



## Texas Water Resources Institute's E-Newsletter

*Breaking news about water resources research and education at Texas universities*

**July 31, 2008**

### **TWRI awards Mills Scholarship to graduate students**

Texas A&M AgriLife's Texas Water Resources Institute (TWRI) recently awarded Mills Scholarships to 13 Texas A&M University graduate students for the 2008-09 academic year to pursue water-related research.

TWRI's Mills Scholars Program, an endowed fund that supports research in water conservation and management, provided the \$1,500 scholarships to the students to use for education-related expenses. TWRI uses the Mills Scholars program to encourage and assist current and prospective graduate students to incorporate water resources studies into their graduate programs at Texas A&M University.

Students receiving the scholarships are:

- **Andrew Leidner**, Department of Agricultural Economics
- **Israel Parker**, Department of Wildlife and Fisheries Sciences
- **Dipankar Dwivedi, Reema Padia, Bailey Sullivan and Sean Tolle**, Department of Biological and Agricultural Engineering
- **Cara Harclerode, Leon Holgate and Yujin Wen**, Department of Soil and Crop Sciences
- **Bhavana Viswanathan**, Department of Horticultural Sciences
- **Sanghyun Kim and Chihun Lee**, Zachry Department of Civil Engineering
- **Chan Yong Sung**, Department of Landscape Architecture and Urban Planning

Some of the research conducted by this year's Mills Scholars includes investigation of the transport and fate of *E. coli* in Lake Granbury, deficit irrigation planning and the effect of salt pollution on water supply capabilities.

**Mills Cox**, a former chairman of the Texas Water Development Board, funded the W.G. Mills Endowment, which provides the scholarships.

For more information on the [Mill's Scholarship Program](#) or to learn more about the student's projects, contact Cecilia Wagner, TWRI project manager, at 979.458.1138 or [cawagner@ag.tamu.edu](mailto:cawagner@ag.tamu.edu).

## Jensen leaves TWRI for South Dakota

After 23 years at the Texas Water Resources Institute, Dr. Ric Jensen, assistant research scientist, is leaving the institute to teach public relations courses at the University of South Dakota.

During much of his time at TWRI, Jensen communicated the importance of water-related research at Texas universities to the public.

Since earning his doctorate in educational administration from Texas A&M University in May 2003, Jensen has been interested in applying mass communication research to better understand water resources and environmental issues.



Jensen will be an assistant professor in the Department of Contemporary Media and Journalism at The University of South Dakota in Vermillion and will lead the public relations program. He said he hopes to stay involved in water resources issues. The University of South Dakota houses The Missouri River Institute, which also addresses watershed concerns.

After August 1, please email Jensen at [ricwjensen@yahoo.com](mailto:ricwjensen@yahoo.com).

## TWRI grant recipient develops algorithm

*By Laura Maeker*

Texas A&M University student **Narendra N. Das** and his advising professor **Dr. Binayak Mohanty** of the Department of Biological and Agricultural Engineering have developed an algorithm for downscaling soil moisture measurements from satellite sensors. This algorithm potentially can be used to create a repository of soil moisture and evapotranspiration maps for the state of Texas, Das said.

Das, originally from Bhilai, India and a recipient of a \$5,000 2007-2008 Texas Water Resources Institute (TWRI) research grant, said providing better quality and high-resolution surface and subsurface soil moisture, and evapotranspiration information/data will help improve the efficacy and accuracy of the forecast from hydrologic models.

"My research can be applied to real-world situations in watershed management, irrigation scheduling, drought assessment, weather forecasts and flood forecasts," he said.

Das said Texas research organizations and environmental industries use various hydrological models.

The state and evolution of soil moisture and evapotranspiration are primarily forced by precipitation, which is the major source of space and time variability in the hydrologic cycle.

Das used the Soil-Water-Atmosphere-Plant (SWAP) model, which simulates both the soil water quantity and quality with daily temporal resolution, in his research. SWAP was not originally designed for distributed modeling, but was adapted into a framework developed by Das and Mohanty, he said. The framework is capable of producing watershed-scale soil moisture outputs at various depths in a grid format.

Das plans to join a national lab or become a faculty member at a university. His research was funded by TWRI with funds obtained through the U.S. Geological Survey as part of the National Institutes for Water Research. TWRI is the designated institute for water resources research in Texas.

