

TAPPING IN



*The Quarterly Training Newsletter from the
Small Public Water Systems Technology Assistance Center*

**This U.S. EPA Center provides training opportunities for
trainers and operators of small water systems.**



The training includes far-ranging topics from computer skills through laboratory analysis, chlorination applications to small system operation, and equipment maintenance. Training is generally designed to be hands-on with lots of operator/trainer/equipment interaction.

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Online back issues can be found at:

www.hbg.psu.edu/etc/

just click *Newsletters*

Be sure to visit our Web site for current offerings of workshops and events or contact Sue Hipple at 717-948-6358.

Technical Assistance Centers (TAC's) provides training material at 2003 AWWA Annual Conference and Exposition

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The AWWA Annual Conference and Exposition in Anaheim, Calif., was held June 15th - June 19th, 2003. The theme of the conference this year was "Catch the Wave." Again, the Penn State Harrisburg Small Public Water Systems Technology Assistance Center exhibited with its fellow U.S. EPA Technical Assistance Centers. A TACNET brochure developed by the New England Water Treatment Technology Assistance Center was distributed to attendees. The TACNET brochure lists all the centers, a description of each individual center, their primary resources and accomplishments, and contact information. The centers also have a web site that links all the centers and provides easy access to programs and research projects at each center. The TACNET web site is now located at www.tacnet.info. Individual brochures, training CDs and research literature were distributed from the booth. In addition to the literature and hundreds of products distributed, over 50 attendees who visited our booth requested copies of training materials currently produced by the Centers.



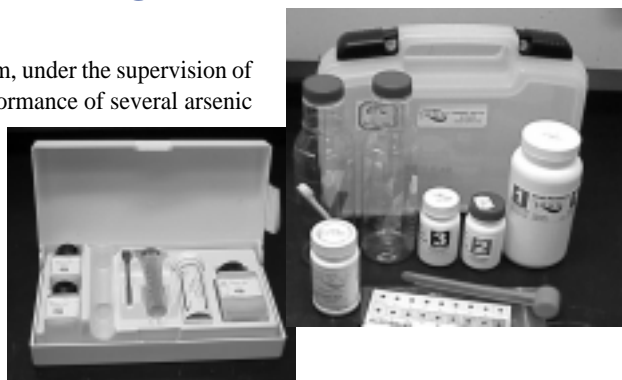
The conference provides many opportunities for networking and training. In addition to manning the booth, the center personnel were busy attending committee meetings. Dr. M. Robin Collins of the New England Water Treatment Technology Assistance Center presented "Design and Construction of Packaged Slow Sand Filtration with Preozonation and Rounding Filters: A Case Study," Kevin Kundert of the Montana Water Center presented "Dynamic Training: A New Concept for Small Systems," and Dr. Yuefeng Xie submitted two posters titled "Removal of HAAs in GAC Filters: A Field Study" and "Haloacetic Acid Using GAC." In addition, Dr. Xie advised Dr. Hongwei Wu, a post-doctoral candidate at Penn State Harrisburg. Dr. Wu presented "Effects of EBCT and Temperature on the Removal of HAAs Using BAC" at the conference. Nicole Duclos, Program Coordinator at the Alaska Training Technical Assistance Center, was honored with a Membership Award diamond pin for recruitment of new members to AWWA and the Alaska section.

The Technical Assistance Centers used the time in Anaheim to hold their annual meeting with the U.S. Environmental Protection Agency – Drinking Water Protection Division. The centers met with their coordinator, Deborah McCray, and the Director of the Drinking Water Protection Division, William Diamond. Diamond discussed the agency's priorities for the upcoming year and the topic areas he would like the centers to concentrate. Ron Bergman and Evelyn Washington of EPA presented information of regulations; in particular, how small water systems will be affected. The meeting allotted time for each center to present their accomplishments over the past year.

