology is a great way to make basic biology and chemistry interesting and relevant to middle school and high school students."

In 1994, Eaton published a paper in a law journal based on a presentation he made to 50 federal and state judges on how science—particularly toxicology—should be presented in a courtroom. Its impact surprised him. "I still receive letters from lawyers, saying judge so-and-so cited your article in his opinions."

Eaton hopes to write a book that goes into greater depth on the subject of his 2006 Science Forum talk, "Why Me, Doc? What Scientists Know—and Don't Know—About Cancer."

"There are so many different kinds of cancers," Eaton said. "For some of them we know a lot and for some of them we know very little. We probably know more about the causes of breast cancer than any of the other cancers, but there's still a lot we don't know."

Eaton was on an IOM committee that recently released a report on risks of breast cancer from various environmental factors and recommendations for future research. The report was sponsored by the Susan G. Komen for the Cure.

algae & human health

Algae range in size from the micro (single-celled diatoms) to the macro (meters-long kelp) and their impacts on human health are just as varied. "Seaweeds are as diverse as land vegetables," said Prannie Rhatigan, a general practice physician and cookbook author, who presented at the July 15 Algae and Human Health Symposium, co-sponsored by the Pacific Northwest Center for Human Health and Ocean Studies. The symposium was a special session of the combined 2011 annual meeting of the Phycological Society of America (PSA) and International Society of Protistologists.

According to symposium speakers, many types of macro algae are nutritious, tasty foods, while some species of singlecelled algae produce potent toxins during overgrowth events known as harmful algal blooms (HABs). HABs can involve many species of algae and release multiple toxins that can cause a wide range of symptoms, from mild gastrointestinal upset to memory loss, and can even be fatal.

Rhatigan, who authored the cookbook, *Irish Seaweed Kitchen*, spoke on algae cuisine during a symposium session and hands-on cooking demonstration, while other speakers



focused on HABs, including their increasing incidence worldwide as the climate changes. "The more we look [for HABs], the more we find," said Lorraine Backer of the US Centers for Disease Control and Prevention, who works with regional public health departments to track and mitigate the health impacts of HABs. Other speakers included Lora Fleming of the University of Miami and European Centre for Environmental and Human Health, who studies marine neurotoxins, and Sherwood Hall, a seafood specialist at the Center for Food Safety and Applied Nutrition, US Food and Drug Administration, who is developing costeffective strategies for detecting and managing HABs.

"This was an exciting symposium where investigators from our center met with investigators from the PSA," said Elaine Faustman, a professor in our department who co-directs the Pacific Northwest Center for Human Health and Ocean Studies along with E. Virginia Armbrust, a professor in the School of Oceanography. "It was evident that we have many common interests and goals in mind," said Faustman, "those of optimizing ocean resources in terms of sustainability and safety for public health."

For example, researchers affiliated with the PSA study the biochemical processes that cause algae to create toxins, while scientists in the Pacific Northwest Center for Human Health and Ocean Studies study the impacts of those toxins on human physiology. Considerable center research focuses on domoic acid, a toxin of particular concern in the Pacific Northwest because it can accumulate in popular regional seafoods, such as Dungeness crabs and razor clams, and can cause a constellation of neurological symptoms collectively referred to as amnesiac shellfish poisoning. Recent research by Faustman, Professor Lucio Costa, and Research Scientist Gennaro Giordano indicate that domoic acid may also be a developmental neurotoxin.

"The symposium is hopefully the start of further dialogue and collaboration," said Faustman.

Algae grow in fresh water like the stream in the photo at left, marine water, and even on snow and ice.

Photos: Above: Wipedia; Left: Cathy Schwartz

Our Continuing Education Programs identify environmental and occupational safety and health needs in the Pacific Northwest and respond to the unique needs of the region's most vulnerable workers. In Washington state, they have been partnering with Casa Latina to offer health and safety training to day laborers.

Casa Latina is a Seattle-based nonprofit that assists seasonal workers. More than 400 immigrants enroll in their programs every year.

Research by Professor Noah Seixas and others in our department has shown that occupational injury rates among day laborers are high, almost five times higher than other workers in the construction industries. Day laborers often work in short-term, physically challenging jobs, such as yard work, roofing or other construction tasks, and moving heavy furniture or equipment. In a study involving 180 day laborers in Seattle, published in a 2008 issue of the American Journal of Industrial Medicine, Seixas and colleagues found that employers provided personal protection equipment for "a fraction of jobs on which it was needed-from 20% of employers providing a harness for working at heights to 60% providing gloves for jobs involving contact with chemicals." Making their situation all the more precarious, day laborers may not know their legal rights or labor protections, such as receiving medical care if injured while working for a company or a subcontractor.

