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NEWSLETTER 2012

agricultural and biological engineering

ENGINEERING - MANAGING - PACKAGING

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Jim Jones Elected to National Academy of Engineering

Climate-science expert Jim Jones, a distinguished service professor emeritus in the agricultural and biological engineering department and director of the Florida Climate Institute, has been elected to the National Academy of Engineering, or NAE. He was one of 66 new members announced Feb. 9. Election to NAE is one of the highest professional distinctions an engineer can achieve. Potential members can only be nominated by a current member and are elected by the NAE membership. Jones was elected to NAE's Special Fields & Interdisciplinary Engineering Section, which encompasses agricultural engineering and atmospheric sciences. It is one of 12 sections representing broad engineering categories.

Jones was elected on the basis of his outstanding contributions to engineering, notably his work on climate change, environmental impacts and sustainable agricultural systems. He is perhaps best known for developing computer models to support agricultural decision-making. These models help farmers make crop-yield projections under various weather, soil and management conditions.

A member of the UF faculty since 1977, Jones previously worked for the U.S. Department of Agriculture and was a faculty member with Mississippi State University. He earned a bachelor's degree in agricultural engineering from Texas Tech in 1967, a master's degree in agricultural and biological engineering from Mississippi State University in 1970 and a doctorate in biological and agricultural engineering from North Carolina State University in 1975.

Founded in 1964, NAE is a branch of the National Academies. It is a private, independent, institution that promotes the engineering profession. Altogether, NAE has a U.S. membership of 2,254, including at least five other UF faculty members.



Story reprinted from <http://news.ufl.edu/2012/02/15/jim-jones-academy/>

ABE Welcomes New Faculty



Dr. Jeffrey Ullman joined the faculty of the Agricultural and Biological Engineering Department at the end of May 2011. His background and research specialty is grounded in water quality, ➡



Dr. Richard Scholtz earned all his degrees in Rogers Hall. He has been with the Department of Agricultural and Biological Engineering at the University of Florida since 2003 ➡



Since the beginning of 2012 **Dr. William Pelletier** is a full-time lecturer in the Agricultural and Biological Engineering Department at the University of Florida. Pelletier specializes in heat and mass ➡
bios continue on page 2

Jeff Ullman

involving aspects of pollutant behavior in the environment and land management practices designed to mitigate transport of contaminants to surface waters. He took the position of TMDL/BMP specialist as an assistant professor.

Dr. Ullman comes to Florida from his previous position as an assistant professor in Biological Systems Engineering at Washington State University (WSU), focusing on the discovery and application of scientific engineering principles and methods to the processes of our natural world and providing advanced graduate education to engineering professionals.

Dr. Ullman has a B.S. in Agricultural Engineering and a Ph.D. in Biological & Agricultural Engineering, as well as a B.S. in Natural Resources and

a M.S. in Environmental Science. His research has focused on field and laboratory studies designed to better understand chemical/microbiological fate and transport in natural systems and incorporating this research into efforts to enhance best management practice designs.

Some of Ullman's efforts have been focused on developing research/extension water programs in the Middle East, especially in Iraq.



Jeff Ullman evaluating an irrigation system in Iraq.

Richard Scholtz

and recently joined the faculty as a lecturer. Scholtz teaches a number of courses, both undergraduate and graduate. Of all the courses, he believes the design course is the most important. It gives to the students not only the opportunity for the greatest expression of their talents, but has best potential for learning.

Scholtz says that he likes "a laid back approach to teaching, and prefers to have students develop their own need to perform by prodding the students' curiosity about the larger world". He explains that "sometimes that works and sometimes it doesn't, thus quizzes and tests."

Dr. Scholtz's research areas include experimental, field, and modeling investigations in the areas of natural resources conservation. In particular, he has investigated algorithms for non-linear model parameter estimation and regression, and conducted field and laboratory research while studying the long-term effects of nutrient application from

municipal effluent on the soil-water complex. Dr. Scholtz is the co-author of numerous journal articles and the text *Mathematical Models of Crop Growth and Yield*.