ETC conducting arsenic testing kit evaluation

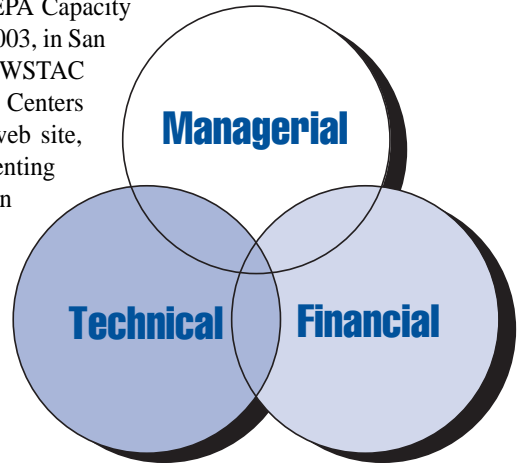
Mark Zhou yuz107@psu.edu

Mark Zhou, graduate student in the environmental engineering program, under the supervision of Dr. Yuefeng Xie, co director of the ETC, has been evaluating the performance of several arsenic field testing kits. The evaluation follows a three-phase approach. Phase one, determining method detection limits, recoveries, matrix effects, and accuracy and precision. Phase two, evaluation of these kits using different field samples. And the third phase will include adding various concentrations of known interferences to these field test kits (i.e. hydrogen sulfide and antimony). All comparisons will be made using EPA-approved methodology for the graphite furnace atomic absorption spectroscopy. For more information on this project, please contact Dr. Yuefeng Xie (yxx4@psu.edu).



Center Coordinator Attends Regional Capacity Development and Operator Certification Workshop

EPA Regions 7, 8, 9 and 10 Annual State/Technical Assistance Provider/ EPA Capacity Development and Operator Certification workshop was held July 29th – 30th, 2003, in San Francisco, Calif. Alison Shuler, Coordinator of the Penn State Harrisburg ETC/SPWSTAC center was asked to discuss coordination with the EPA Technical Assistance Centers (TAC's) and their brochure. Her presentation highlighted the TACNET web site, TACNET brochure and operator training at the Penn State TAC. Also presenting during this technical session was Tom Clevenger of the Missouri TAC and Ken Kerri of the California State University- Sacramento. Tom Clevenger's presentation was on research projects at the Missouri center which included NDMA formation, arsenic removal using Fe Ac, Prediction of DBP's, sulfide removal using green sand, and cranotoxin removal and production. To find out more about these studies go to www.tacnet.info. Kerri provided information about all the materials and services available from the Office of Water Program at California State University, Sacramento.



Presentations at the annual workshop included POU/POE case studies, financial management tools for arsenic removal, capital improvement planning case studies, and ABC training to meet the needs of certification. In the two days, EPA allotted plenty of time for networking breaks, brainstorming sessions, and social activities.

Upcoming Workshops

Half-Day Cross Connection	October 14, 2003 Penn State York	Tuesday 7:45 AM – 12:30 PM
One and One-Half Days Turbidity Optimization	October 21 – 22, 2003 Penn State Harrisburg	Tuesday 8:00 AM - Noon Wednesday 8:00 AM – 4:00 PM
One-Day Chemical Feed Pumps	October 28, 2003 Penn State New Kensington	Tuesday 8:00 AM – 4:00 PM
One-Day Confined Space Level 1	October 31, 2003 Ebensburg Fire House, Ebensburg, PA	Friday 8:00 AM – 4:30 PM Friday
Half-Day Cross Connection	November 5, 2003 Penn State Altoona Conference Center	Wednesday 10:00 AM – 4:00 PM
One-Day Confined Space Level	November 20, 2003 Gregg Township Authority Treatment Facility, Allenwood, PA	Thursday 8:00 AM – 4:30 PM

See our Web site for the most recent course listings, or contact Alison Shuler at ajs28@psu.edu 717-948 6388

DEP LAUNCHES HIGH-TECH SYSTEM TO ALERT OPERATORS OF POWER PLANTS, WATER SUPPLIES AND OTHER CRITICAL FACILITIES OF POTENTIAL DANGERS

System will enhance homeland security in case of attack, accident or natural disaster

HARRISBURG: On behalf of Governor Edward G. Rendell, Department of Environmental Protection (DEP) Secretary Kathleen A. McGinty announced the implementation of the emAlert Emergency Notification System, a 21st century plan to enhance homeland security and protect Pennsylvania residents from environmental dangers.

