The three-day workshop will be held August 19-21. Dress casually and comfortably for the class, and be sure to bring a calculator, notebook and pens/pencils for the design sessions. A field trip to a drip distribution system is included in this workshop. Transportation will be provided. The design sessions will focus on the mathematical elements involved with designing systems from start to finish.

**AGENDA**

**Tuesday August 19, 2003**
- 8:30 am Registration
- 9:00 am Welcome and Introduction
- 9:15 am Drip System General Theory, Operation and History
- 10:15 am Break
- 10:30 am Field Trip to visit existing drip system
- Noon We will stop for lunch on the way to the site – (lunch not included in registration)
- 4:30 pm Arrive back on campus and Adjourn

**Wednesday August 20, 2003**
- 8:30 am Site-specific Drip Design, including Soil Science
- 9:30 am Component Selection and Assembly into Integrated System
- 10:30 am Break
- 10:45 am Site Layout Technologies
- Noon Lunch – provided
- 1:00 pm System Soil Hydraulics and Pre-Treatment Design
- 2:00 pm System Filtration Design
- 3:00 pm Break
- 3:15 pm System Piping and Tubing Design
- 4:15 pm System Zoning and Operation Technique
- 4:30 pm Adjourn

**Thursday August 21, 2003**
- 8:30 am Pump Selection
- 9:30 am Construction and O&M Procedures
- 10:30 am Break
- 10:45 am System Design Examples
- Noon Lunch – provided on site
- 1:00 pm System Design Examples
- 3:00 pm Break
- 3:15 pm System Design Examples
- 4:30 pm Course Evaluation and Adjourn
ABOUT THE WORKSHOP
You are invited to participate in the Onsite Wastewater Design Workshop for Subsurface Drip Disposal Systems hosted by the Tennessee Valley Authority, The University of Tennessee Center for Decentralized Waste Water Management and the American Society for Civil Engineers –Knoxville Branch. This workshop has been designed primarily for engineers and environmental health professionals. Experts in the field of drip disposal systems will be on hand to speak about the technology, its applications, advantages and, more specifically, how drip disposal systems are designed from start to finish. We invite you to look over the agenda and register for this limited event.

PURPOSE
• To provide a greater understanding of how various drip systems work and why they are selected for specific sites.
• To offer an opportunity to observe the application of cutting-edge technologies in the onsite wastewater field.
• To provide an opportunity to interact with colleagues within the onsite community.

INSTRUCTORS
Tom Sinclair, President and Head of R&D, Equipment Manufacturing Waste Water Systems, Inc., has more than 20 years of professional expertise in the onsite industry. He specializes in wastewater treatment system designs, using extended aeration systems and tertiary filtering for subsurface drip discharge of effluent wastewater. This expertise is applied to commercial, industrial and agricultural facilities. His extensive technical knowledge has been acquired as a result of his direct management of projects, from initial field consulting and cost estimating to supervising the construction and operation of the resulting facilities.

An active member of NOWRA, Sinclair has been awarded two U.S. patents for wastewater drip disposal system components and one U.S. patent for a recirculating sand filter.

Brian Britain, has worked with onsite systems since the late 1970s. He earned his Bachelor of Science in Mechanical Engineering from The University of Texas at Austin and is currently the manager of wastewater drip dispersal project development for Waste Water Systems, Inc. of Ellijay Georgia. Over the past 10 years, he has been directly involved with the design, construction, operations and maintenance of drip dispersal systems for a wide range of wastewater projects and has played a key role in the product development and advancement of drip technology.

ABOUT DRIP TECHNOLOGY
One of the most worthwhile areas among the new frontiers in subsurface irrigation is that of wastewater irrigation. A reliable, pressurized, subsurface drip irrigation system for wastewater combines the advantages of high irrigation efficiency and water economy with that of safe underground application and controlled percolation.

Some of the main advantages of subsurface drip irrigation used in conjunction with reclaimed water are:
• Provides uniform application of water over a large area.
• Reduces wastewater runoff, ponding and odor.
• Offers a more manageable, balanced distribution of reclaimed water through a relatively shallow soil profile by applying water directly in plant root zones, minimizing ground and surface water pollution.
• Extends and conserves our water resources through safe use of reclaimed water for irrigation.
• Reduces health risks associated with exposure to and use of reclaimed water.

LOCATION
The workshop will be held at:
The University of Tennessee – Agriculture Campus
2500 E. J. Chapman Drive
Biosystems Engineering Lab Bldg.
Knoxville, TN 37996

DIRECTIONS
From I-40, take the Alcoa Hwy exit (Hwy 129 South). Exit Alcoa Hwy onto Neyland Drive. Turn left on Neyland Drive. The main entrance of the Agriculture Campus is a left turn onto Center Drive. Follow Center Drive to the intersection of Chapman Drive. Turn right on Chapman Drive and park in Lot 66. The Biosystems Engineering Lab Building is on the corner of Chapman and Center Drives.

FOR INFORMATION CONTACT:
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UT CENTER FOR DECENTRALIZED WASTEWATER MANAGEMENT
2506 E. J. Chapman Drive
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MS. JENNIFER BROGDON
TENNESSEE VALLEY AUTHORITY
Phone: 423-751-8525

MS. LEANNE WHITEHEAD
TENNESSEE VALLEY AUTHORITY
Phone: 931-619-0014

REGISTRATION & FEE
Ms. [ ] Mr. [ ] Dr. [ ]
Name: __________________________ First ______ Last ______
Name for Badge: __________________
Employer: _______________________
Mailing Address: __________________
City: __________________ State: ______ Zip: ______
Phone: __________________ Fax: ______ Email: __________________
• Registration Fee is $350.
• ASCE Member Fee is $300.
Registration includes lunch and refreshments.

Payment by [ ] Check [ ] Make check or money order payable to:
Money Order [ ] The University of Tennessee

Mail registration form with payment to:
UT - CDWM
Attn: Robert Cook
7506 E. J. Chapman Drive
Knoxville, TN 37996-4531

For your convenience, you may photocopy this form and then mail.