Richard Scholtz gathers with design students for an 'egg drop' to test the strength of their container. Eggs were dropped from the 2nd floor to the lobby.

He also serves as the advisor to the ASABE student club.

William Pelletier

transfer and its applications to the fields of transport and distribution, and packaging of temperature sensitive products. Pelletier's work has focused mainly on postharvest operations associated with fresh horticultural products, including handling, precooling and analysis of the temperature distribution in loads along the distribution chain.

Preserving the quality of fresh fruits and vegetables is important from multiple perspectives. Economically, quality is a key market factor, given the small profit margins that growers, distributors and retailers have on these items. Nutritionally, produce of good quality have higher levels of vitamins and nutrients essential to the consumer's health. Environmentally, 5 to 25% of all produce goes to waste in developed countries because of low quality.

Pelletier also works with the shipment of pharmaceutical products, such as drugs and vaccines. His particular areas of interest include thermal transport packaging used in parcel delivery shipments and temperature profiles for the development and validation of packaging systems.

Through his Master and Doctoral projects, Pelletier has also developed a unique expertise on the environmental conditions and operations associated with the air transport industry. He has conducted numerous experiments



Pelletier with a reusable plastic container (RPC) and an aircraft container.

and collected in-flight environmental data in different aircraft models at several locations around the world.

Pelletier received a B.E in Food Engineering and a M.Sc. in Agrifood Engineering from Université Laval in Québec City.

His enthusiasm for this field, and for teaching, eventually led him to undertake a Ph.D. in Agricultural and Biological Engineering at the University of Florida, a pioneering institution in postharvest engineering.

Climate Tools

Helping Farmers in Paraguay Reduce Risks



Dr. Fraise, Assistant Professor and climate extension specialist has been working with producers cooperatives in Paraguay to implement a network of weather stations in the country.

The cropping season of 2011-12 was a difficult one for Paraguayan farmers. A La Niña event caused by colder than normal sea surface temperature along the equator in the central and eastern Pacific Ocean brought drier weather to most of the country. Initial estimates of the resulting crop losses by the Ministry of Agriculture and Livestock indicate that about half the soybean crop has been lost, reducing this year's production to about 4.6 million metric tons from last year's 8.4 million metric tons.

It is well known that climate variability caused by the El Niño Southern Oscillation (ENSO) phenomenon brings risk to farmers on much of southeastern South America. However its mechanisms and effects are not well understood and not communicated with enough lead time to allow policy makers and farmers to implement adaptation strategies to

reduce production risks. A project led by Dr. Clyde Fraise is helping change this situation. Scientists in this project surveyed several Paraguayan farmer cooperatives on members' knowledge of, and attitudes to seasonal climate variability, and on their expectations from climate forecasts. The results show that farmers have widely differing knowledge about the effects of ENSO. Accordingly, their willingness to apply climate forecasts to adapting their management practices also varies widely. A computer-generated crop growth model was used to evaluate adaptive management options under different ENSO scenarios, for example planting different soybean varieties and varying the planting dates. The team also developed strategies for communicating risks, including a web-based decision support tool.

The research team found that farmers are very interested in understanding the effects of climate variability on their crop yields. They were equally enthusiastic about the possibility of co-developing a decision support system available on the Internet to help them make better decisions about farm management. This enthusiasm led the Federation of Cooperatives in Paraguay (Fecoprod) to invest in deploying a network of automated weather stations across the country and co-develop the web-based climate information and decision support system. A total of 33 cooperatives and about 18,000 farmers are members of Fecoprod, proving the broad reach of the project.

Seasonal climate variability is a major cause of production risks faced by farmers. In recent years, the science of forecasting seasonal climate has improved significantly. Basic research has improved understanding of major systems that influence climate variability, including the El Niño phenomenon, which is a main driver of climate variability in the southern cone of South America. This improved ability in predicting anomalies in the seasonal weather, has resulted in a large number of



It is expected that Paraguayans may invest less in inputs during the marketing year 2012/13 because of the large losses they experienced this year.



