

COLLEGE OF ACES Office of International Programs

Newsletter

November 2013

ACES will lead consortium to establish sustainable production and utilization of soybean in Africa

A consortium led by ACES has received a \$25 million federal grant to establish sustainable production and utilization of the soybean in Africa, which will increase food security, raise incomes, and improve household nutrition on the continent. The five-year project sponsored by the United States Agency for International Development (USAID) will focus on Ghana, Mozambique, Zambia, Malawi, and Ethiopia, and will directly affect other parts of Africa.

Led by Dr. Peter Goldsmith, an agricultural economist with over 25 years of experience in international development who has studied the economics of soybean production in Brazil, the College of ACES will administer the project and manage its strategy and implementation.

"This project is about the soybean being an economic engine to reduce poverty. The soybean has been proven as a fast-growing, broad-acre crop around the world, and its protein is in great demand. Its success is well known, but that success has not been shared in Africa. We have hypothesized the soybean can do for the rural economies of Africa what it has already done for other regions of the world, such as South America," Goldsmith said.

"What brings this project here and now to the University of Illinois goes back to the 1960s when the university made a significant commitment to soybean production and soybean research from the germplasm level to the utilization level. Since then, significant work has been done by U of I's crop scientists, animal scientists—for example, the corn-soy diet for poultry and pork, the foundation for animal nutrition that started here—and food scientists. The commitment of our faculty, departments, and administrators led to the human use and internationalization of soy during the 1970s and eventually brought the National Soybean Research Laboratory (NSRL) here in the 1990s, which was also a commitment by federal and state government and the Illinois soybean farmer. Many people before me have put in many many hours that have led up to this project," Goldsmith said.

The College of ACES will manage all the plant breeding activity (led by Dr. Brian Diers and Dr. Randall Nelson). Specifically, the team will use the USDA Soybean Germplasm Collection based at the U of I campus to identify new high yielding varieties that are adapted to low latitude environments. The U of I will also educate and train the breeders (led by Dr. Rita Mumm, director of the Illinois Plant Breeding Center) and provide education on human nutrition (led by Craig Gunderson and Bridge Owen of NSRL).

"The demand for soybean meal is growing very quickly not only around the world, but sub-Saharan Africa as well. At this point much of that demand is met by imports, with rural communities sharing little in the benefits. The Soybean Innovation Laboratory seeks to simultaneously establish the critical R&D infrastructure to support a soy complex, while better understanding the socio economics of soybean's expansion in the region," Goldsmith said.

OIP announces 2013 scholars of the ACES Academy for Global Engagement



(l to r): Dr. Yong-Su Jin, Dr. Alfred Roca, Dr. Alex Winter-Nelson, Dr. Jeffrey Matthews, Mr. Gary Letterly, Ms. Suzana Palaska-Nicholson, Dr. DoKyoung Lee.

The ACES Office of International Programs (OIP) is pleased to announce its cohort of scholars for the 2013 Academy for Global Engagement. The Academy program is designed to stimulate international engagement in areas of education, research, and outreach.

The focus of this year's program is on "Energy, Environment, and Biodiversity," and the capstone global immersion experience is set to take

place in Taiwan during spring semester 2014. The scholars selected for this year's Academy are:

Dr. Alfred Roca, Animal Sciences
Dr. Yong-Su Jin, Food Science and Human Nutrition
Dr. DoKyoung Lee, Crop Sciences
Dr. Jeffrey Matthews, NRES
Dr. Yuji Arai, NRES
Mr. Gary Letterly, Extension

This year's Global Academy Senior Fellow is Dr. K.C. Ting.

Hauser and Kalita attend India Water Forum



Representing ACES as a global leader in combating issues of food and water insecurity and congruent with the College's noteworthy record of institutional capacity building and involvement in

India, Dean Robert Hauser and Assistant Dean of Research Dr. Prasanta Kalita were invited to attend the India Water Forum (IW) – International Water Convention in New Delhi during late October 2013. Dean Hauser inaugurated the International Water Forum Exposition, and Kalita presented at a technical session on water use efficiency in the agricultural sectors.

Ward makes inroads in Cuba to expand work on trans-Gulf bird migration



Swainson's Thrush

After a recent visit to Cuba, Dr. Michael Ward, assistant professor in the Department of Natural Resources and Environmental Science, sees both opportunities and complexities for including that island country in his work on trans-Gulf of Mexico bird migration.

