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New Agreements



CFAES International Programs in Agriculture



2009 Annual Report

Office of International Programs in Agriculture

Mission

The Mission of the Office of International Programs is to incorporate an international dimension into the student learning, discovery and engagement dimensions of the college so that (a) our graduates understand, contribute to, and effectively compete in the global environment of which agriculture and natural resource management are integral components; (b) our research and engagement programs have access to the best ideas and technologies regardless of where they are generated or developed; (c) our outreach programs positively impact the livelihoods of agriculturalists and those engaged in utilizing and managing natural resources around the world; and (d) the above strengthen U.S. international competitiveness within a sustainable global agricultural and natural resource system.

Introduction

In this report, we provide an overview of international activities undertaken by the College of Food, Agricultural and Environmental Sciences (CFAES) and the International Programs in Agriculture Office (IPA). The office continued to provide important support services relating to the three major operational dimensions of the College of Food, Agricultural and Environmental Sciences (CFAES), namely, student learning, discovery and outreach to students, faculty, staff and stakeholders. The office continues to benefit from support given to it by the Ohio Agricultural Research and Development Center, OSU Extension, and the College Office of Academic Affairs. It also benefited greatly from inputs provided by other collaborators on the OSU campus, in particular, the Office of International Affairs and its affiliated Area Studies Centers, the OSU Research Foundation, and other Colleges, to which it has programmatic ties, including the Colleges of Veterinary Medicine, Fisher College of Business and Biological Sciences.

The Mission of the IPA Office is consistent with the broader University vision of promoting Ohio State's eminence in research and outreach on a global scale. It recognizes that if OSU is to be a world class university then it must be engaged globally. It recognizes that we have a responsibility to provide our graduates and stakeholders with a global perspective if they are to work and compete in



a world that is culturally more diverse and increasingly more interconnected and interdependent. CFAES has been engaged in global research and training efforts for the past 50 years and, as this report hopes to make clear, continues to promote global engagement and leadership through a wide array of activities and partnerships.

Central Service Role for the College

The Office of the International Programs in Agriculture (IPA) was established in 1955 to coordinate the international efforts of the College. It continues to do this by providing a broad array of services to faculty and students in the College and to international visitors, scientists and students. In 2009, the service role of the IPA Office was manifest by leading or assisting faculty with international grants submissions, implementing multi-country and disciplinary grant awards, facilitating the completion of Memorandums of Understanding, and planning, budgeting and implementing degree and short-term training activities for international participants.

Internationally Engaged – A Dynamic Commitment

In 2009, faculty and graduate students in the College of Food, Agricultural and Environmental Sciences (CFAES) traveled to Argentina, Australia, Brazil, Canada, Chile, China, Costa Rica, the Czech Republic, the Dominican Republic, Egypt, England, Germany, Ghana, Iceland, India, Ireland, Italy, Kenya, Mexico, the Netherlands, New Zealand, Nigeria, Poland, South Africa, Taiwan, Tanzania, Uganda and Zambia, continuing its history of international engagement focused on strengthening the capacity of these countries and of our faculty to more effectively meet the challenges of global food security and natural resource management.

As coordinators and presenters at international conferences and local workshops, as advisors updating curriculum design for faculties of agriculture, as collaborating researchers, as connectors between U.S. businesses and foreign entities, as designers of diagnostic laboratories and food processing plants, and as resident directors of Study Abroad programs, these ambassadors of the College embody in day-to-day tasks its commitment to be a dynamic presence to both the domestic and international agricultural community. The wealth of expertise in its personnel and their efforts to team across disciplines with other countries has allowed the College to engage in academic and technological exchanges which address current and future issues of food security and safety, microfinance and financial development, water/land resource management and sustainability, crop and livestock production, pests and disease management, trade and marketing, and community development.

The purpose of this report is to highlight some of these engagements in 2009.



Active Projects

The Office of International Programs in Agriculture engaged in the development and implementation of the following sponsored active grants and contracts during the year.