The USDA estimates 2011/12 soybean production in Paraguay at 4.6 million tons, a drop of 50 percent from last year due to lower than average rainfall across most of the main production areas

studies that examine the potential of climate forecasting to reduce the risks agricultural businesses are facing.

The research in eastern Paraguay demonstrated that the challenge of providing farmers with trusted, useful, science-based information, upon which they can make informed decisions, can be best met by developing and implementing climate-based decision support systems in close cooperation with local cooperatives. By using a combination of participatory techniques, qualitative methods, and interactive exercises to elicit end-users' perspectives and feedback we obtained a better understanding of the complexities of farmer's decision making processes and the role that climate information plays in them. This understanding has provided the team with the necessary tools to more effectively communicate risks to agricultural producers in the region and has resulted in a strong partnership of researchers and the farmers cooperatives to develop solutions that can effectively reduce crop production risks associated with climate variability.

Acknowledgements: This project was funded by the Inter-American Institute for Global Change Research (IAI).



Graduate student Stephanie Burrs examines the Hollow Fiber Membrane Bioreactor (empty reactor with fibers shown) which is expected to improve performance of anaerobic digestion (AD). Preliminary results show reductions in hydraulic retention rate (HRT).

Improving Biogas Reactor Technology

The ABE Biosensors Lab specializes in creating application specific tools for hypothesis driven research. In this case, novel bioreactors and novel biosensors are being developed and used in biofuels research. PhD students, Stephanie Burrs and Wen Ji, are carrying out this research led by Dr. Eric McLamore and Dr. Pratap Pullammanapallil in collaboration with several other students in the two labs. The overall goal of our work is to advance our understanding of methanogenesis and methanogenic anaerobic digestion.

Methanogenesis refers to an anaerobic process in which organic matter is used to generate methane. In anaerobic digestion, we find opportunities to generate sustainable, renewable energy. Due to its diversity of feedstocks and applications, the use of multiple waste streams as feedstock and the use of AD waste products for soil enrichment, this is considered a carbon neutral source of energy. The biogas that results from AD digestion can be used to supplement electricity, cooking fuel, transportation fuel and feed for biodiesel processing.

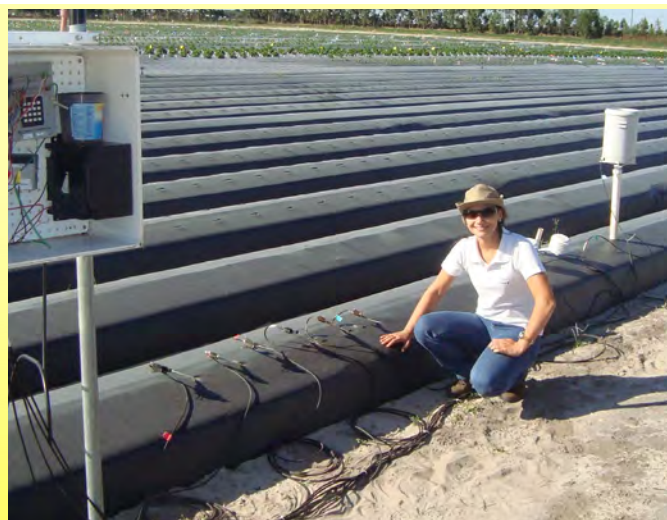
By leveraging the performance of nanomaterial mediated biosensors, we will gain unprecedented insight into the cellular mechanisms that contribute to biogas production from methanogenic biofilm. An alcohol oxidase-based methane biosensor is being developed, to make high fidelity measurements of methane produced by biofilm in the bioreactor. By applying Hollow Fiber Membrane Bioreactor technology in anaerobic digestion, biogas production rates could drastically increase. If these results are scaled up to commercial sized reactors, multiple industries could benefit from increased yield, reduced costs and improvements in reactor stability and longevity.



