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UF UNIVERSITY of
FLORIDA
IFAS

<http://soils.ifas.ufl.edu>



Application of E-technologies for Teaching and Extension Programs

From the Chair...

The Soil and Water Science Department (SWSD) uses several innovative e-technology delivery systems to complement conventional classroom teaching to serve broader groups of clientele including students at distance locations. The SWSD faculty are located not only in Gainesville, but also at nine Research and Education Centers (RECs). In addition, an increased number of our graduate students are now located at these RECs. The e-technologies we use in the department are designed to effectively integrate our state-wide educational programs. In this newsletter we present select examples of programs that use e-technologies.

Departmental distance education (DE) activities now include both undergraduate and graduate programs and graduate certificate programs in select areas. Many of the courses in these programs are offered using a range of technologies including: videoconference (Polycom); Adobe Connect; Adobe Presenter; and Articulate. In addition, a special platform EcoLearnIT to develop Reusable Learning Objects (RLOs) has been developed by Grunwald and Hoover. An online course is now offered providing training on RLOs using the EcoLearnIT platform for students, staff, and faculty. The department also maintains a virtual computer laboratory that faculty and students can access at any time and from anywhere. This virtual computer houses several common software programs including: ArcGIS, Office Suite, statistical and geostatistical software in support of research.

The department is in the process of establishing the Soil Resource Data Bank (SoilDB) which will allow sharing of soils data collected at different scales and different time periods. We hope to extend invitations to governmental agencies and non-profit organizations, and private industry to sponsor this project.

A three-year effort of SWSD working jointly with the IFAS International Programs Office and ICRISAT (International Crops Research Institute for Semiarid Tropics) resulted in establishment of the UF-ICRISAT International Distance Education Center in Hyderabad, India. Several SWSD faculty are scheduled to teach short courses at this center. The UF-ICRISAT Center will also support faculty and student exchange between India and US. In addition, the center will facilitate graduate students from UF to conduct research in India and in other countries in the region. These activities will enhance UF's ongoing efforts for a global partnership.

The SWSD faculty are committed to innovation in developing teaching and extension programs using a range of technologies to effectively communicate with our students and clientele. Thanks to Sabine Grunwald, who has been instrumental in leading the effort on the use of many of these e-technologies in educational programs dealing with soil, water, and environmental sciences. We will be pleased to receive any input and suggestions from our alumni and friends to further improve our programs.

Distance Education Graduate and Undergraduate Programs

<http://soils.ifas.ufl.edu/distance/index.html>

There are two programs offered by the SWSD - Master of Science (thesis and non-thesis options) Environmental Science Track and BS in Environmental Management in Agriculture and Natural Resources offered through the Indian River Research and Education Center. Both programs have attracted a large number of students from Florida bridging research and education activities between the UF main campus in the RECs. The MS program is fully online and has engaged students from across the country (Florida, Georgia, Indiana, Ohio, North Carolina, South Carolina, Virginia, and others) and abroad (Colombia, India, Kenya, and Uganda) with current enrollment of about 60 students. The BS program uses videoconference technology (Polycom) to connect students located at different RECs (Milton, Balm, Immokalee, Apopka, Fort Lauderdale and Homestead).



For additional information, contact Sabine Grunwald at sabgru@ufl.edu or Susan Curry at scurry@ufl.edu.

Distance Education Certificate Program

Have you thought of earning a Graduate Certificate to enhance your skills? The SWSD offers three Certificates to non-degree and degree seeking students. Many students who pursue the MS in Soil and Water Science with Environmental Science track also pursue one of the Certificates. Certificates are also attractive for those who want to enhance knowledge and skills in a particular area and/or earn specialized knowledge. Certificates are one option to position you well in a competitive economy. To start one of the certificate programs simply fill out a registration form and register for courses as a "non-degree seeking student." Want to know more? Go to: <http://soils.ifas.ufl.edu/distance/certificate.html>.

