



DEPARTMENT OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH SCIENCES

ENVIRONMENTAL HEALTH

News

SCHOOL OF PUBLIC HEALTH AND COMMUNITY MEDICINE ■ UNIVERSITY OF WASHINGTON ■ WINTER 2005

MAKING A DIFFERENCE

The ripples spread far. Work of students, faculty, staff, and alumni of the Department of Environmental and Occupational Health Sciences can affect policy and practice in surprising places, as the following stories illustrate. Students in Ephrata, Washington, undertook a project that can serve as a model statewide and nationally. Projects in our Occupational and Environmental Medicine Program, drawing upon clinical experiences at Seattle's Veterans Affairs hospital, can help troops returning from Iraq and Afghanistan. We invite you to join us in making a difference in our communities and our environment.

STUDENTS NETWORK FOR HEALTHY COMMUNITIES

As a high school freshman, Carly LaPlant didn't envision herself as an environmental activist. Mary Senn, then a sophomore reporter on the student newspaper, couldn't have imagined challenging the school superintendent over an indoor air quality issue.

Their lives changed after they got involved in the Youth Network for Healthy Communities project, operated through the Center for Ecogenetics and Environmental Health at the University of Washington (see page 3).

The network's goal is to train middle and high school teachers across Washington state, so that they can help students research environmental health issues in their communities. One of the participating teachers is Chip Halverson, LaPlant and Senn's social science teacher in the central Washington community of Ephrata.

What started as a small project grew into a model program that won a special achievement award at the Environmental Protection Agency (EPA) "Indoor Air Quality Tools for Schools"

national symposium in Washington, DC in December. LaPlant and Senn, along with their teacher, presented their research project to a standing ovation from an audience of 700 attendees, mostly school officials.

—continued on page 2



©2004 WPTI.com

Carly LaPlant, a high-school sophomore, addressed a national symposium in December

INSIDE

MAKING A DIFFERENCE	1
STUDENTS & THEIR COMMUNITIES	3
WAR IN IRAQ—NEW CHALLENGES FOR OCCUPATIONAL MEDICINE	4
WAR SYNDROMES HISTORY	5
PEOPLE & PLACES	6
CONTINUING EDUCATION & EVENTS	7
DON'T LET THIS BE YOUR LAST NEWSLETTER	8



Carly LaPlant (left) and Mary Senn present their work at an educators meeting in Wenatchee, Washington

Dianne Botta, UW research scientist and coordinator of the Youth Network for Healthy Communities, said, “One of the most exciting things to come out of this project is to see that the youth of our state are making a difference in their communities by instigating a change through legitimate channels.”

Ephrata High School first discovered it had an air quality issue when one of the teachers developed health problems traced to inhaled fiberglass. She has since been assigned to another building. Her problems were attributed to deteriorating ceiling tiles and insulation, and other problems, such as an unbalanced ventilation system with vibrating ducts, which caused the tiles to shed fibers.

The school district’s response to the health problem was partly a result of student involvement. Students interviewed teachers, administrators, and the head of maintenance. They surveyed their peers and tested the air quality. Then, in 2004, they presented their findings by videoconference on the Youth Network to several other schools across the state.

Senn wrote a story for the school newspaper, *Eye of the Tiger*, focusing on the ill teacher, but also exploring engineering and policy concerns. That issue of the newspaper was in part responsible for the paper

winning a gold medal award in a Columbia University journalism competition.

Senn started asking questions when teachers received a school memo that asked them not to hang posters from the ceiling for fear they would disturb the fiberglass in the tiles. She wanted to know why fiberglass was used in ceiling tiles at all.

The students’ efforts were instrumental in the school district’s rehiring a heating and air conditioning specialist who had been laid off several years earlier, Halverson said. The district is also replacing some of the deteriorating fiberglass ceiling tiles and is considering installing non-fiberglass tiles in the entire building.

“The school is paying more attention to air quality now and the awareness is greater,” he said. “Ephrata’s experience has been shared with many other school districts in our state and in fact has helped solve some similar situations where fiberglass was the culprit and not mold or misused chemicals as previously thought.”

Meanwhile, the students are still following the issue, and are making plans for an environmental health club and a student web page. Senn and LaPlant now serve as student representatives on the Board of Health School Environmental Health Advisory Committee, which makes policy recommendations for Washington state.