Empty Reactor



AD Reactor



Graduate student Verona Oliveira Montone tests leaf wetness sensors for strawberry plants at the UF Gulf Research & Education Center. Researchers Dr. Clyde Fraisse and Dr. Natalia Peres helped develop the SAS system to provide technology tools to growers.

Strawberry Tools - From Computers to Farms

SMS and e-mail are becoming the most used way for sharing information. Following this trend, the Strawberry Advisory System (SAS), popularly known as strawberry tool (<http://agroclimate.org/tools/strawberry/>), sends text messages to its users about disease incidences in Florida strawberry fields.

The users are usually farmers in the region, who, based on the alerts of the disease risk (low, medium, or high), make decisions about spraying their fields. The lack of disease control can lead to losses of up to 90% of strawberry yields. To avoid these losses, farmers normally apply fungicides on a weekly schedule, even when there is no disease risk and no need of application.

SAS monitors weather conditions, then reports if they are favorable for disease development. The use of the tool can help growers to reduce the number of sprays to about half, saving considerable money. Florida was the 2nd in monetary value of strawberry production in 2010 and spray is one of the main costs of production.

SAS can also advise what kind of chemical product should be applied. The tool is simple, useful, friendly and free. Behind the simplicity of this tool, there are years of research and dedication as disease models were tested on experimental and commercial fields during 4 years. The models predict the severity for two main strawberry diseases in Florida: Anthracnose and Botrytis fruit rot, both caused by fungus. The prediction is based on monitoring of temperature and leaf wetness duration (LWD – period that leaves on a crop are moist, generally triggered by dew). Temperature is commonly measured, but LWD is not. Sensors of LWD have many limitations because they need special care related to their deployment, coating and calibration.

After almost 8 years of effort SAS is now operating flawlessly, although there are still some spots for improvements. One of the main challenges is to find another way to obtain LWD, possibly through modeling. Researcher say the greatest reward is to see SAS being useful to strawberry growers, since it helps reduce costs of production while bringing benefits to the environment.

ABE/Extension

Irrigation Research

New interactive Tool Developed



Dr. Kati Migliaccio works on irrigation research at the TREC

A new interactive irrigation tool has been developed by a research team led by Dr. Kati Migliaccio with the assistance of Ms. Nicole Dobbs (MS graduate student).

The irrigation tool is designed for homeowners, irrigation professionals, and others for investigating different irrigation schemes using site-specific irrigation system specifications and real-time data from the Florida Automated Weather Network (FAWN) stations located around the state of Florida. This interactive tool is available free of charge on the FAWN web site (<http://fawn.ifas.ufl.edu>).

The purpose of this tool is to provide users with the ability to virtually test a variety of irrigation schedules for their lawn (or turf) without incurring cost or risk. By trying new technologies such as smart irrigation, soil moisture sensors (SMS) or evapotranspiration (ET) controllers in a virtual environment, the user can determine which system would be best for their lawn as well as implement practices that could potentially result in water

conservation, a healthier lawn, and lower water bills.

The tool is based on a simple weekly water balance method that considers rainfall, infiltration, runoff, percolation, ET, irrigation, and soil water content. The tool combines user input, the simple water balance calculations, and real-time FAWN data to provide the information on either how much excess water the lawn received – as a combination of irrigation and rainfall - or how many days the lawn experienced water stress. All results of the tool are provided to the user via a weekly email, with results based on calculations from the previous week.



Nicole Dobbs

Center for Remote Sensing

Automated Radar System Developed



The UF-L-band Automated Radar System observing microwave signatures during a growing season of corn.