“The emAlert Emergency Notification System links DEP electronically with the operators of critical infrastructure facilities throughout Pennsylvania,” Secretary McGinty said. “This system ensures that people operating these vital facilities will know what they need to do to protect our citizens and our environment in the event of an emergency.”

Secretary McGinty made the announcement at the Pennsylvania Municipal Authorities Association’s 61st annual conference in Hershey, where hundreds of members gathered to learn more about services that protect and enhance the environment, promote economic vitality and ensure the safety and general welfare of Commonwealth residents. Founded in 1941, PMAA has an active membership of more than 600 authorities, as well as some 500 associate members who provide services to municipal authorities.

The emAlert system is connected to six primary types of facilities: nuclear power plants, conventional fuel power plants, public water supplies, sewage treatment plants, high hazard dams and large, above-ground storage tanks. These facilities are located at more than 5,000 sites throughout the Commonwealth. An emAlert Emergency Notification System message will give these operators pertinent details on any event that triggers the system, such as an accident or natural disaster, and safety information specific to the particular event that occurs.

“In the event of an accident, natural disaster or other incident that threatens the safe operation of these facilities, each affected operation will receive an electronic notification of the situation,” Secretary McGinty said. “The emAlert system will allow state officials to quickly disseminate information about how the situation is developing, and about how owners and operators of these vital power plants, dams and other structures may be affected.”

The emAlert Emergency Notification System houses emergency contact information that DEP will use to notify affected facilities about emergency situations. All applicable facilities will be contacted within several weeks and given the ability to privately access their emergency contact information for the purpose of ensuring their emergency contact information is accurate and complete. Each facility will be permitted to view and update emergency contact information for its own facility whenever necessary.

“Making sure Pennsylvanians continue to have power and clean water is vital during times of natural disasters or other emergency situations. We also need to do all we can to keep power plants, dams, water supplies and other structures safe to protect the health and safety of our residents and the environment when a serious incident takes place,” Secretary McGinty said.

“The owners and operators of all of our critical infrastructure facilities are our partners in providing vital services to Pennsylvanians,” Secretary McGinty said. “This state-of-the-art notification system will make sure those services continue to be provided during an emergency, and thus contribute to improving our homeland security.”

For more information about the system, visit DEP’s Web site at www.dep.state.pa.us, DEP Keyword “DEP emAlert.”

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ETC graduate student receives WWOAP Scholarship

At the 2003 Annual Conference of the Water Works Operators Association of Pennsylvania, Julia Saylor was awarded the David A. Long Scholarship. The scholarship, named after the well-respected professor and member of the water operations field, is awarded annually to a deserving WWOAP member or student pursuing higher education, preferably in the water supply industry. Dr. Long was one of the co-founders of Small Public Water Systems Technology Assistance Center at Penn State Harrisburg.

Julia is a graduate student at Penn State Harrisburg. She is pursuing a Master of Science degree in Environmental Pollution Control. Her research involves disinfection byproduct control in four small public water systems in Pennsylvania.



Pictured with Julia Saylor is Dr. Brian A. Dempsey, Professor of Civil and Environmental Engineering at University Park.

Security Training

Brenda Firestone blf3@psu.edu

In response to new state and federal policies designed to decrease vulnerability and protect our water and wastewater systems, the Environmental Training Center and the Pennsylvania Department of Environmental Protection are working together to provide accessible security training that meets the needs of operators throughout the state.

In Pennsylvania, the new Drinking Water and Wastewater Operator Certification Act (HB 1830, Act 11) requires that security training be provided for all those who work in a drinking water or wastewater system. Congress has also recognized the need for drinking water systems to undertake a more comprehensive view of water safety and security with The Public Health Security and Bioterrorism Preparedness and Response Act of 2002. One of the first steps to enhance security is to conduct a vulnerability assessment. In fact, the Act requires community drinking water systems that serve populations greater than 3,300 persons to conduct assessments of their vulnerabilities to terrorist attack or other intentional acts intended to substantially disrupt the ability of the system to provide a safe and reliable supply of drinking water.