LaPlant said the project challenged her assumptions. “A place that should seem safe really isn’t. I know it opened my eyes, wondering where the codes of standards were that should be preventing this high number of toxic schools.” She now advocates for greater state or federal oversight of school environments, not just new ceiling tiles at Ephrata High School.

Senn, now the editor of the school paper, was surprised at the dimensions her story took. “When I first signed up in journalism to write an article updating the air-quality situation at my school, I never imagined that I could make such a difference,” she said.

Senn finds environmental issues compelling, even if only a few people, similar to the proverbial canary in the mineshaft, are affected. “If I went to my counselor and said that I was being harassed by a student, do you think they would tell me that since I’m in the minority of students having that experience that I don’t count? Of course not. It’s the same with indoor air quality.”

School environments are important to the EPA, said

STUDENTS & THEIR COMMUNITIES

the agency's assistant administrator, Jeff Holmstead. "Children spend a significant amount of time in schools. We want to ensure that our nation's schools are free of indoor environmental pollutants and irritants that may affect the health and productivity of students and staff."

In addition to Ephrata's special achievement award, the Kent and Spokane school districts won excellence awards in the 2004 EPA Indoor Air Quality awards program.

Halverson said the students hadn't realized, until they got the standing ovation in Washington, DC, how inspiring their involvement was to others. Their model of activism is being incorporated by the EPA and National Education Association into a student health information network. Their work might also influence state policy, he said. Their project helped inspire an e-mail group of students and teachers, <http://groups.yahoo.com/group/StudentandTeacherIAQActivities>.

FOR FURTHER READING

EPA's Healthy School Environments:

<http://www.epa.gov/schools>

Healthy Schools Network: <http://healthyschools.org>

NIEHS Center for Ecogenetics and Environmental Health,

Community Outreach and Education Program:

<http://depts.washington.edu/ceeh/Outreach/k12.html>

Youth Network for Healthy Communities: <http://>

whs.wsd.wednet.edu/socstudies/YNHC/ynbchome.htm

Now in its fifth year, the Youth Network for Healthy Communities was created by teachers Jay Young and Nancy Sedlacek, with Community Outreach and Education Program staff at the UW Center for Ecogenetics and Environmental Health.

The network is a teacher-conceived and teacher-driven project that incorporates new technologies in the classroom. The goal is to train middle and high school teachers across Washington state to help students research environmental health issues in their communities.

Environmental health crosses disciplines, so teachers come from social studies, science, English as a second language, agriculture, and other fields.

Three networking sessions are held each year, with six to eight participating sites per session. Teachers first receive an hour-long orientation via videoconference, with an overview of environmental health science, examples of topics to engage the students, and details on how the videoconference system works.

Next, the teachers present the networking project to their classes (or science clubs) and students begin the research phase. Finally, the students share their project findings with peers and professionals via videoconference and receive feedback from them.

The project is still recruiting teachers, students, and subject matter experts. To become involved, contact Dianne Botta at 206-616-2645 or e-mail her at diann@u.washington.edu

The project is funded by National Institute of Environmental Health Sciences (NIEHS).

In this image, a panel of experts interacts with students via the K20 videoconferencing network



Chetana Acharya

WAR IN IRAQ—NEW CHALLENGES FOR OCCUPATI

In past US wars, about 10-20% of the deployed troops have been involved in frontline combat. The Iraq war is different—due to the nature of the insurgency-based conflict, nearly all troops are exposed to combat traumas. One of our occupational medicine fellows views this as a challenge to medical service providers back home.

Dr. Stephen Hunt, director of the Deployment Health Clinic for the Veterans Affairs Puget Sound Health Care System, brings an occupational health perspective to war. He views military service as an occupation and combat as an environment. “Using an occupational and environmental medicine model may be an effective approach for delivering integrated care to veterans with combat-related health concerns,” he said.

Hunt, whose clinic serves returning combat veterans at VA Puget Sound’s Seattle (Beacon Hill) and Tacoma’s (American Lake) Divisions, returned to school for a master’s in public health and to develop additional research skills.

At the two locations, he and his staff have seen more than 75 Iraq and Afghan veterans so far. He anticipates seeing many more in the months ahead, but he is concerned that some veterans may avoid

seeking services from the VA system. They may fear, he said, that receiving treatment, especially mental health services, could jeopardize their future professional opportunities in the military reserves, in law enforcement, or in other areas of professional pursuit; or they may not recognize that they need assistance until their personal lives, families, and work have been negatively affected.