To better protect these workers, a department team trained Casa Latina staff to teach health and safety topics specific to the needs of day laborers. Casa Latina staff then developed a four-hour training in Spanish to teach workers to recognize hazards they may face and how to stay safe. The course covers workers' rights, personal protective equipment, and working on ladders, at heights, and with electricity. Casa Latina staff teach the course to day laborers in their Seattle facility. In less than nine months, approximately 300 workers have received this health and safety training. The project was funded by a Susan Harwood Training Grant from the Occupational Safety and Health Administration (OSHA). From our department, the team included Acting Continuing Education Programs Director Mike Willis; Rachael DeSouza, a master's student completing joint



In a hands-on activity in the four-hour training, day laborers choose the personal protective equipment that they would use to be safe on a particular job. *Photo: Hilary Stern, Casa Latina*

degrees in Occupational Health Nursing and Exposure Sciences; and Affiliate Assistant Professor Bruce Millies.

In November, the project was recognized by OSHA, and OSHA staff asked Casa Latina Executive Director Hilary Stern to present on the project's success. Key was the partnership aspect, she said. "We brought knowledge of the workers, the community, and our experience in popular education. We know how to connect and engage with them. The UW helped us with that missing piece the health and safety technical knowledge," she explained. With the grant funding, Casa Latina was able to hire two trainers to deliver the health and safety course, which is now part of the 20 hours of training that Casa Latina requires its members to complete.

Stern said there may be as many as 4,000 day laborers in the Seattle area. To reach even greater numbers, Casa Latina and the Continuing Education Programs applied and received additional funding from OSHA to bring short on-the-spot health and safety trainings to the workers where they gather, such as at home improvement stores.

people & places



left to right: Elaine Faustman, Cody Cullison, Ranjini Krishnan, Jeffrey Walls, Sverre Vedal Photos: Sarah Fish, Ruth DeHaven, Karen Jansen, Chrissie Chang, Sarah Fish

Department faculty, staff, students, and alumni are highlighted.

Professors Noah Seixas, Hendrika Meischke (Health Services), and Lianne Sheppard, Research Scientist Richard Neitzel, Associate Professor William Daniell, and Jane Edelson (General Internal Medicine) together received the 2011 National Occupational Research Agenda Innovative Research Award in July for their work to increase use of hearing protection devices and to prevent noise-induced hearing loss in the construction industry.

On behalf of the Commission for Academic Accreditation of the Ministry of Higher Education & Scientific Research, Professor and Chair **David Kalman** participated in two site visits at institutions in the United Arab Emirates: in May, for an environment, health, and safety program at the Abu Dhabi Vocational Education and Training Institute and in October, for the American University of Sharjah's bachelor's degree program in Environmental Studies.

Brandon Leader was appointed Affiliate Assistant Professor, effective August 1. **Gretchen Onstad** was appointed Acting Assistant Professor, effective December 1.

Professor Elaine Faustman was the William B. Kinter Memorial Lecturer on July 13 at the Mount Desert Island Biological Laboratory in Maine. She was also recognized in August by the National Children's Study for her outstanding contributions, and she was awarded the 2011–2013 Society for Risk Analysis (SRA)/Sigma Xi Distinguished Lecturer from the SRA Council in November.

At the International Society of Environmental Epidemiology conference in September in Barcelona, Spain, Professor Joel Kaufman gave the opening keynote plenary talk. Other presenters from our department included Professors Lianne Sheppard and Sverre Vedal, Adjunct Assistant Professors Catherine Karr and Sheela Sathyanarayana, and Program Manager Cynnie Curl (PhD student, Environmental and Occupational Hygiene). Presenters who are department alumni included Ryan Allen (PhD, Environmental and Occupational Hygiene, 2004), Simon Fraser University; Chang-Fu Wu (PhD, Industrial Hygiene and Safety, 2002), National Taiwan University; Paul Demers (MS, Industrial Hygiene and Safety, 1987), University of British Columbia; Carol Sweeney (MS, Environmental Health, 1990), University of Utah; Ming-Yi Tsai (PhD, Environmental and Occupational Hygiene, 2007), University of Basel; and Doug Johns (MS, Industrial Hygiene, 2000), US Environmental Protection Agency.

Adjunct Associate Professor Kelly Edwards received an Innovator's Award from the Genetic Alliance in September 2011.

Also in September, Professor Harvey Checkoway gave the keynote talk at the International Conference on Epidemiology in Occupational Health in Oxford, England, on environmental risk factors for Parkinson's disease.

On September 29 at the Governor's Industrial Safety and Health Conference in Tacoma, Lecturer **Richard Gleason** presented on improving occupational safety and health through lessons learned from 100 years of workers' compensation in Washington.

