COLLEGE OF
ACES
Office of
International Programs

Notes from the Director

Alex Winter-Nelson in Cambodia with the Appropriate Scale Mechanization Consortium's project launch.

It has been another great spring semester for the many members of the ACES community who are actively expanding the College's global impact. At the start of the semester members of the Appropriate Scale Mechanization team launched that program's activities with a workshop and scoping tour in Cambodia. A few weeks later they repeated to process in Bangladesh. Meanwhile leaders of the Soybean Innovation Lab were busy in Zambia and Ghana finding ways to enhance the production, processing, and marketing of soy in Africa, and a team supported by the ADM Institute for the Prevention of Post-Harvest Loss was gathering data from a large-scale farm household survey in India, which will ultimately help us better understand the nature and consequences of post-harvest loss in that country. Moving to Europe, the Strengthening Extension and Advisory Services program in The Republic of Georgia is bringing to conclusion a multi-year program that has built a new and effective system for serving farmers in that country. Finally, as this newsletter shows, our students are doing exciting work around the world. Congratulations to all the individuals working to make these and other international activities successful. Congratulations especially to Prof. Mosbah Kushad for receiving the 2016 College of ACES Award for Global Impact. The recognition is well-deserved.

The capacity of University of Illinois researchers to address some of society's most pressing global problems was on display at the Second Annual International Food Security at Illinois (IFSI) symposium, "Using Big Data to Improve International Food Security." The symposium left me with renewed faith in the potential to use new data sources, new tools for data collection, and new methods of data analytics to answer old problems of hunger and food insecurity. At the same time I feel a great sense of the difficulties of applying data analytics to build better food systems: it will require systems thinking, technical knowledge about food and agriculture, enhanced analytics, and sustained dedication to work for the public benefit. Illinois has the resources to push through these challenges, and I look forward to watching that happen.

ASMC launches innovation hubs in Cambodia and Bangladesh

ASMC team in a lowland rice research plot in Cambodia.

The Appropriate Scale Mechanization Consortium (ASMC) led by the University of Illinois at Urbana-Champaign has established two regional innovation hubs for a project that will determine the tools, technologies, and methods that improve the livelihoods of smallholder farmers in Asia and Africa.

"Visits to Cambodia and Bangladesh this spring launched the concept of innovation hubs. These hubs, based at partner institutions, will provide a means of networking for stakeholders. They will serve to collect information, develop resources, and provide training. In four years, these hubs will be self-sustaining," said Alan Hansen, project lead for the ASMC. The ASMC is a four-year, $4.7 million project funded by USAID as part of Feed the Future, the U.S. government's global hunger and food security initiative. ASMC will help farmers in these areas produce more food and nutrition on the same land base while protecting the area's natural resources for future production. The group will launch two additional hubs in Ethiopia and Burkina Faso during May.

In Cambodia, an ASMC group organized a workshop with local partner Royal University of Agriculture in Phnom Penh to begin identifying tools that may save time and labor for smallholder vegetable farmers. "Cambodia's farmers grow rice and vegetables, but vegetables are limited due to the required labor and lack of mulch. From a sustainability perspective, we saw interesting potential for developing implements to plant cover crops after the rice and then use the cover crops as mulch for the vegetables so they would need less irrigation. The cover crops would improve soil health, and mulching would improve the vegetable production and raise farm incomes," said Winter-Nelson.

Also this spring ASMC team members visited Bangladesh Agricultural University to launch a second hub. "We will also be working on capacity building, student exchanges, and outreach through such activities as field days and train-the-trainer events. Engaging youth is another focus because they are the famers in 10-15 years, so we are thinking about how to encourage them to get involved and how to teach them skills that are of value," said Hansen.

ILLINOIS

IFSI Symposium explores using big data to combat food insecurity

"Using Big Data to Improve International Food Security" was the theme of the second annual International Food Security at Illinois (IFSI) symposium.

The two-day symposium brought together physical scientists, social scientists, and data scientists who use "big data" methods, including text analysis, geographic information systems, and remote sensing, to think about how we can use these methods to address international food security.