Certificate options:

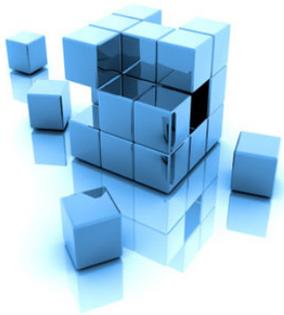
- (1) Sustainable Land Resource and Nutrient Management
- (2) Soil Ecosystem Services
- (3) Wetland and Water Resource Management

Each certificate includes a total of 12 semester hours of credit. For additional information, contact Susan Curry at scurry@ufl.edu or Sabine Grunwald at sabgru@ufl.edu.



Want To Put Learning in a Box? – Use the *EcoLearnIT* RLO Toolbox

<http://EcoLearnIT.ifas.ufl.edu>



Reusable Learning Objects (RLOs) have much to offer to students, instructors, researchers, extension specialists and agents, and support continued education. *EcoLearnIT* provides free access to RLOs which are small learning units of topics in soil, water, environmental, agricultural, and life sciences. In addition, *EcoLearnIT* provides a toolbox of functions to create new RLOs in a collaborative setting. You can team up with a fellow student, colleague, faculty members or expert and jointly develop RLOs online. To participate you do not have to be a techno-freak or academic with 30+ years of



experience. On the contrary - everybody is invited to participate. The system provides easy to use functions and adopts the concept of open education. Each RLO is an online publication that is peer-reviewed before being shared with the public. Authors and co-authors are given full credit for development of RLOs. *EcoLearnIT* allows creation (upload) of learning/outreach material in different digital formats including text, artwork (various graphic formats and Power Point), video, audio, and flash animations to add interactive features. You can use RLOs as learning, instructional or outreach material or simply browse, learn and have fun with it.

For additional information, contact Sabine Grunwald at sabgru@ufl.edu or Brandon Hoover at hoover@ufl.edu.

Welcome... Incoming Students Fall 2009

Ellen Bailey, MS (Patrick Inglett)
Neal Beery, MS (Mark Clark)
Derek Gregory, MS (Amy Shober)
Jorge Guevara, MS (Rex Ellis)
Benjamin Hogue, MS (Patrick Inglett)
Julia Maki, MS (Jim Jawitz)
David Mitchell, MS (Carl Fitz)
Dashiell Morris, MS (Sabine Grunwald)
Sarah Seitz, MS (Carl Fitz)
Jared Sweat, MS (Mary Collins)
Shengsen Wang, MS (Arnold Schumann)

Santanu Bakshi, PhD (He/Harris)
Pasicha Chaikaew, PhD (Sabine Grunwald)
Xiaoling Dong, PhD (Lena Ma)
Xiaolin Liao, PhD (Patrick Inglett)
Aman Sharma, PhD (Alan Wright)
Julia Showalter, PhD (Vimala Nair)
Megan Smith, PhD (James Graham)
Rujira Tisarum, PhD (Lena Ma)
Christopher Weidow, PhD (Andy Ogram)
Xiong Xiong, PhD (Sabine Grunwald)

University of Florida-ICRISAT International Distance Education Center

To help improve the sustainability of agriculture and natural resources in developing nations, the University of Florida's Institute of Food and Agricultural Sciences has launched a new distance education center with the nonprofit International Crops Research Institute for the Semi-Arid Tropics, or ICRISAT. The center, formally known as the UF-ICRISAT IDEC, is based at ICRISAT headquarters in Patancheru, a city near Hyderabad, capitol of the Andhra Pradesh state in South Central India. ICRISAT is an international organization that conducts research and provides outreach to poor, rural farmers in the semi-arid tropics, which encompasses 48 countries in Africa and Asia.



Larry Arrington, UF interim senior vice president for agriculture and natural resources, believes the center will strengthen UF's presence in South Asia. "We are pleased to partner with ICRISAT in this joint educational endeavor", Arrington said. "This region is of great importance to our expanding international presence. Moreover, this partnership with ICRISAT provides us with an opportunity to join with our center colleagues on a wide array of research and education activities of mutual interest." William Dar, ICRISAT director general, said of the center, "Capacity strengthening of professionals in the developing countries is an absolute must in the current context of new vulnerabilities and opportunities in agriculture and natural resources management. We consider this as a first step in bringing research universities such as UF closer to where the developing country professionals work."

