

# THE WATER SPOT 2007

PROGRAM INFORMATION FROM THE  
HAWAII SAFE DRINKING WATER BRANCH OF  
THE HAWAII STATE DEPARTMENT OF HEALTH

Volume 11, Issue 5

August/September 2007

Phone: (808) 586-4258

FAX No: (808) 586-4351

## UNIVERSITY OF HAWAII • OUTREACH COLLEGE: WATER TECHNOLOGY CONTINUING EDUCATION

### 2007 CLASSES:

Aug 2 • Thu • Kauai Community College, Welding Classroom, (Weld2-101), 3-1901 Kaunualii Highway.

For campus map, go online to: <http://kauai.hawaii.edu/map/campusmap.htm>

Operator Math Review -Kauai (S09334) • 8:00am-12:00pm • 1 mtg • \$42 • Robert Brokate

Total Coliform Rule for Small Systems -Kauai (S09335) • 12:30-4:30pm • 1 mtg • \$42 • Robert Brokate

Aug 7 • Tue • UHM Hawaii Institute of Geophysics Auditorium.

For campus map, go online to: <http://www.hawaii.edu/campusmap>; park in lower campus parking structure

Water System Pumps -Manoa (S09332) • 7:45-11:45am • 1 mtg • \$42 • Kevin Baughman

Water System Motors and Electricity -Manoa (S09333) • 12:15-4:15pm • 1 mtg • \$42 • Kevin Baughman

Aug 24 • Fri • UH Kamuela Cooperative Extension Office Meeting Room, 67-5189 Kamamalu Road

Operator Math Review -Kamuela (S09336) • 7:45-11:45am • 1 mtg • \$42 • Robert Brokate

Total Coliform Rule for Small Systems -Kamuela (S09337) • 12:15-4:15pm • 1 mtg • \$42 • Robert Brokate

Sep 6 • Thu • Maui Community College, 310 Kaahumanu Ave (Laulima 225).

For campus map, go online to: <http://maui.hawaii.edu/about/maps.html> • \$42 • Kevin Baughman

Water System Pumps -Maui (S09330) • 7:45-11:45am • 1 mtg • \$42 • Kevin Baughman

Water System Motors and Electricity -Maui (S09331) • 12:15-4:15pm • 1 mtg • \$42 • Kevin Baughman

Sep 20 • Thu • State Laboratories Division (Pearl City), Auditorium, 2725 Waimano Home Road

Operator Math Review -Pearl City (S09328) • 7:45-11:45am • 1 mtg • \$42 • Jay M. K. Stone

Sanitary Survey Concepts -Pearl City (S09329) • 12:15-4:15pm • 1 mtg • \$42 • Jay M. K. Stone

Oct 9 • Tue • UHM Krauss 012 (Yukiyoshi Room).

For campus map, go online to: <http://www.hawaii.edu/campusmap>; park in lower campus parking structure

Operator Math Review -Manoa (S09282) • 7:45-11:45am • 1 mtg • \$42 • Jay M. K. Stone

Sanitary Survey Concepts -Manoa (S09327) • 12:30-4:30pm • 1 mtg • \$42 • Jay M. K. Stone

### 2008 SPRING CLASSES:

Jan 9 • Wed • UH Lanai Education Center, 329 7th St.

Operator Math Review -Lanai (S09339) • 8:30am-12:30pm • 1 mtg • \$46 • Robert Brokate

Total Coliform Rule for Small Systems -Lanai (S09338) • 1:00-5:00pm • 1 mtg • \$46 • Robert Brokate

Feb 12 • Tue • DOH Environmental Health Facility, 1582 Kamehameha Avenue

Waterworks Overview: Water Basics, Reservoirs, Wells, Water Quality & Regulations -Hilo (S09340) • 7:45am-4:15pm

• 1 mtg • \$92 • Edward Pedrazzi

Feb 13 • Tue • Maui Community College, 310 Kaahumanu Ave.