Research Scientist **Ranjini Krishnan** received a \$500 clinical research presentation award at the Northwestern Cardiovascular Young Investigators' Forum in Chicago, in September. She presented on using a controlled exposure laboratory to investigate the impacts of air pollution on human health. In October, at the International Society of Exposure Science conference in Baltimore, Maryland, Professor John Kissel presented on data gaps in understanding young children's soil/ dust ingestion and on estimation and use of dermal permeability coefficients. Elizabeth Cooper (MS student, Environmental Health) presented a poster on indoor surface residues and their contributions to semi-volatile organic compounds.

Also in October, department presenters at the Northwest Occupational Health Conference included Senior Lecturer Emeritus Lee Monteith, Affiliate Assistant Professors Steve Cant and Bruce Millies, Vanessa Galaviz (PhD student, Environmental and Occupational Hygiene) and Michael Krause (MSPH Tech, 1983). At the Student Research Forum, presentations by Allison Crollard (MS student, Exposure Sciences) received an honorable mention and Janessa Graves (MPH, Environmental and Occupational Health, 2008) received the premier award.

Professor Evan Gallagher's research proposal to use zebrafish to assess the health effects of persistent pollutants in Pacific salmon was recognized by and received funding from the highly competitive Washington Sea Grant program. Gallagher, Research Scientist Jessica Lundin, and PhD student Travis Cook (Toxicology) presented at the Superfund Research Program annual meeting in Lexington, Kentucky, in October.

At the American Public Health Association conference in Washington, DC, October 29–November 2, presenters from our department included: School of Public Health Dean and Professor Howard Frumkin; Elaine Faustman; Research Industrial Hygienists Nancy Simcox, Martin Cohen, and Gerry Croteau; Center for Ecogenetics and Environmental Health (CEEH) Administrator Jon Sharpe; and PhD students Clarita Lefthand-Begay and Vanessa Galaviz (both in the Environmental and Occupational Hygiene program).

At the inaugural meeting of the Public Health Café in November, sponsored by CEEH, Professor **David Eaton** and Affiliate Professor **Steven Gilbert** led a discussion about epigenetics and its impacts on health.

Also in November at Western Washington University in Bellingham, **Chad Weldy** (PhD student, Toxicology) presented his research investigating the health effects of diesel exhaust inhalation. Also, Weldy and **Kristen Cosselman** (PhD student, Toxicology) presented their research at the American Heart Association Scientific Sessions in Orlando, Florida.



Department students hosted Cleveland High School students and their teacher, Campaña Quetzal. Photo: Vanessa Galaviz

On December 12, **Sverre Vedal** gave the UW School of Public Health Fall Quarter Distinguished Faculty Lecture on the health effects of air pollution.

Postdoctoral scientist **Wes Smith** received the 2011 Public Engagement Award from CEEH for his leadership and role in a number of outreach activities.

Cody Cullison (MS student, Exposure Sciences) and **Ryan Blood** (PhD student, Environmental and Occupational Hygiene) received Erma Byrd Scholarships from the US Department of Education.

Jeffrey Walls (MS student, Exposure Sciences) was awarded the 2011 Future Leader in Environmental Health and Safety (EHS) scholarship, sponsored by *EHS Today* and PureSafety. He will receive a \$5,000 scholarship and serve on the *EHS Today* Editorial Advisory Board for two years.

The Pacific Northwest Section of the American Industrial Hygiene Association awarded undergraduate Vickie Carper a \$250 scholarship.

Alyssa Vivas (BS, Environmental Health, 2010), who is enrolled at the Pacific Northwest University of Health Sciences in Yakima, was awarded the National Health Service Corps award from the US Department of Health and Human Services. All of her medical school expenses are paid in exchange for four years of service in the Corps working with underserved communities.



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COMINGS &

Julie Tran replaced Nina Bort as the program assistant for the Environmental Health program.

The new assistant to the chair of the department is Christina Benton, who replaces Karen West.

Leah Van Zee is the new marketing manager for our Continuing Education Programs, which includes the Pacific Northwest OSHA Education Center.

Marilyn Hair joined the Center for Ecogenetics and Environmental Health (CEEH) as their outreach manager. Jim MacDonald is a new research scientist in CEEH's Biostatistics and Bioinformatics core.

Marissa Baker joined Professor Noah Seixas' team as a research coordinator.

Professor Terrance Kavanagh's lab welcomed Research Scientist Stefanie Schmuck.

Jennifer Krenz (MPH, Environmental and Occupational Health, 2010) was hired as a research scientist in the Pacific Northwest Agricultural Safety and Health Center.

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http://depts.washington.edu/envhlth/

Go Green



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ISSN number 1548-1875