To read Das' report, click [here](#).

## **Maintaining Watershed Condition**

The key to maintaining healthy watersheds for creeks and rivers is to maintain the tree-covered, green grassy areas along the banks. Unfortunately, animals thrive on this part of the waterway as well.

In order to avoid problems, landowners must learn how to manage these properties to strike an ecological balance that benefits wildlife and livestock and still protects watersheds, Texas AgriLife Research scientists say.

For the complete AgNews story, [click here](#).

## ***WRAP Short Course set***

The Texas Water Resources Institute (TWRI) will host the Water Rights Analysis Package (WRAP) Short Course on Aug. 6-8 at the Centeq Research Plaza on the Texas A&M University campus.

The two and a half day course will focus on the fundamentals of WRAP, a generalized modeling system for simulating the development, management, allocation and use of the water resources of a river basin, and will include computer-modeling exercises. The course is designed for engineers and scientists employed by water agencies and consulting firms.

The WRAP course is part of TWRI's new program to coordinate training courses for water resources professionals. This training program will educate professionals on the latest techniques, innovations and products of university research that can be translated into real-world application.

For more information on the WRAP course or other training courses, visit the training program [Web site](#) or contact Courtney Swyden at [cmswyden@ag.tamu.edu](mailto:cmswyden@ag.tamu.edu) or 979.862.2299.

## **Irrigation training event planned Aug. 19**

The Texas Water Resources Institute (TWRI), Texas AgriLife Extension Service and Texas AgriLife Research are hosting a one-day Irrigation Training Program Aug. 19, in Chillicothe, Texas. The program is designed to help farmers and others learn about efficient tools and techniques of irrigation management.

The program will be from 8 a.m. to 3:30 p.m., with the morning session at the First United Methodist Church, 301 S Avenue J. in Chillicothe.

**Drs. John Sij**, AgriLife Research agronomist, and **Dana Porter**, AgriLife Extension agricultural engineer, are coordinating the event. Presenters will speak on soil moisture management, irrigation timing, applications of center pivot and drip irrigation technologies and updates on cost-share programs and water-issues legislation. Field demonstrations of center-pivot and drip irrigation systems will be in the afternoon.

Interested participants can register online at <http://watereducation.tamu.edu> or by calling **Heather Easterling** at 940.552.9941, ext 252. Pre-registration is not necessary, but will help plan for the barbeque lunch provided. Participants will also be able to register the day of the program.

Continuing education units will be available.

The Chillicothe event is the second of six Irrigation Training Program events being held in different regions of the state during 2008-09. The first training program was in Lubbock and each site offers

region-specific information about irrigation practices, cropping systems and climates. Other training programs will be at Mercedes in October, San Patricio County in November, Uvalde in November and Amarillo in January 2009.

The program is a collaboration with TWRI, [Texas AgriLife Extension Service](#), [Texas State Soil and Water Conservation Board](#) and USDA's [Natural Resources Conservation Service](#). The [Texas Water Development Board](#) funds the project through its Agricultural Water Conservation Grant program.

For more information about the upcoming programs, contact **Cecilia Wagner** at [cawagner@ag.tamu.edu](mailto:cawagner@ag.tamu.edu) or 979.458.1138.

### **53<sup>rd</sup> annual New Mexico water conference set for Oct. 20-22**

The [New Mexico Water Resources Research Institute](#) is hosting its 53<sup>rd</sup> annual water conference on Oct. 20-22 in Albuquerque, New Mexico. The two-day meeting, Surface Water Opportunities in New Mexico, provides a public forum for the discussion of important and often critical state water issues.

For more information about the conference, please visit <http://wrri.nmsu.edu/conf/confsymp.html>.

### **Ninth Biennial State of the Bay Symposium planned for Jan. 12-14**

The [Galveston Bay Estuary Program](#) will hold the Ninth Biennial State of the Bay Symposium on Jan. 12-14, 2009, at the Galveston Island Convention Center at the San Luis Resort in Galveston, Texas.

The theme of this year's symposium is *"What is Needed to Sustain Our Estuary?"* The Estuary Program welcomes abstracts for oral and poster presentations and panel sessions that incorporate elements of sustaining Galveston Bay in the midst of our region's rapid human population growth.