A combined active/passive microwave sensor will be launched in 2015 as part of the NASA-Soil Moisture Active/Passive (SMAP) mission. The passive sensor or the radiometer, measures natural microwave emissions from the scene, while the active sensor or the radar, emits radiation and measures the fraction of the radiation scattered back to the radar. The SMAP sensor will be operating at a wavelength of 20cm that is highly sensitive to water in the soil. Global soil water information will be available from SMAP every 2-3 days. Such information is invaluable for many disciplines including agriculture, hydrology, weather, climate, and ecology. Dr. Jasmeet Judge and her research team at the Center for Remote Sensing are actively involved in ensuring that our agricultural sector is ready to use the data to their full potential when they become available. As part of a project funded by the NASA-Terrestrial Hydrology Program, they have developed the world's first automated ground-based radar system called the University of Florida-L-band Automated Radar System (UF-LARS). The system operates at the same wavelength as the SMAP sensor and provides diurnal (day and night) measurements every fifteen minutes! The current state-of-the-art systems are labor-intensive and allow acquisition of only a few measurements per day. Frequent measurements will significantly advance our understanding regarding the sensitivity of radar response to soil moisture changes in dynamic agricultural systems. The UF-LARS developed in collaboration with the researchers at the University of Michigan (UM). The research teams at both the universities worked closely to ensure seamless integration of the electrical systems developed at UM with the mechanical and control systems developed at UF. Together with the existing passive sensor, UF-L-band Microwave Radiometer System (UF-LMRS), the researchers at the Center are able to explore synergies between the complimentary active and passive measurements for enhanced soil moisture information.

Photo courtesy of Tyler Jones - UF-IFAS

ABE Researcher Leads UF Energy Grant Team

UF will be participating in a new multi-million dollar energy project involving the United States and India which was recently announced by the U.S. Department of Energy. ABE associate professor Pratap Pullammanappallil is the principal investigator for the UF-led research team.

The 5-year \$125 million dollar project, known as the Joint Clean Energy Research and Development Center, or JCERDC, is aimed at reducing energy consumption, cutting dependence on petroleum products and increasing use of renewable fuels.

Total funding for the biofuels project is approximately \$21 million, including about \$2.7 million in federal funding destined for UF.

According to Pullammanappallil, the researchers' primary goal will be to develop and optimize several crops as biofuel feedstocks. The crops include high-yield biomass sorghum, sweet sorghum, pearl millet, bamboo and switch grass.

Sorghum and switch grass will likely be the group's initial focus, he said. The UF researchers will concentrate on improving technology for converting biomass to fuel. Much of the work will take place in the Biofuels Pilot Plant on the UF campus and the Stan Mayfield Biorefinery Pilot Plant in Perry, a joint venture between UF and Buckeye Technologies Inc.

"Another goal is to expand our capacity to utilize waste streams in the cellulosic ethanol conversion process," he said. The researchers will investigate ways of using spent feedstocks, wastewater and other materials to produce additional bioenergy and products such as fertilizers and bioplastics.

Other UF faculty members on the team are: Zhaohui Tong of agricultural and biological engineering; Lonnie Ingram and Keelnatham Shanmugam of microbiology and cell science; Ramesh Reddy, George O'Connor and Ann Wilkie of soil and water science; and Wilfred Vermerris of agronomy.

Also on the UF-led team are the University of Missouri, Virginia Tech, Montclair State University, Texas A&M University, Show Me Energy Cooperative, and Green Technologies. They will work with a counterpart team based in India and led by the Indian Institute of Chemical Technology-Hyderabad.

Work on the project is expected to begin this fall, Pullammanappallil said.

Story reprinted from <http://news.ufl.edu/2012/04/20/energy-grant/>



Alpha Epsilon Names Officers



(Pictured right to left)

Jacquelyn Neal - President, Sammy Asso - VP, Nikolai Dosev - Secretary, Darshan Shah - Treasurer

In 2012 Alpha Epsilon boasted 20 members and several graduating seniors have big plans. Nathan Holt will be attending graduate school at UF to study land and water resources engineering. Nick Pavlovsky will be attending University of Pittsburgh next year to study biomedical engineering and Alessa Smolek will be studying stormwater engineering at NC State University. Nicole Stanford will be attending medical school at UCF. Rushil Patel is working at Axogen in Gainesville until leaving for graduate school in London in the fall. Calvin Weeks is entering the job force.