To ensure optimal post-combat adjustment, the VA encourages all combat veterans to have a comprehensive examination within two years of returning, according to Hunt. The VA’s goal is to provide resources to support their successful readjustment and reintegration into their families and into the work force.

So far, as many US soldiers have been injured in combat in the Iraq and Afghanistan fighting as were injured in the Revolutionary War, the War of 1812, or the first five years of the Vietnam War, he said. Fatality rates are lower in this war, and 90% of the injured troops come home, compared with only 70% in World War II and 76% in Vietnam. That means a greater percentage of returning soldiers today may have survived more serious combat injuries than did their predecessors in prior wars.

Most military personnel who have been in Iraq have seen military or civilian casualties, and most have experienced being under attack. About 17% of returning Iraq veterans and 11% of Afghan veterans suffer from post-traumatic stress disorder, Hunt says, citing an article from the *New England Journal of Medicine*. However, only about a quarter of those come in to the VA system for care.

Hearing loss is the most common service-related disability in combat veterans, similar to what is noted in many other occupational settings. Iraq veterans also suffer musculoskeletal injuries, digestive problems, mental or nervous system disorders, and respiratory diseases. Nearly 1 in 5 deaths among US military personnel in Iraq are related to accidents, as opposed to combat; motor vehicle accidents and aviation crashes are major causes of death and injury.

Hunt’s research at UW has helped him to better understand the health concerns of combat veterans,



Courtesy of US Army

A soldier from the Fort Lewis Stryker Brigade in the northern Iraqi city of Mosul during a combat operation in November



Courtesy of US Army Spc. Lorie Jewell

A prosthetist at Walter Reed Army Medical Center fits a new leg for a soldier injured in a January mortar attack in Iraq

and to improve their treatment by using many of the principles and practices of occupational and environmental medicine. It will also enhance future VA clinical research and health care services for combat veterans.

FOR FURTHER READING

- Hunt SC, Richardson RD, Engel CC Jr (2002). Clinical management of Gulf War veterans with medically unexplained physical symptoms. *Mil Med* 167(5): 414-420.
- Hoge CW, Castro CA, Messer SC, McGurk D, Cotting DI, Koffman RL (2004). Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care. *N Engl J Med* 351(1):13-22. ■■■

WAR SYNDROMES HISTORY

For centuries, some soldiers have come home with puzzling symptoms that no one could explain.

During the American Civil War, Dr. J. M. Da Costa conducted one of the first studies of a war syndrome. He called his diagnosis “irritable heart,” with symptoms ranging from sharp or burning chest pain, to shortness of breath, fatigue, headache, diarrhea, dizziness, and disturbed sleep.

In a historical analysis for the US Naval Medical Research Institute, Hyams, Wignall & Roswell later found that many of Da Costa’s soldiers suffered malnutrition, lack of exercise, infectious diseases (including malaria and typhoid), and other medical conditions. However, few had conclusive evidence of heart disease.

Other Civil War soldiers were diagnosed with a severe form of homesickness called “nostalgia,” which was characteristically accompanied by extreme apathy, loss of appetite, diarrhea, and sometimes fever.

Despite enormous progress in medical science, a century and a half later, soldiers are still returning with poorly understood war syndromes.

In 1996, the editor of the *Annals of Internal Medicine*, Dr. Frank Davidoff, wrote “all wars create war syndromes, those constellations of nonspecific but disabling symptoms and signs whose ultimate explanation is still elusive but that seem in part to be a way for persons who have been in war to express things they’ve seen and done that are literally unspeakable.”

FOR FURTHER READING

- Da Costa JM (1871). On irritable heart: a clinical study of a form of functional cardiac disorder and its consequences. *Am J Med Sci* 61:17-52.
- Davidoff F (1996). Everyone sang. *Ann Intern Med* 125(8): 690-691.
- Hyams KC, Wignall FS, Roswell R (1996). War syndromes and their evaluation: from the US Civil War to the Persian Gulf war. *Ann Intern Med* 125(5): 398-405. ■■■



PEOPLE & PLACES



Carl Osaki

Lecturer **Kate Stewart** was named 2004 “Ergonomist of the Year” by the Puget Sound Human Factors and Ergonomics Society. This is the first time the society has awarded this prize. The award was created to recognize a local practitioner who has worked to advance the science, educate others, and/or promote awareness of the field. A panel of past society presidents acknowledged Stewart’s work as a consultant, an instructor with the department’s OSHA Training Institute, and her teaching at the University of Washington and other organizations. “She has educated people around the United States and the world on ergonomics,” they concluded.