"For the past four years, we have radio tagged Swainson's Thrushes on Alabama's coastal islands before they make their annual southward migration through the Gulf of Mexico. Our existing receiving stations have detected approximately 40% of the birds migrating through the Yucatan Peninsula. We think that more than 40% of these birds survive a trans-Gulf migration by going through Cuba, so we would like to collaborate with ecologists there to see how many birds may be taking that route," Ward explained.

Establishing research collaborations with Cuban scientists, however, is challenging for many reasons. First of all, due to the U.S.'s trade embargo with Cuba, U.S. governmental funding agencies such as the National Science Foundation cannot fund travel to or research in this country. So, when Ward identified a rare opportunity to make connections and explore potential research sites and resources in Cuba, he applied for and received funding through an OIP seed grant, funded by the Arlys Conrad Endowment Fund, so he and his Ph.D student, Antonio Celis-Murillo, could attend the annual conference of the Mesoamerican Society of Biology and Conservation, hosted in Cuba for the first time during September 2013.

The conference allowed Ward the opportunity to talk with Cubans at all levels of the university and government systems. He was also able to explore how scientific collaborations can get started in Cuba and survey the country's existing resources. Ward concluded, "If Cuba opens up to U.S. investment, identifying important areas to conserve will be important because the beauty of the country will result in rapid development for tourism and potentially endanger many important habitats for migratory birds. We met many potential collaborators; we made great inroads. Even with the challenges, we are still optimistic."

Juvik collects diverse variations of *Miscanthus* germplasm in Japan



Juvik's with *Miscanthus* in the background

A collaboration between Dr. Jack Juvik, professor in crop sciences and member of the Energy Biosciences Institute (EBI), and his EBI-affiliated colleague, Dr. Toshihiko Yamada of Japan's Hokkaido University, allowed both parties to further their work with *Miscanthus*, a perennial grass known for its use as a feedstock for biofuel. "I have the opportunity to bring back highly productive *Miscanthus* germplasm to the United States, and they [Japan] get resources to study *Miscanthus* for use in generating electricity," explained Juvik. Hosted by Yamada and funded by the Japanese Ministry of Agriculture, Juvik spent summer and early fall of 2013 in Japan where he and Yamada traveled the length of the 1400-mile Japanese archipelago, stopping in several locations to collect a diversity of *Miscanthus* germplasm.

Brozović addresses groundwater issues in India while on sabbatical in London



Dr. Nicholas Brozovic, associate professor in agricultural and consumer economics, spent academic year 2012-2013 at Imperial College, London in its Department of Civil and Environmental Engineering, where he added an economic perspective to hydrologic modeling projects.

"A number of environmental engineering professors at Imperial, including my host Dr. Adrian Butler, work on hydrologic models soil moisture, irrigation, and crop growth, and they asked me to contribute some economic and behavioral insights to their projects," Brozovic explained. His primary collaboration with Imperial faculty focused on how droughts or climate variability impact irrigation and land use decisions, as well as crop yields. The collaboration continues; he remains a co-advisor to two students in the U.K., one of whom visited the U of I this fall.

Brozovic also helped with a research project on groundwater management in India. "There is a joint team from the U.K. and India building a large set of models for analyzing groundwater use and its impacts in India. I am working with them to understand what the economic impacts on small farmers may be as aquifers deplete. As an aquifer is depleted, agriculture becomes both more expensive and riskier, so that leads farmers to change the crops they grow and how they irrigate. For farmers that depend on groundwater, there are multiple impacts on profitability that happen as the groundwater level drops, not all of which are obvious," he said.

Indian chairman of agricultural costs and prices gives lecture on UI campus

During a recent visit to the University of Illinois, Dr. Ashok Gulati, Chairman of the Commission for Agricultural Costs and Prices (CACP) for the Government of India, lectured on "Indian Agriculture and the Right to Food" to a campus-wide audience on October 4, 2013. Gulati discussed why agriculture remains critical for India, the challenges it faces, recent government policy, and his hopes for the country's future. "The National Food Security Act is only one step towards the right to food," he said.

Despite its status as a growing economic superpower, India still struggles to overcome poverty and malnutrition among its 1.25 billion people, a population that Gulati noted is set to surpass China's by 2035. Gulati, a strong proponent of investing in agriculture, said "A one percent growth in agriculture is two to three times more effective in reducing poverty than the same growth in another sector of the economy." "Access to food is only one part of the story," he said. "Malnutrition can't be solved by such programs. The other parts are sanitation and female education." After outlining India's challenges, Gulati ended on a positive note. He predicted, "The future is reasonably hopeful. I think we will see rising investments in agriculture, and increasing private sector as a main driver."

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