The new officers say the club plans to kick off the fall semester by sponsoring a mixer for the ABE undergraduate and graduate students. Alpha Epsilon also will be petitioning to join the Benton Engineering Council, and will work in conjunction with ASABE on workshops for career fair. AE is also looking for guest speakers from industry, and hope to have a lunch-and-learn event each semester with an agricultural or biological engineer from industry.

Jose Garcia named Outstanding Four-Year Scholar

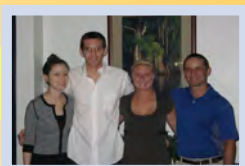
College of Engineering Award

2012 graduate Jose Garcia had a busy schedule during his time as a biological engineering major at the University of Florida. His commitment to both academics and community service were honored by the College of Engineering when he was named an Outstanding Four-Year Scholar at recent awards ceremony.

During his last two years on campus he conducted undergraduate research in Biomedical Engineering with Dr. Brian Sorg. His projects involved the use of environmentally 'smart' hydrogel nanoparticles for drug delivery to tumors and cancer sites.

Outside of the classroom and lab Jose has been actively involved in community service. While serving as community service chair for the Honors Ambassadors he instituted a mentoring program with a local elementary school. Moving into the role of Treasurer and executive board member he worked diligently to increase involvement with other local elementary and middle schools in the area. He also served as College of Engineering Ambassador, helping to launch the first annual "E4: Last Lecture Award" program, a prestigious award selected by students to honor a faculty member who has shown dedication in service to undergraduate students.

Jose will continue his studies at the Georgia Institute of Technology, pursuing a PhD in Biomedical Engineering. He hopes to continue his research to discover how cells & tissues respond to mechanical stimuli for potential use in regenerative medicine.



ABE Graduates 2011-2012



ABE

Fernando Aristizabal	Kathryn O'Hara
Eric Atkinson	Jeremy O'Neal
Delbert Benzenhafer	Alejandro Pando
Fred Benzenhafer	Rushil Patel
Kathryn Chinn	Dimple Patel
Lauren Coe	Nicholas Pavlovsky
Chris Deborde	Tyler Pyle
Matthew Forhan	Jason Ressler
Radheeka Gandhi	Alejandra Rodriguez
Stella Garcia	Adam Ross
Jose Garcia	Ruben Ruiz
Marcela Gomez	William Sagues
Melia Hernandez	Jason Salem
Nathan Holt	Bryant Shannon
Ryan Isham	Michael Smith
Lukas Jaworski	Alessandra Smolek
Erik Johnson	Francisco Sotomayor
Patpilai Kasinpila	Nicole Stanford
Zorana Kojic	Robert Terwilliger
Taylor Kroll	Sean Tighe
Stefani Leavitt	Flora Vinson
Justin Marks	Erica Wallace
Martin Miller	Warner Wilson
Larissa Nagata	Andrea Zern
Sandra Nakasone	Yunjie Zhang
Natalie Nelson	

AOM

Robert Abbott
David Anthony
Allison Babb
Philip Barrilleaux
Kelsey Boehmer
William Boyd
William Brandenburg
Robert Bryan
Lauren Clement
Jeb Cole
Adam Cook
James Devlin
Max Duke
Tyler Ferguson
Matthew Glicco
Adam Goodson
Johnathan Holland
Earvin Johnson
Brandon Kendrick
Robert Krieger
Michael Labinsky
Bobby Lee
Paul Linder
Keith Mackiewicz
Josephine Medina
Jason Mills