For campus map, go online to: <http://maui.hawaii.edu/about/maps.html>

Waterworks Distribution System: Hydraulics, Pipes, Appurtenances, and Waterworks Math -Maui (S09341)

8:00am-4:30pm • 1 mtg • \$92 • Edward Pedrazzi

Additional classes on Kauai, Oahu, and Molokai will be offered later in 2008.

Because the break between morning and afternoon sessions is short, a brown bag lunch is recommended.

Please bring a handheld calculator to all classes

# REGISTRATION INFORMATION

## HOW TO ENROLL:

When paying with your VISA or MasterCard:

- **Register by Phone:** Call 956-8400, Mon–Fri, from 8:00am–5:30pm. Please have the course number and your VISA or MasterCard information ready.
- **Register by Fax:** Fax your registration to 956-3752 at any time. Please print and sign legibly to ensure that your information can be read.

**Register by Mail:** Mail the completed form below with full payment or business purchase order to: UHM Outreach College, 2440 Campus Road, Box 447, Honolulu, HI 96822. *If checks are dishonored by the banks, there is an assessment of \$25.*

**Register in Person:** At Outreach Student Services office; 2500 Dole Street, Krauss Hall, Room 101, Information Window; Mon–Fri, 8:00am–5:30pm (except holidays).

### Disability Access

Persons with disabilities who may require access services should contact the Outreach College Student Services office (808) 956-8400 at the time of registration.

### Withdrawals/Refunds

Unless otherwise specified, a full refund is given if requests are received by 12:00 noon two working days before the first class meeting. Requests are made in person, by mail (postmarked by the refund deadline), or by calling the Outreach Student Services Office (956-8400). Failure to attend class or notifying your instructor of intent to withdraw does not constitute an official withdrawal from the class. Students registering with a purchase order are billed regardless of attendance, unless notification of withdrawal is made by the refund deadline. Refunds for check or cash payments are mailed and refunds for charge payments are credited to the account originally charged. Refunds may take 4 to 6 weeks to process.

### Cancellation Policy

Outreach College reserves the right to cancel a course with insufficient enrollment. The University of Hawai'i and Outreach College are not responsible for any cancellation/change charges assessed by airlines and travel agencies. Information, including statement of fees, course offerings, schedules, etc., are subject to change without notice or obligation.

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For more information, call (808) 956-8244 or go to [www.outreach.hawaii.edu/noncredit](http://www.outreach.hawaii.edu/noncredit)



## Outreach College Noncredit Registration Request/Payment Form

(PLEASE SUBMIT WITH YOUR PAYMENT)

UNIVERSITY OF HAWAII AT MĀNOA  
**OUTREACH COLLEGE**  
continuing education & summer sessions

Mail to Outreach College, University of Hawai'i at Mānoa, 2440 Campus Road, Box 447, Honolulu, HI 96822; or drop off at Outreach College Student Services Office, 2500 Dole Street, Krauss Hall Information Window, Room 101, M-F, 8:00am–5:30pm. If paying by credit card, call (808) 956-8400, or fax to (808) 956-3752. Duplicate form as needed.

LAST OR FAMILY NAME, FIRST NAME, MIDDLE INITIAL \_\_\_\_\_

MAILING ADDRESS, CITY, STATE, ZIP CODE \_\_\_\_\_

Female  
 Male

EMAIL ADDRESS (RECOMMENDED) \_\_\_\_\_

Check here if your address or phone number has changed since you last registered.

Phone: \_\_\_\_\_

DAY

EVENING

FAX

Firm/Affiliation: \_\_\_\_\_

How did you learn about the course(s) you are registering for?

Bulletin  Newspaper Ad  Internet

Friends/Colleagues  Flyer/Brochure  Other

Billing Address: \_\_\_\_\_

Course Reference Number    Course Title (and Section if applicable)

Fee

(OFFICE USE ONLY) RECEIPT #

		\$	
		\$	
		\$	
<b>TOTAL</b>		\$	

### PAYMENT METHOD:

Check or Money Order (Payable to the University of Hawai'i)     Purchase Order No. \_\_\_\_\_ (P.O. MUST BE INCLUDED)

VISA     MasterCard    Credit Card No.: \_\_\_\_\_    Exp. Date (Mo/Yr): \_\_\_\_\_    CW2 Code\*: \_\_\_\_\_

NAME OF CARDHOLDER (PRINT) \_\_\_\_\_

SIGNATURE OF CARDHOLDER \_\_\_\_\_



\*CVV2 code is last 3-digit number on the signature panel.