The Estuary Program is a non-regulatory program administered by the Texas Commission on Environmental Quality and its partners work together to implement The Galveston Bay Plan, a 20-year, science-based plan designed to protect and restore the bay. The symposium is held to provide an opportunity for stakeholders to discuss environmental policy, latest research findings and the challenges facing Galveston Bay.

For more information on the symposium or how to submit an abstract, [click here](#).

### **Watershed planning short course set for Jan. 12-16**

Registration is open for the Texas Watershed Planning Short Course to be held at the Mayan Ranch in Bandera, Texas on Jan. 12-16, 2009. This weeklong course will familiarize participants with the Environmental Protection Agency's nine key elements of a watershed protection plan and the general planning principles and tools for building partnerships, assessing watersheds, identifying solutions and designing an implementation program.

Upon course completion, participants will receive continuing education units from the National Registry of Environmental Professionals.

For more information on the course, visit <http://watershedplanning.tamu.edu/> or contact Kevin Wagner at [klwagner@ag.tamu.edu](mailto:klwagner@ag.tamu.edu). For more information on Texas AgriLife Texas Water Resources Institute's water-related training courses, visit <http://watereducation.tamu.edu/>.

## New Projects

### **"Integrated Farm Management Education Program"**

To protect the health of the Arroyo Colorado, this project will implement an innovative education program for agricultural producers focusing on integrated farm management systems (whole system approach). This program will meet three of the six goals identified by the EPA Region 6 Strategic Agriculture Initiative Program. Texas AgriLife Extension Service staff will host educational meetings and produce educational materials on the adoption of proper pesticide application safety practices; an integrated farm management system approach; and water quality management plans and cost-share programs to implement management practices.

Principal Collaborators: TWRI, Texas AgriLife Extension Service

Funding Agency: EPA

### **Renewed Projects**

### **"Efficient Irrigation for Water Conservation in the Rio Grande Basin"**

The *Efficient Irrigation for Water Conservation in the Rio Grande Basin* project funding was recently awarded, moving the project into its eighth year. The project, also known as the Rio Grande Basin Initiative (RGBI) has saved approximately 4 million acre-feet of water in the Rio Grande Basin since the beginning of the project in 2001. Research, studies and demonstrations continue in the areas of irrigation district studies, on-farm irrigation system management, urban water conservation, salinity management and water quality protection. Current activities will be continued with this years funding, bringing more conservation efforts to the region and expanding the use of existing water to meet present and future water demands.

Principal Collaborators: Texas AgriLife Extension Service, Texas AgriLife Research, New Mexico State University Agricultural Experiment Station and Cooperative Extension Service

Funding Agency: United States Department of Agriculture's Cooperative State Research, Education and Extension Service

## New Publications

### **[Runoff and Water Quality from Inorganic Fertilizer and Erosion Control Compost Treatments on Roadway Side Slopes](#)**

S. Mukhtar, M. L. McFarland, C. A. Wagner, Transactions of the ASABE Vol. 51(3): 927-936

Dairy manure compost mixed with wood chips was examined as an erosion control material for stabilization of steep slopes on highway construction sites.

### **[Introduction to Water Quality Testing \(DVD\)](#), Michael P. Masser, Texas AgriLife Extension Service Publication, SP-331**

Knowing how to test for and maintain water quality is essential to recreational fish pond owners and to aquaculturists. This 33-minute video explains how to test for water quality.

### **[Procedures for Water Quality Management \(DVD\)](#), Michael P. Masser, Texas AgriLife Extension Service Publication, SP-332**

This 42-minute video presents some specific water quality testing procedures and explains how to interpret test results.

### **[Water Quality Dynamics \(DVD\)](#), Michael P. Masser, Texas AgriLife Extension Service Publication, SP-335**

This 25-minute video depicts the interrelationships of various water-quality parameters as they affect fish production.

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"**New Waves**," an email newsletter of Texas Water Resources Institute, a unit of Texas A&M AgriLife, publishes timely information about water resources news, results of projects and

programs, and new water-related research projects, publications, papers and faculty, at universities in Texas. If you have information for possible inclusion in "New Waves" please email [Kathy Wythe](#) or call 979.845.1862 and include your contact information. All submissions may be edited for grammar and style.

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