Title	Sponsor	Investigator	Budget	Project Begin	Project End
<i>Development of a West African e-Education Agro-Ecology Program for Sustainable Food Production</i>	Agency for International Development	DICK, RICHARD P. ERBAUGH, J. MARK MARTIN, KENNETH E. NEAL, STEVEN M. REGNIER, EMILIE	\$50,000	9/1/2010	12/1/2010
<i>Enhancing trade in horticulture crops through food safety and phytosanitary measures</i>	University of California-Davis, USAID	MILLER, SALLY ANN ERBAUGH, J. MARK LEJEUNE, JEFFREY T.	\$141,504	2/1/10	1/31/2011
<i>Identifying stakeholder needs for establishing vibrant urban specialty crops enterprises</i>	USDA National Institute of Food & Agriculture	GREWAL, PARWINDER CARDINA, JOHN ERBAUGH, J. MARK HOY, CASEY KLEINHENZ, MATT LING, PETER	\$49,966	9/1/09	8/31/2010
<i>Regional IPM program in East Africa - Phase 4</i>	Virginia Polytechnic Institute, USAID	ERBAUGH, J. MARK	\$1,499,589	10/1/2009	9/30/2014
<i>OSU Africa Food Security Initiative</i>	Virginia Polytechnic Institute, USAID	MILLER, SALLY ANN ERBAUGH, J. MARK	\$99,941	9/29/2008	9/28/2011
<i>OSU Africa Food Security Initiative</i>	Virginia Polytechnic Institute, USAID	ERBAUGH, J. MARK MILLER, SALLY ANN	\$153,509	9/29/2008	9/28/2011
<i>University partnership to build rural and micro-finance capacity in Mexico</i>	American Council on Education	HANSEN, DAVID O GONZALEZ, CLAUDIO	\$161,201	9/20/2005	1/31/2010
<i>Borlaug Fellowship Program - Kazakhstan</i>	USDA Foreign Ag Service	HANSEN, DAVID O	\$14,997	9/1/2007	9/30/2009
<i>Borlaug Fellowship Program - Macedonia, Kosovo, Serbia</i>	USDA Foreign Ag Service	HANSEN, DAVID O	\$109,971	9/1/2007	9/30/2009
<i>Building human capital for microfinance institutions in order to increase competitiveness and reduce rural poverty in Mexico</i>	Higher Education for Development	LADMAN, JERRY R; HANSEN, DAVID O.	\$249,978	8/1/2007	9/30/2010
<i>On-farm water management for rain fed agriculture on benchmark watershed in five diverse eco-regions of India</i>	National Association of State Universities & Land-Grant Colleges	LAL, RATTAN HANSEN, DAVID O.	\$59,405	9/1/2006	8/31/2010
<i>Norman E. Borlaug International (primarily India)</i>	USDA Foreign Ag Service	HANSEN, DAVID O ERBAUGH, J. MARK	\$104,537	9/12/2006	9/11/2011
<i>African SPS Faculty Exchange Program</i>	USDA Foreign Ag Service	ERBAUGH, J. MARK	\$145,377	7/26/2007	7/26/2011
<i>Market Development in Support of Sorghum and Millet Farmers in Tanzania and Zambia</i>	University of Nebraska, USAID	ERBAUGH, J. MARK LARSON, DONALD W.	\$340,000	7/1/2007	9/30/2010
<i>Regional IPM program in East Africa – Phase 3</i>	Virginia Polytechnic Institute, USAID	ERBAUGH, J. MARK DOOHAN, DOUGLAS KLEINHENZ, MATT KOVACH, JOSEPH MILLER, SALLY A.	\$716,122	10/1/2005	3/31/2010
		TOTAL	\$3,896,097		



CFAES Faculty Involvement in International Research & Education

International Research Collaboration *(information from OSU Pro and URS)*

Department	Faculty	Country	Focus
HC&S	Daniel Struve	Italy	Asexual Propagation of Italian Oak Species
H&CS	Daniel Struve	Kenya	Passion Fruit Production in Kenya
FS&T	W. James Harper	Australia	Evaluate the research program of Dairy Innovation Australia ; address technical problems in cheese, cream and milk protein concentrates
FS&T	W. James Harper	Thailand	Dr. Sudarat Jiamyangyuen, Food Protein Functionality
FS&T	Melvin Pascall	Kenya	Proposal review panel for the Int'l Foundation for Science; collaborated with faculty from Jomo Kenyatta University of Agriculture and Technology
FABE	Frederick Michel, Jr.	Israel	NEGEV Project collaboration with faculty at Hebrew University
FABE	Frederick Michel, Jr.	Belgium	Collaboration with Catholique University on project to develop ethanol production from nursery waste
FABE	Frederick Michel, Jr.	Columbia	Research collaboration and student exchange program with Antioquia University in Medellin
FABE	Randall Reeder, K. Rafiq Islam	Turkey	4 months hosted soil scientist researcher
H&CS	John Finer	Australia	Worldwide Universities Network funding with Andrew Merchant, University of Sydney
SENR / OARDC	K. Rafiq Islam	Russia, Caucasus & Central Asia	Developing ag research and Extension activities in Central Asia, and environmental research in Russia, Caucasus, and Central Asia
SENR / OARDC	K. Rafiq Islam	Uzbekistan	Tashkent State Agrarian University, Samarkand Agricultural Institute, Bukhara State University
SENR / OARDC	K. Rafiq Islam	Pakistan	University of Multan
SENR / OARDC	K. Rafiq Islam	Bangladesh	Dhaka University
SENR / OARDC	K. Rafiq Islam	Turkey, Ukraine, Brazil	Developed bilateral education and research program
SENR / OARDC	Laura Tiu	Israel	Negev Foundation aquaculture research
AnSci / OARDC	Hanping Wang	China	Key Lab of Fish Genetic Resource and Biotechnology
OSUE / Wooster	Thomas Blaine	Ukraine	Input to study on economics of Kerch Oil Spill (Black Sea); assisted with project
OSUE Ag&NR	Gary Graham	Canada	Chair, NAMSC maple research funding (avg \$60,000/yr) for applied research
OSUE Seneca Co.	Edwin Lentz	Canada	Investigating development of a phosphorus soil test metric for the management of dissolved phosphorus loading into the Great Lakes