CARDHOLDER'S BILLING ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_

ZIP CODE \_\_\_\_\_

CARDHOLDER'S RESIDENCE TELEPHONE \_\_\_\_\_

CARDHOLDER'S EMAIL ADDRESS \_\_\_\_\_

FOR OFFICE USE ONLY:

REGISTRATION # \_\_\_\_\_

INPUT BY \_\_\_\_\_

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## ***SHAM NAMED CHAIR OF AWWA SOURCE WATER PROTECTION COMMITTEE***

Chi Ho Sham, Ph.D., a vice president of The Cadmus Group, Inc., has been named chair of the Source Water Protection Committee of the American Water Works Association (AWWA). His 3-year-term began in July. The appointment was made by the trustees of AWWA's Water Resources and Water Quality & Technology Divisions, to which the committee reports.

Dr. Sham is a nationally recognized expert in source water protection and head of Cadmus' Drinking Water and Water Quality Group. A long-time member of AWWA and of the committee, Dr. Sham has served as the committee's vice chair.

"I will be working with a group of dedicated professionals to advance source water protection policy and science to safeguard our drinking water," said Dr. Sham. "The committee has a lot to do in the coming years to promote source water protection. Making source water protection an integral part of our nation's drinking water protection strategy will only be possible by getting water systems and federal, state, and local governments to collaborate."

The technical committee, to be led by Dr. Sham, will address source water protection issues on behalf of AWWA. The Source Water Protection Committee has recently worked on an AWWA policy statement on whether drinking water reservoirs should be opened to body-contact recreational uses such as swimming. And it has worked on and will continue to work on a guidance to help water utilities work on source water protection efforts.

The committee participates in the development and implementation of a Source Water Protection Symposium in odd-numbered years. Dr. Sham chaired the 2005 symposium and was on the planning committee for the 2007 event, which was held in January.

For years Dr. Sham has supported the U.S. Environmental Protection Agency (EPA) in its implementation of source water assessment and protection under the 1996 Amendments to the Safe Drinking Water Act. For example, he has developed guidance documents, research strategies, and training materials. He also has supported Connecticut, Vermont, and Hawaii in their source water protection efforts. On behalf of AWWA, Dr. Sham serves as a trainer at source water protection workshops. He also speaks at numerous workshops and makes presentations to the planning committees of numerous technical conferences.

**Dr. Sham will be making a presentation on the "Land and Water Relationship: The Importance of Land Use Management and Control on Source Water Quality" and will lead Breakout Session 2 on Source Water Protection at the 2007 Hawaii Water Works Association Conference on October 3-5, 2007.**

## ***2007 HAWAII WATER WORKS ASSOCIATION (HWWA) ANNUAL CONFERENCE - Still Time to Register!***

### **TENTATIVE AGENDA**

#### **Wednesday, October 3, 2007 (Kauai Ballroom)**

- (1) 21<sup>st</sup> Century Ahupua`a
- (2) Looking to Hawaii's Past to Sustain Hawaii's Future
- (3) Assessing Water Resources Now and Into the Future
- (4) **Becoming a Professional Human Being: Using the Mind-Body Health Connection to Access the Power Within**
- (5) **The Land and Water Relationship: The Importance of Land Use Management and Control on Source Water Quality**
- (6) Wai and Its Relationship to Hawaiians in the Past, Present and Future
- (7) **A Watershed Based Approach to Resource Management: Oahu's Watershed Management Plans**