The security training addresses issues such as: types of threats, likely targets, security measures, vulnerability assessments and response. It will be available in three formats: web-based, classroom and correspondence. The web-based training is expected to be completed in the spring of 2004. The classroom and correspondence format will be available by the summer.

For more information on general security concerns and regulations access the PA DEP Drinking Water and Wastewater Information Center-Security/Emergency Planning at:

http://www.dep.state.pa.us/waterops_apps/ETPMain/Certification/SecurityEmergency.asp

Or the EPA Web page:

<http://www.epa.gov/safewater/security/util-inst.pdf> <http://www.epa.gov/safewater/security/util-inst.pdf>

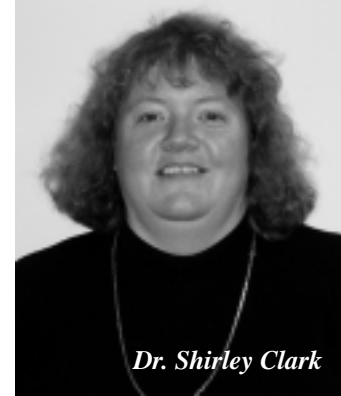
For more information on the security training course, contact Brenda Firestone, 717-948-6538, blf3@psu.edu.

Note: Some of the information for this article has been taken from the PA DEP Drinking Water and Wastewater Information Center-Security/Emergency Planning Web page.

Two new members join the environmental engineering faculty team at Penn State Harrisburg.

Shirley Clark, Ph.D. (sec16@psu.edu)

Dr. Shirley Clark joined the faculty at Penn State Harrisburg in August 2003. She has a B.S. in Chemical Engineering from Washington University in St. Louis, a master's in Civil Engineering (Environmental Engineering major) from the University of Alabama at Birmingham (UAB), and a Ph.D. in Environmental Health Engineering from UAB. After she received her Ph.D. in December 2000, she completed a one-year post-doctoral fellowship with the U.S. EPA's Urban Watershed Management Branch in Edison, N.J. Prior to joining the faculty at Penn State Harrisburg and after completing her post-doctoral appointment, Dr. Clark was a Research Assistant Professor of Environmental Engineering at UAB.



Dr. Clark's area of expertise is in stormwater management. Her research focus has been on both the treatment of stormwater runoff and in pollution prevention as it relates to stormwater runoff. Dr. Clark's dissertation examined the potential use of filtration as a technique for treating runoff – work that she is planning to continue at PSH. She has also been investigating common building materials for their potential to contribute pollutants to stormwater runoff. She helped establish a pilot-scale set-up to allow for long-term monitoring of several of these materials (roofing shingles, roof patching compounds and treated woods) at UAB. She will be presenting the results of these research projects at WEFTEC, the AWRA National Convention and the PA Stormwater Conference.

Dr. Clark's teaching areas include hydrology, hydraulics, drinking water supply and treatment, design of conveyance systems, environmental management, and several stormwater classes including construction site erosion control, detention pond design and stormwater management.

Baikun Li, Ph.D. (bx128@psu.edu)

Dr. Baikun Li joined the faculty at Penn State Harrisburg in August 2003. She has a B.S. and master's in Environmental Engineering from Harbin University of Civil and Architectural Engineering (merged to Harbin Institute of Technology) in China. After graduation in 1995, she worked as instructor at Northern Jiaotong (Railway) University in Beijing for 3 years. She earned a Ph.D. in Environmental Engineering from the University of Cincinnati in May 2002. Before joining Penn State Capital College, she worked as a post-doctoral researcher at Penn State University Park.