Matt Nowlin
Caroline Oliveira
Tyler Pugh
Jeffrey Reed
Matthew Reichenbach
Jessica Robinson
Daniel Shifrin
John Simmons
Logan Smith
Juan Tanca
Justin Taylor
Andrew Toppino
Jan Valk

PKG

Joseph Biscuiti
Casey Blank
Michael Cochran
Gregory Cox
Nicholas Crookston
Rober Ely
Luke Fromowitz
Jennifer Gobitz
Sena Harjikordestani
Matthew Norton
Kevin Shofe
NicolaiUssin
Michael Voss

Masters

Naji Aldosary
Farangis Khosro Anjom
Yiqiao Li
Gloria Perez-Falcon
Drew Schiavone
Anirudh Sundararajan
Brittany Tomlin
Kyusuk You

PhD

Anna Cathey
Daniel Dourte
Sachin Gadekar
Melissa Haley
Syewoon Hwang
Dae Gwan Kim
Gareth Lagerwall
Peter Larbi
John Robbins
Zhuoli Tian
Congrong Yu
Lukasz Ziemba

Accomplishments and Awards



Dr. Brian Boman
IFAS Superior Accomplishment
Award, 2012



Dr. Michael Dukes
ASABE Young Extension
Worker, 2011



Dr. Clyde Fraisse
ASABE Florida Section
Outstanding Young Extension
Worker, 2011



Dr. Dorota Haman
Gamma Sigma Delta
Distinguished Leadership
Award of Merit, 2012

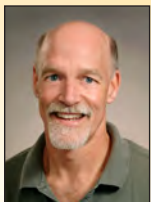


Dr. James Jones
L.R. Ahuja Ag Systems
Modeling Award, 2010

National Academy of
Engineers, 2012



Dr. Greg Kiker
IFAS International Achievement
Award, 2011



Dr. Jim Leary
ASABE Florida Section
Teacher of the Year
2011



Dr. Chris Martinez
John & Martha Woeste
Professional Development
Award, 2011



Dr. Eric McLamore
UF Excellence in Assistant
Professors, 2012



Dr. Kati Migliaccio
ASABE Florida Section
Outstanding Young
Researcher, 2011



Dr. Rafael Muñoz-Carpena
UF Research Foundation
Professorship



Dr. Art Teixeira
International Association
of Food Engineers Lifetime
Achievement Award, 2011

ASABE Florida Section
Distinguished Achievement
Award, 2011

Graduate Students



**Prachee
Chaturvedi**
UF International
Student Award,
2011



Mandu Inyang
ASABE First Place
Grad Student
Research Paper
2011



Mazin Saber
UF International
Student Award,
2011



**Kofikuma
Dzotsi**
McNair Bostick
Scholarship
for Research,
2011



Victoria Keener
Universities Council
on Water Resources
(UCOWR) Award
2011



Congrong Yu
ASABE Second Place
Grad Student Research
Paper
2011

Undergraduate Students



**Fernando
Aristizabal**
ASABE-AGCO
Student
Design
Competition
2011



**Gabriela
Cruz**
J. Richard
Troll
Memorial
Scholarship
2011



**Stefani
Leavitt**
ASABE
Florida
Section
Outstanding
Student
2011



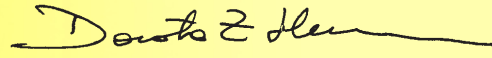
Tyler Pyle
IBE -
Institute of
Biological
Engineers
Award, 2011



Bryant Shannon
J. Wayne Reitz Medal
of Excellence, 2011
Fulbright Fellowship
2011
Jonathan F.K. Earle
Engineering
Leadership Award
2011

Dr. Dorota Z. Haman

Chair's Message



Dear Alumni and Friends of the ABE Department, Despite a difficult economy and continuous budget cuts to higher education, the ABE department is doing well. Our graduate and undergraduate enrollments are stable and we currently have the largest number of Ph.D. students in the country. We are humbled and excited to be recognized by our peers as a number three graduate program and as the number four undergraduate engineering program in the country. As you probably recall, last year, U.S. News and World Report rated us number 7 in both. Our students are doing well, considering the economy. The majority secure a good job after graduation while some are continuing their education in professional or graduate schools of their choice. Our students and faculty have been recognized consistently as you can see in Awards and Recognitions. Research success is also high throughout the department. Be sure to review our research highlights and visit the website for additional updates. Please drop me a note or call me (352-392-1864, dhama@ufl.edu) if you have an update or are interested in addressing our students in class or in another setting, or just would like to talk. GO GATORS!