#### **Thursday, October 4, 2007 (Honolulu Suite)**

- |  |   |
|--|---|
| <ol style="list-style-type: none"><li>(1) <b>The Utility's Role in Water Loss Control</b></li><li>(2) <b>Sustainable Building Blocks - Developing a Water Conserving Oahu</b></li><li>(3) <b>Social Marketing - Not Just Talking, But Actually Getting Heard</b></li><li>(4) <b>Energy Efficiency for Water Utilities</b></li><li>(5) <b>Breakout Session 1 (Honolulu Suite)</b><br/><b>Changing Work Practices in Field Operations, The Rollout of the Multi-Skilled Worker Pilot</b></li></ol> | <b>Breakout Session 2 (Kohala/Kona Suites)</b><br><b>Source Water Protection Applications-Regulatory &amp; Non-Regulatory</b> |
|--|---|

**Thursday, October 4, 2007 (Honolulu Suite) (continued)**

- |   |   |
|---|---|
| <b>(5) <u>Breakout Session 1 (Honolulu Suite)</u></b><br><b>How Field Work Gets Done With a<br/>New Computer Maintenance<br/>Management System (CMMS)</b> | <b><u>Breakout Session 2 (Kohala/Kona Suites)</u></b><br><b>From Assessment to Protection</b> |
| <b>Water Supply and Recycling Research</b>  | <b>SWP Tools</b>  |
| <b>Emerging Issues in Drinking Water<br/>Regulation</b>   | <b>Funding Options</b>  |

**Friday, October 5, 2007 (Honolulu Suite)**

- (1) Hawaii's Watershed Partnerships: A Model for Water Resource Management Collaboration**
- (2) Malama Learning Center - Planting Seeds for Sustainability Education in West Oahu**

If you need additional information, please call Lorna Heller at (808) 550-5043. Email: [lheller@hbws.org](mailto:lheller@hbws.org)

***COMING SOON: HAWAII COUNTY FAIR***

The Safe Drinking Water Branch continues its effort to be more involved with public outreach activities by once again participating in the Department of Health booth at this year's Hawaii County Fair. This year's Hawaii County Fair will be held from September 13-16, 2007 at the Hilo Civic Center. This year's theme for the Department of Health's booth will be emergency preparedness.

The fair hours are as follows:

<b>September 13 (Thursday)</b>	<b>6:00pm</b>	<b>to</b>	<b>12:00 Midnight</b>
<b>September 14 (Friday)</b>	<b>6:00pm</b>	<b>to</b>	<b>12:00 Midnight</b>
<b>September 15 (Saturday)</b>	<b>12:00noon</b>	<b>to</b>	<b>12:00 Midnight</b>
<b>September 16 (Sunday)</b>	<b>12:00noon</b>	<b>to</b>	<b>6:00pm</b>

***PROJECT BEING PLANNED TO PRIORITIZE AREAS ON OAHU  
FOR ON-SITE DISPOSAL SYSTEMS (OSDS) INSPECTIONS***

In a collaboration between the Hawaii Department of Health's Clean Water Branch, Safe Drinking Water Branch, and Wastewater Branch, a project to develop and establish an inspection protocol for on-site sewage disposal systems (OSDS) has been contracted to the University of Hawaii. OSDS include septic tanks, cesspools, and other applicable types of wastewater disposal systems. Due to the sheer number of such systems, a program of prioritizing the inspections must also be established. The goals of the current project are to:

- Quantify the number of OSDS in each area of concern;
- Prioritize the systems that will be inspected based on risk to drinking water or to the environment;
- Identify systems to be inspected;
- Establish a frequency or an event that will trigger an inspection;
- Develop inspection protocols; and
- Draft language for the inspection program.

The University of Hawaii personnel working on this project will include groundwater/watershed modelers, GIS technicians, and civil engineers with expertise in small wastewater systems. The project will be divided between two groups:

- (1) The hydrogeology group, which will assess the risk posed by OSDS to drinking water resources, and shoreline and stream environments, based on identifying those areas where on-site disposal of sewage poses the greatest risk. and

(2) Inspection Program Development Group, comprised from civil engineers, which will develop and test inspection protocols for each major category of OSDS.

### **Hydrology Risk Assessment Group**

The sheer number of OSDS and limited staff at HDOH make prioritizing those systems to be inspected necessary. The driving factor in the prioritization should be risk to receptors of concern (ROC). The primary ROCs are:

- Drinking water wells
- Streams
- Near shore waters.