Dr. Li's research and teaching specialty is biological water and wastewater treatment. She has about 10 years' research and design experience of nutrient removal wastewater treatment process, energy production from biomass fermentation, environmental biotechnology, application of advanced microsensor and molecular biological approaches in biological wastewater treatment processes. During her bachelor research period, she studied the nutrient removal (nitrogen, phosphorous removal) by using sequencing batch reactor (SBR) treating municipal wastewater. She investigated the hydrogen production in acidogenic phase of anaerobic wastewater systems during her master's program. Dr. Li's Ph.D dissertation investigated the microenvironment of activated sludge floc using microelectrodes and fluorescent in situ hybridization (FISH). Her post-doctoral research was on bacterial attachment to different metal oxide coated glass surfaces and bacterial filtration through glass fiber mats. Her work has been published or will be seen in *Environment Science and Technology*, *Water Science and Technology*, *Journal of Environmental Engineering and Science*, *Water Environmental Research*, *Water Research*, and *Environmental Science and Technology*. She has presented her research at annual conferences of ASM, ACS, WEFTEC, and IWA. She is planning to continue the vigorous research activities at PSH and to expand the research to the environmental biotechnology, energy production for sustainable development, pathogen removal in water and wastewater tertiary treatment.

Besides research, Dr. Li's teaching areas include water supply and pollution control, biological wastewater treatment. She will also teach wastewater treatment design in the spring semesters. In the future, she will be teaching environmental biotechnology, biological wastewater kinetics and modeling, biomass energy production, and advanced water and wastewater treatment technology.

ETC team has three new players.

Jack Himes, Paul Deardorff, and Bob Bylone began working for the Environmental Training Center this past July.

Jack Himes (jlh587@psu.edu)

“Having just started as a graduate assistant in the Environmental Training Center, I am looking forward to an interesting and challenging experience. My previous work experience was in teaching at the high school and college levels and working for component manufacturers servicing the telecommunications fiber optics industry. A huge downturn in that industry segment in the past several years has prompted me to look for a new career. After taking a few courses in the Environmental Pollution Control program here at Penn State Harrisburg and learning a little bit about what goes on in the Environmental Training Center, I am confident that it is a good decision to retrain myself for work in the environmental area.”



Jack Himes

Jack joins the ETC as a graduate assistant and will be working on evaluating the Center’s ability to create an operator’s certificate program in addition to several additional responsibilities.

Bob Bylone (rjb128@psu.edu)

Bob Bylone, new project assistant of the Environmental Training Center, began his career by earning a B.S. in Environmental Engineering Technology from Penn State Harrisburg. Bob then proceeded to Junkins Engineering, an environmental, health, and safety consulting firm, located in Morgantown, Pa. While at Junkins Engineering, Bob completed projects in eighteen different states in fifteen types of industry. Next, as a project/environmental, health, and safety engineer, Bob was employed by Copperhead Chemical Company, an explosives and pharmaceutical manufacturer. Along with many duties at Copperhead, Bob was the supervisor of the site’s wastewater treatment plant, treating both sanitary and industrial flows. Immediately prior to beginning employment with Penn State this August, Bob was the Environmental Coordinator for Schuylkill County. As Environmental Coordinator, Bob managed and expanded the county’s recycling program, and served as the county’s project contact for concrete rehabilitation of Sweet Arrow Lake, including reinforcing the dam with roller compacted concrete. It is this combination of experience in the environmental field that Bob brings to the Environmental Training Center.



Bob Bylone

Paul Deardorff (pcd113@psu.edu)

Paul is originally from Spring Grove, Pa. He attended Drexel University in Philadelphia and earned a bachelor’s degree in chemical engineering. Upon graduation, he spent the past summer interning for JMT engineering in Sparks, M.D. in the Water / Wastewater Department. His involvement at JMT engineering included a project to renovate the current wastewater treatment facility for the City of Baltimore. He is currently enrolled as a full-time graduate assistant in the environmental engineering program. He will be studying disinfection byproducts in small water distribution systems, under the advisement of Dr. Xie.



Paul Deardorff

We welcome Bob, Paul, and Jack to the Environmental Training Center and look forward to working with them. We believe their respective experience and expertise will continue to strengthen the ETC team.

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ETC Web site Gets a Face-Lift

Over the summer, Chi Tran, an undergraduate student at Penn State Harrisburg, updated the center's two web sites. The old SPWSTAC site has been fully incorporated into the ETC site. The new design is more pleasing to the eye and easier to find information.

Visit us at
www.hbg.psu.edu/etc
and see our
new look.



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