Encouraged to embrace an interdisciplinary approach, the symposium attendees enjoyed lively discussion about how data is currently collected and used and were challenged to think about what types of data and approaches will best combat food insecurity.

John McHarris, Programme Adviser for the United Nations World Food Programme (WFP) and Senior Program Advisor for the Food Security Analysis Service, opened the symposium with optimism. "Ending world hunger is possible and possible within our lifetime," he said. McHarris presented three examples of how the WFP has already used "big data": 1) Tracking retail transactions in high refugee areas to compare spending patterns to detect anomalies; 2) Using call data records to track people before and after a disaster; and 3) Using geographic information systems (GIS) to seasonally monitor growing areas for abnormal dryness or wetness.

After one and a half days of presentations and discussions, Kate Weaver (University of Texas) summarized the key takeaways and challenges of using big data towards food security. Specifically, she noted tensions between focusing on national level aggregates and individual/household level data. Also, data can be highly localized, non-standardized and silo-ed in ways that make it difficult to access, share, and scale.

Kathy Baylis, who suggested this year's theme and co-organized the second annual symposium, closed the event by noting "This is just the beginning of the conversation." She noted that big data has been used successfully in domestic food security to improve production, access and utilization. She said the intersection among big data and international food security is currently small and novel but holds great potential for reducing global hunger and malnutrition. She and the organizing team met after the event to create a list of next steps and outcomes for moving this conversation forward.

An inaugural symposium in Fall 2015 helped to kick off the IFSI initiative. This year's and future symposiums will be themed around a specific aspect relating to food security.

See the full program here: http://intlprograms.aces.illinois.edu/content/international-food-security-illinois-symposium-april-7-8-2016

> For more news items on international activities in the College of ACES, visit http://intlprograms.aces.edu.
>
> To receive an electronic version of this newsletter, visit http://illinois.edu/gm/subscribe/7045

OIP to host seventh annual summer immersion program that has recruited dozens of grad students to ACES

The Office of International Programs (OIP) will host students from China, Ghana, and possibly Mexico as part of the seventh annual International Summer Immersion Program (ISIP) that begins on July 5.

The award-winning ISIP is a five-week program that includes a research apprenticeship with an ACES faculty member as well as a series of topical seminars, language classes that focus on English for graduate students, and cultural field trips. The program culminates with a poster session, where the students showcase their research experiences.

"This unique program, with more than 120 graduates in the past six years, has served to introduce many potential graduate students to the Urbana-Champaign campus," said Suzana Palaska, associate director for OIP who coordinates the program.

The quality and value of the ISIP program have been recognized by faculty and students at ACES' key partner universities. At Zhejiang University, the program has repeatedly received the "Best Summer Group Program" award. More than 20 other ISIP alums have matriculated to graduate programs at Illinois. A new component to the ISIP program is to facilitate an alumni network of past students who are now at Illinois. The ISIP program is also a great opportunity for ACES faculty to cultivate new international collaborations.

OIP announces seed grant recipients

The Office of International Programs congratulates its International Seed Grant recipients for Spring 2016. Funding is made possible through support provided by the Arlys Conrad Endowment Fund.

Rabin Bhattarai, ABE: "Water resources management for food security in Northern Haiti"

Maria Cattai de Godoy, Animal Sciences: "Building an international research program with Brazil and the companion animal nutrition program of Illinois"

Laura Christianson, Crop Sciences: "Woodchip bioreactors for agricultural water quality improvement: International assessment of design methods and environmental trade-offs"

Megan Dailey, Animal Sciences: "Metabolic control of adult sperm cell proliferation and tissue growth"

Kelly Freeman Bost, HDFS: "Preschoolers' relationships, self-regulations, and pediatric obesity in three sociocultural contexts"

Peter Goldsmith, ACE: "Identification of soybean diseases and pests in Africa: Development of a diagnostic guide"

Anna Kukekova, Animal Sciences: "The timing of fear behavior in juveniles predicts adult behavior"