The center's goals include enhancing sustainability of agriculture and natural resources, and spurring greater collaboration between IFAS faculty and students and their counterparts from institutions in the region. The center will also lead to new opportunities for UF faculty to enhance the international reputation of UF's educational programs in the areas of sustainable agriculture, rural/urban development, natural resources conservation and environmental protection. The center will also contribute to the development of study-abroad opportunities for UF undergraduates, graduate student research, the promotion of faculty sabbaticals with institutions in South and Southeast Asia - especially India - and the facilitation of research partnerships and collaborations.



A three-year effort of the SWSD working jointly with the IFAS International Programs office and ICRISAT resulted in establishment of UF-ICRSAT-IDEC. Ramesh Reddy currently serves as the program leader for UF. The program leader for the initiative at ICRISAT is Venkataraman Balaji, global leader for knowledge management and sharing. For additional information on the center's activities, contact K. Ramesh Reddy at krr@ufl.edu.

New Online Course SWS 6932 Reusable Learning Objects (Special Topics Course)

<http://soils.ifas.ufl.edu/distance/courses.html> (1 credit course)

Learn about technical and pedagogical approaches to develop RLOs. Degree-seeking and non-degree seeking students can register for this course. This course is also useful for instructors or extension specialists/agents who want to learn about development of e-learning and e-outreach material.



SWS Virtual Computer Laboratory

A virtual machine (VM) can be thought of as a desktop computer that you have access to at any time, from anywhere. The Soil and Water Science VM provides remote access to software (ArcGIS, Office Suite, statistical and geostatistical software) and secures workspace for work on research projects, course work or thesis/dissertation projects. If you are a student enrolled in one of the departmental graduate or undergraduate programs, staff, post-doc or faculty member in the SWSD you can use the VM. Request a login to the VM at <http://swsde.ifas.ufl.edu>

Information and Communication Technologies for Capacity Building in Water Management: U.S.-India Collaborative Extension/Outreach and Distance Education

The SWSD faculty involved in new technologies, both in technical and educational arenas, can contribute significantly to building long-term technical capacity to solve problems associated with crop production, limited water resources, land and water degradation, and food security in India. Modern information technologies in water management, including geographical information systems (GIS), remote sensing, and internet-based education tools, provide new efficient and cost-effective approaches for the assessment of water resources and quality.

The joint project between UF and select Indian universities addressed two key components of the US-India Agricultural Knowledge Initiative (AKI), *Capacity Building and Water Management*. This project was funded by the National Association of State Universities and Land-Grant Colleges (NASULGC) and the Indian Council of Agricultural Research (ICAR) - US-India AKI. As a part of this project the partners developed skills and collaborative digital learning resources to strengthen education and technical training for extension and outreach to maximize the use of innovative tools focused on sustainable management of water resources. Both UF and Indian partners conducted three workshops (two in India and one at UF) and developed a RLO platform for integration into various modes of learning activities in the US and India. The project was concluded with the final workshop conducted at ICRISAT during May 11-15, 2009. Additional information on some of educational modules developed from this project can be found at: <http://akicb.ifas.ufl.edu>. For more information, contact K. Ramesh Reddy at krr@ufl.edu



Introducing....

UF Soil Resources Data Bank

In a newly launched project a UF Soil Resources Data Bank (SoilDB) will be developed that will allow sharing of soil resource data collected across micro-, meso- and macro spatial scales and different time periods. The data bank will include physical, chemical, biological, and taxonomic soil data from historic and current projects in the SWSD, which will be complemented by other soil datasets across the State in the next phase. Data will facilitate to synthesize soil properties to analyze trends, compare site conditions, or conduct other types of meta-analysis by fusing soil data from the data bank. Synthesis of data will support projects resembling all thrust areas of the department. A Google Earth application will be linked to the data bank allowing displaying soil data. At present the department is extending invitations to potential sponsors including governmental agencies, non-profit organizations, and private industry to support SoilDB activities. For further information, contact Sabine Grunwald at sabgru@ufl.edu.