Rich Fenske

Clinical Associate Professor **Carl Osaki** received a three-year grant from the Centers for Disease Control and Prevention to fund a regional academic center encompassing nine states.

Professor **Rich Fenske** has joined the UW Environmental Stewardship Advisory Committee, whose goal is to make the university environment more sustainable. He also attended the final committee meeting at the National Academy of Science on Agent Orange, in preparation of an update published in 2005, titled “Veterans and Agent Orange.”



Tom Burbacher

Associate Professor **Tom Burbacher** was asked to testify before Congress in November about his research on thimerosal (mercury) in children’s vaccines. Burbacher has been a member of the National Academy of Sciences’ committee on the toxicological effects of methylmercury. His most recent studies have found that methylmercury, which is known to affect development of the brain, is not a good predictor of the effects of thimerosal.



Kristin Cunningham

Kristin Cunningham, a master’s student in Environmental Health, will present her research this June at the National Environmental Health Association conference in Rhode Island. Outside of school, she has been doing trail maintenance on Tiger Mountain for the Mountains-to-Sound Greenway, which she describes as “a chance to get good an’ muddy!”

Rebecca Alvarez from Costa Rica is here at DEOHS for winter quarter, visiting from the Central American



Barb Brouner

Kate Stewart addresses a safety meeting at a local construction company

Institute for Studies on Toxic Substances (IRET), a partner through our International Scholars in Occupational and Environmental Health program. She is exploring UW’s master of public health program in international health with a focus on environmental health issues.

Mark Oberle, associate dean in public health, had planned on spending part of his Christmas holiday snorkeling with his family in Thailand. Instead, he helped rescue and treat victims of the tsunami that struck the island of Phuket Dec. 26. Oberle used his skills as a physician and public health emergency specialist to help triage and rescue injured people in the tsunami’s aftermath. His journal and photographs are at <http://faculty.washington.edu/moberle/Tsunami/Tsunami.htm>.

About 100 researchers from our department and the School of Occupational and Environmental Hygiene at the University of British Columbia attended the 17th annual Occupational and Environmental Health Conference at Semiahmoo in January. UW speakers were: **Michael Silverstein, Stephen Hunt, Angela Carden, David Klavens, Jordan Firestone, Bill Daniell, Dennis Schusterman, Joel Kaufman, Tom Wickizer, Catherine Karr, Pete Johnson, and Steve Russell.**



CONTINUING EDUCATION & EVENTS

To confirm this schedule or find more information about these courses, call 206-543-1069 or visit the Continuing Education Web site at <http://depts.washington.edu/ehce>. Courses are in Seattle unless noted.

NW CENTER FOR OCCUPATIONAL HEALTH & SAFETY

- Apr 1 Controversies & Advances in Children's Environmental Health
- Apr 12 Ergonomics IS Good Economics (*new offering*)
- Apr 14 Puget Sound Occupational and Environmental Medicine Grand Rounds, *Welding, manganese, and parkinsonism: Not (yet) enough to shake a stick at*
- Apr 21-22 Occupational Health Nursing Update: Mental Health and Physical Assessment Skills
- Apr 26-28 Hazardous Materials Incidents: Improving Interagency Response (*Olympia*)
- Apr 28-29 Current Issues in Laboratory Health & Safety Management
- May 12 Puget Sound Occupational and Environmental Medicine Grand Rounds, *The Americans with Disabilities Act: Where do we stand ten years later?*
- Jun 13-17 Comprehensive Industrial Hygiene Review (*Vancouver, BC*)

OSHA TRAINING INSTITUTE EDUCATIONAL CENTER

Not for OSHA rules only! All classes offer training that meets WISHA, OR-OSHA, and Alaska state standards.