The Source Water Assessment Program (SWAP) has delineated capture zones for drinking water wells and identified the potentially contaminating activities (PCAs) within those zones. Once this was done, a susceptibility to contamination score was computed based on the types and number of PCAs in a capture zone. A similar approach will be taken to assess and quantify the OSDS risk. Using the pre-defined well capture zones for wells and watersheds boundaries, and creating new delineations for the two-year time of travel for groundwater to the shoreline, a GIS query will be created to identify the number and type of OSDS in each zone. The near-shore area will be sub-divided into areas based on the intersection with the two-year time of travel zone and the DLNR aquifer system boundaries. The two-year time of travel criteria maintains consistency between this program and the SWAP Zone-B delineations and will be re-evaluated for applicability. Once the quantity of OSDS in each individual zone is known, the quantification of OSDS risk will include:

- The density of OSDS systems in a capture zone, watershed or within a two year time of travel to the shoreline (based on groundwater velocity),
- Depth to the water table,
- Groundwater recharge rate,
- Aquifer permeability,
- Distance to a ROC,
- Rainfall rate,
- Soil organic carbon, dominant particle size, taxonomy, and other soil data
- Type of OSDS,
- Load of the OSDS, and
- Position in flood zones.

This is a pilot project and will only consider the island of Oahu. Shape files for all watersheds and drinking water capture zones will be queried to identify the number and type of OSDS within each capture zone of each watershed. A similar exercise will be done for inland areas within a two-year time of travel for groundwater to the ocean. The two-year time of travel criteria maintains consistency between this program and the SWAP Zone-B delineations. A numerical scoring system will be developed similar to the susceptibility to contamination scoring system used in the SWAP program.

### **Inspection Program Development Group**

The IPDG will develop an inspection program that considers different categories of treatment and disposal systems including cesspools, septic tanks, aerobic treatment units, seepage pits, absorption beds, and evapotranspiration/infiltration systems. The inspection program will have several components including: inspector qualification/training requirements, public outreach document recommendations, inspection schedules by system type, inspection procedures, inspection documents, and record keeping. An inspection program shall include public outreach such as operation maintenance procedure handouts for specific system types for distribution to owners during inspections.

To test the inspection protocols UH and HDOH personnel will visit five cesspool and five septic systems to identify modifications needed to the procedures prior to implementation.

**Dr. Aly El-Kadi will be the principle investigator for this project. Dr. El-Kadi oversees the hydrogeology program at the University of Hawaii and has extensive experience in groundwater and watershed modeling, and will provide project oversight for the University of Hawaii.**

**Dr. Roger Babcock of the Water Resources Research Center is a civil engineer with expertise in waste water disposal and treatment. Dr. Babcock will oversee the team that develops the OSDS inspection protocols.**

**On the Spot:**

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*Please send your suggestions, ideas, questions or comments to:*

***THE WATER SPOT 2007***  
***Safe Drinking Water Branch***  
***State Department of Health***  
***919 Ala Moana Blvd., Room 308***  
***Honolulu, Hawaii 96814***

***Fax us at (808) 586-4351,***  
***Attn: “THE WATER SPOT 2007”***

***SDWB WEB SITE:***  
***<http://www.hawaii.gov/health/environmental/water/sdwb>***



**LINDA LINGLE**  
**Governor of Hawaii**

**CHIYOME LEINAALA FUKINO, M.D.**  
**Director of Health**

**LAURENCE K. LAU**  
**Deputy Director for**  
**Environmental Health**

*We provide access to our activities without regard to race, color, national origin (including language), age, sex, religion, or disability. Write or call our Affirmative Action Officer at Box 3378, Honolulu, HI 96801-3378 or at (808) 586-4616 (voice) within 180 days of a problem.*

***The Water Spot 2007 (August/September 2007)***  
**Safe Drinking Water Branch**  
**Environmental Management Division**  
**Hawai`i Department of Health**  
**919 Ala Moana Boulevard, Room 308**  
**Honolulu HI 96814**