Innovative Learning Units for Soil Labs

Soil Texture and Particle Size Distribution (0027/0733) ATTACHMENTS EXIT

UNIVERSITY of FLORIDA

Dr. Amy Shober
Assistant Professor - Soil and Water Science Department

Laboratory Objectives

1. To understand the applicability of Stokes' Law in determining the settling velocity of soil particles. Including the role of temperature.
2. To approximate the texture of a soil using texture by feel.
3. To determine the percentages of sand, silt and clay in a soil sample using the hydrometer method.
4. To apply the soil textural triangle to determine a soil's textural class.

articulate powered presentation

SLIDE 3 OF 16 PLAYING 00:15 / 00:25

Many of the students enrolled in undergraduate programs at the University of Florida's Plant City campus are attending classes while working full-time. As a result, it is often difficult for students to devote 3 hours of time to laboratory classes each week. Therefore, pre-laboratory content review modules were introduced to Plant City students enrolled in Soils and the Environmental Laboratory in the Spring semester 2009. Each module was designed to provide background information that was vital to successful completion of the laboratory assignment. The students were required to view the module and successfully complete the quiz (at the end of each module) prior to attending the laboratory. The time

commitment for each module was <15 minutes. By delivering this introductory material online, students were able to prepare for lab when their schedules allowed. In addition, we were able to shorten the required laboratory period from 3 hours to 2 hours. Student and faculty feedback on the quality and usefulness of the modules has been positive.

For additional information, contact Amy Shober at alshober@ufl.edu

Faculty, Staff, and Students

Congratulations to our faculty, staff, and students for their outstanding accomplishments in soil, water, and environmental sciences.

Don Graetz has been selected as the recipient of the 2009 Soil Science Distinguished Service Award. Don was recognized at the Soil Science Society of America awards program during ASA-CSSA-SSSA International Annual Meetings, Nov. 1-5, 2009 in Pittsburgh, PA.

Ali Al-Agely (Max Teplitski-Advisor) earned "Best Oral presentation by an Undergraduate" award at the meeting of American Society for Microbiology (Florida Branch), which was held in Islamorada on Oct. 10-12. Ali presented the results of a research on investigating mechanisms of bacterial cell-to-cell signaling within the coral symbiont.

Lucy Ngatia, a Ph.D. candidate (K. R. Reddy and B. T. Turner, Advisors) was awarded a fellowship by the Smithsonian Women's Committee. The special Levinson-Smithsonian Tropical Research Institute, Panama, fellowships were provided by the contributions from Frank and Monika Levinson and the support of the Mpala Wildlife Foundation (MWF).

Pasicha Chaikaew was awarded a Ph.D. fellowship by the Royal Thai Government. She will evaluate various ecosystem services in context of carbon markets & policy and carbon science. She is advised by S. Grunwald.

Susan Curry is hired as Lecturer in Soil and Water Science. Her duties will include teaching several courses including: Agricultural and Environmental Quality, Soil and Water Conservation, and GIS in Soil and Water Science. Susan has a BS in Agricultural Engineering and an ME in Environmental Engineering. She serves as the Undergraduate Coordinator for the Interdisciplinary Studies - Environmental Management in Agriculture and Natural Resources. She will be focusing on increasing the distance education opportunities for our program.

Michael Sisk is hired as Program Assistant for Student Services. Mike brings a wealth of experience in student services. Mike will be replacing **Rhiannon Pollard** who has decided to stay home and be a full-time mom. We would like to thank Rhiannon for her 3-year service to students and faculty. We wish her well with her new position as a full-time mom.

Plan to attend...

The University of Florida and Progress Energy partner to host the 2nd UF Water Institute Symposium



**Sustainable
Water Resources**

Complex Challenges, Integrated Solutions

February 24-26, 2010

Hilton University of Florida - Conference Center
Gainesville, Florida

For additional information visit:

<http://www.waterinstitute.ufl.edu/symposium2010index.asp>

Congratulations!