Dorota Haman – Professor and Chair

Donations make the difference between excellence and greatness. We appreciate our devoted and generous donors. Join us as one of the highest ranked agricultural and biological engineering departments in the nation, and contribute to greatness. Contact us through our website or contact IFAS Development at <http://development.ifas.ufl.edu/>.

Meet the Team!

New Staff Join ABE



Tawanna Boykin is the new ABE Office Assistant and oversees Personnel and HR responsibilities.

Tawanna says she joined the department for more of an opportunity to work in her field of HR, as well as closely with faculty & students.

“I enjoy the environment and the ease of working as a team with my co-workers!”



Deanna Williams is the new Senior Fiscal Assistant handling Pcard reconciliations and Purchase orders. She comes to ABE from Computing and Network Services.

She says that she enjoys the collegial atmosphere at ABE and ‘the people’.

“I’ve enjoyed getting to know everyone and being of service to them.”



Shannon Noble is the Office Assistant to Dorota Haman, working in all aspects of program administration. She spent eight years teaching at the secondary level as both an ag teacher, FFA advisor and general science teacher.

After teaching and prior to joining ABE, Shannon worked in the department of Agricultural Education. When not at work, her time is spent with her family of four children ranging from pre-school through high school age.

photo: Tyler Jones

Special Thanks to Our 11-12 Donors

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Results Beyond Education



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TOP L-R Tonny Carrillo Paniagua, Adriana Rojas Rishor, Dorota Haman, Juan Pablo Rojas Sossa, Jose David Ramirez Castro

Front L-R: Ing. Jose Francisco Aguilar, Felipe Calleja A.

Costa Rica Collaboration

Our department has a long history of working with EARTH (Escuela de Agricultura de La Region Tropical Húmeda) in Costa Rica providing student exchange and internships for undergraduate students. In 2008, a 3-year project was funded to pair an EARTH undergraduate with a UF graduate student to work on his or her research project, to train the EARTH student in tools and techniques suitable for application in the tropical/subtropical region. The collaboration was continued after the fall semester by the students developing a small joint research project proposal during the spring semester suitable to satisfy EARTH's Graduation Project Requirements and the UF graduate student's research topic.

In 2011, our collaboration expanded to the University of Costa Rica (UCR) in San José. This public university is the oldest, largest, and most prestigious institution of higher learning in Costa Rica. Approximately 39,000 students attend UCR throughout the year. Our sister department of Agriculture Engineering at UCR is going through a curriculum change to include more biological engineering content and to become Biosystems Engineering. They are seeking advice from several U.S. universities that went through a similar process and are developing working relationships with Michigan State and the University of Florida to learn more about the curricula and transition to more biology focused engineering.

As a result of this collaboration, the ABE Chair, Dorota Haman, visited the University of Costa Rica last November and a delegation of professors from Agricultural Engineering at UCR - Ing. José Francisco Aguilar, MSc. and Ing. Carlos Benavides, MSc., visited ABE and UF in April 2012. An MOU was signed at both institutions and we are working on developing a student and faculty exchange program between the universities. These visits identified several areas of common interest such as bioenergy, biosensors, hydrological modeling and climate adaptation that are of interest to both institutions. We are excited about the opportunities this collaboration has to offer for faculty, students and our universities.



David Sammons, Dean, UF International Center and Ing. Jose Francisco Aguilar, University of Costa Rica, sign the MOU agreement.