- Mar 29-Apr 1 OSHA 6000: Collateral Duty for Other Federal Agencies (*Richland*)
- Apr 4-7 OSHA 500: Trainer Course for Construction Industry
- Apr 4-7 OSHA 510: OSHA Standards for Construction (*Portland*)
- Apr 11-14 OSHA 511: General Industry Standards (*Portland*)
- Apr 18-21 OSHA 6000: Collateral Duty for Other Federal Agencies
- Apr 26-29 OSHA 521: OSHA Guide to Industrial Hygiene (*Portland*)
- May 5-6 OSHA 7600: 16-Hr Disaster Site Worker
- May 9-11 OSHA 2250: Principles of Ergonomics (*Portland*)
- May 9-12 OSHA 501: Trainer Course for General Industry
- May 16-19 OSHA 2045: Machinery and Machine Guarding (*Portland*)
- May 17-20 OSHA 501: Trainer Course for General Industry (*Anchorage*)
- May 23-25 OSHA 2264: Permit-Required Confined Space Entry
- May 23-26 OSHA 3010: Excavation, Trenching, and Soil Mechanics (*Portland*)
- May 23-26 OSHA 5600: Disaster Site Worker Train-the-Trainer (*Richland*)
- Jun 6-9 OSHA 3095: Electrical Standards (*Portland*)
- Jun 13-16 OSHA 3010: Excavation, Trenching, and Soil Mechanics
- Jun 20-23 OSHA 511: General Industry Standards
- Jun 21-24 OSHA 510: OSHA Standards for Construction (*Portland*)

UPCOMING EVENTS

ALUMNI PERSPECTIVES

April 14, 2005, 8:30 am-1:30 pm, Husky Union Building. The School of Public Health and Community Medicine will mark its 35th anniversary with an alumni event, "Perspectives in Public Health." To register, visit <http://www.washington.edu/alumni> or call 206-543-0540. This is part of an alumni association Washington Weekend event.

STUDENT RESEARCH DAY

Thursday, May 19, 2005, 12:30-3:00, South Campus Center, Room 316. 12:30 student presentations, 1:45 student poster session & reception. For more information, contact: 206-685-9331, ehgrad@u.washington.edu

COMMUNITY GENOMICS FORUM

Saturday, May 21, 2005, UW Law School. Sponsored by National Human Genome Research Institute (NHGRI) and featuring Dr. Francis Collins, director, NHGRI. The forum will engage the community in a dialogue about genomics, research, applications, and ethics. For information, contact: 206-616-2643, cacharya@u.washington.edu.

Don't let this be your last newsletter!!!

We are updating the mailing list for *Environmental Health News*. Unless you tell us you want to remain on our list, this could be your last issue.

Let us know if you want to continue having the print version mailed to you, or whether you'd rather receive e-mail notifications and read the online version.

Please do one of the following:

- E-mail the editor: kjhall@u.washington.edu
- Phone us at 206-685-6737
- Fill in the form at http://depts.washington.edu/evhblth/info/newsletter_html/newsletter_subscribe.html.

Please update the information on your address label and let us know of others who would like be on the mailing list.

MANAGING
EDITOR

Sharon L. Morris

SENIOR WRITER
& EDITOR

Kathy Hall

CONTRIBUTING
WRITER

Chetana Acharya

GRAPHIC
DESIGNER

Cathy Schwartz

EDITORIAL
ASSISTANT

Kipling West

DEPARTMENT
CHAIR

David A. Kalman

Environmental Health News is published three times a year by the Department of Environmental and Occupational Health Sciences at the University of Washington. Inquiries should be addressed to: *Environmental Health News*
Box 357234
Seattle, WA 98195-7234
Phone: 206-685-6737
E-mail: kjhall@u.washington.edu.

Find the department on the World Wide Web at <http://depts.washington.edu/evhblth>.

Reprint permission is granted providing that copyright notice as given below is included. We would appreciate receiving a copy of your reprinted material.

This newsletter is also available online at <http://depts.washington.edu/evhblth/info/publications.html>

© 2005, ISSN number 1548-1875

Department of Environmental and Occupational Health Sciences,
University of Washington.



Printed by University of Washington Publications Services on recycled paper with vegetable-based inks.



University of Washington
School of Public Health
and Community Medicine

Department of Environmental and Occupational Health Sciences
Box 354695
Seattle, Washington 98195-4695

RETURN SERVICE REQUESTED

10-5804



Nonprofit
US Postage
PAID
Permit No. 62
Seattle, WA