Summer 2009 Graduates

PhD

Lauren Serra (Comerford)
Elizabeth Hodges (O'Connor)
Michael Miyittah (Rechcigl/
Stanley)
Andrea Albertin (Clark)
Jehangir Bhadha (Jawitz)
Qin Lu (He)
Gustavo Vasques (Grunwald)

Master of Science

Elisabeth Solchik (Reddy)
Xiaolin Sui (Silveira)

Bachelor of Science

Julie Ruh
Jared Sweat

Myakka

(pronounced 'my-yak-ah' - Seminole word for "big waters") gives a special identity to our department, as it is also the name of Florida's State Soil, Myakka fine sand. The State of Florida has the largest total acreage of Myakka fine sand (sandy, siliceous, hyperthermic Aeric Alaquod) on flatwood landscapes.

Soil and Water Science Distinguished Seminars

Dr. Clifford S. (Cliff) Snyder was the keynote speaker at the 10th Annual Soil and Water Science Research Forum. His presentation entitled “Managing Reactive Nitrogen in Agriculture: Research, Extension and Industry Challenges.” Dr. Snyder is the Nitrogen Program Director for the International Plant Nutrition Institute (IPNI). He was named to this position in January of 2007, when IPNI was officially established. His responsibilities include coordinating efforts of the Institute dealing with environmental issues related to nitrogen fertilizer use in agriculture, including North America and internationally. As the Southeast Region Director, he had responsibility for agronomic research and education programs for PPI in 11 southeastern US states.



Additional information related to Dr. Snyder’s program can be found at the Nitrogen Portal of the IPNI website: <http://www.ipni.net/Nitrogen>.



Dr. Ashok Alva presented a seminar entitled “Overview of USDA-ARS Accomplishments in the Pacific Northwest - Irrigation BMP’s Using Real Time Monitoring of Soil Water Content in Soil Profile.” Dr. Alva is a Research Leader and Location Coordinator at the USDA-ARS-Vegetable and Forage Crops Research Unit, Prosser, Washington. He has published extensively on soil fertility and plant nutrition and holds numerous research awards for his work with international scientists and collaborators in the US. Prior to his current position, he was a faculty member in the SWSD, at UF and stationed at Citrus REC, Lake Alfred, FL.

Additional information can be found at:

<http://www.ars.usda.gov/pwa/prosser>

Alumni and Friends

Donor gifts from alumni and friends are a boost to our teaching, research, extension programs and without their support we would not be able to maintain a high level of academic excellence. We sincerely thank our alumni and friends for their generous support of SWSD programs. Gifts can be mailed to SWSD or to UF-Foundation Inc., SHARE, University of Florida, PO Box 110170, Gainesville, Florida 32611-0170.

10th Annual Soil and Water Science Research Forum

The 10th Annual Soil and Water Science Research Forum (<http://soils.ifas.ufl.edu/forum/>) was conducted on **September 11, 2009**, in Gainesville, Florida. This year, **Dr. Cliff Snyder**, Nitrogen Program Director for the International Plant Nutrition Institute (IPNI), was the featured keynote speaker at the forum. We thank all our sponsors (Florida Association of Environmental Soil Scientists; DB Environmental Labs, Inc; Soil and Water Chemistry Laboratory, TRECF, Homestead; Environmental Hydrology Laboratory; Microbial Ecology Laboratory; and Wetland Biogeochemistry Laboratory) for their generous support of this year’s forum. The Forum showcased linkage between research and extension programs. Congratulations to the winners of the 2009 Annual Forum \$500 research award. Oral Presentation: **Rongzhong Ye** (Alan Wright-Advisor). Poster Presentations: **Debolina Chakraborty** (Vimala Nair-Advisor); **Lisa Gardner** (Ramesh Reddy-Advisor); **Shiny Mathews** (Lena Ma-Advisor); and **Manmeet Waria** (George O’Connor and Gurpal Toor-Advisors).

Plan to attend... 11th Annual Soil and Water Science Research Forum
September 9, 2010