International Presentations/Workshops/Course, Materials, Website Development

(information from OSU Pro and URS)

Department	Faculty	Country	Focus
FABE	Andrew Ward	Canada	Geomorphology of Streams
FS&T	V.M. Balasubramaniam	China	Non-thermal Technology for Safety & Quality of Food
FABE	Karen Mancl	China	Water Pollution
HCRD	Jamie Cano	Egypt	Teaching Methodology & Curriculum Materials Development
AnSci	Francis Fluharty	Chile	Consult with small and large beef farmers and meat processing plants; assessment of the Chilean beef industry with The Inter-American Institute for Cooperation on Agriculture (IICA) Office and the Chilean Institute for Agriculture Development (INDAP)
AnSci	Steven Moeller	China	ODA & U.S. Livestock Genetics Export trade and education mission; presentations on swine genetic improvement, factors affecting meat quality, and artificial insemination (AI)
AnSci	Steven Moeller	China	OARDC marketed purebred breeding animals to China
AnSci	Steven Moeller	China	Swine production and meat science seminars for scientists and government officials from Hubei Province
AnSci	Henry Zerby, Steve Moeller	Australia	Niche Market Study Tour to University of Melbourne, University of New England, Monash University and Meats Australia
AnSci	Henry Zerby, Steve Moeller	Australia	Graduate student from James Cook University for ultrasound, intramuscular fat assessment, shear force, harvest procedures and meat cutting
AnSci	Steven Moeller	Australia	Ultrasound training for research faculty at James Cook University
AnSci	C. Lynn Knipe	Costa Rica	4-day sausage processing short course at University of Costa Rica; support of American Soybean Association
OSUE Ag&NR	James Chatfield	China	Beijing Botanical Garden Tour seminar, invasive species study trip
OSUE Ag&NR	Gary Graham	Canada	International effort to develop organic standards for maple syrup; newsletter editor
OSUE Ag&NR	Gary Graham	Canada	Visiting professor to deliver educational programs in Provinces of Ontario, Quebec, New Brunswick, Nova Scotia
OSUE Fulton Co.	Gregory Labarge	Turkey	Precision Agriculture presentation to visitors from Selcuk University
OSUE Jefferson Co.	Joseph Maiorano	Cayman Islands	Developing training program for prison educators who will be facilitating the Fit 2B FATHERS curriculum
OSUE Wood Co.	Alan Sundermeier	Canada	Webinar presenter for certified organic producers
OSUE Darke Co.	Rhonda Williams	Serbia	Presentation on Darke Co. agriculture and the importance of 4-H for youth

International Capacity Building *(information from OSU Pro and URS)*

Department	Faculty	Country	Focus
FS&T	Hua Wang	China	Building OSU capacity in gateway country
HCRD	Larry Miller	Taiwan	Taiwanese 4-H & Extension study tour of Ohio agriculture
SENR	Brian Lower	India	Environmental Information System Centre Newsletter for the University of Madras ("Soil bacterial breathe toxic metals" article)
Ed&HumanEc	Mark Failla	Taiwan	Exchanges between faculty and administrators from Taipei Medical University, and Yuanpei University
SENR / OARDC	K. Rafiq Islam	Pakistan	Served as examiner for PhD dissertation at University of Multan
OARDC	Laura Tiu, Maurus Brown, Julie Fox	Japan, Serbia, Taiwan, Senegal, Israel	Tours of the aquaculture facilities at OSU South Centers, horticulture research plots, direct marketing programs, Ohio farms and wineries
AnSci / OARDC	Hanping Wang	China	PhD training program with Yellow Sea Fisheries Research Institute, Chinese Academy of Fishery Sciences, and Central China Agriculture University
OSUE Ag&NR	James Chatfield	Israel	Reciprocal Green Industry Tour Extension Horticulturists, Negev Foundation
OSUE Montgomery Co.	Nathan Arnett, Kimberly Catchpole	Taiwan	4-H administrators and staff overview of Ohio and U.S.
OSUE Ottawa Co.	Glen Arnold	Canada	PorkBridge program on swine manure research projects
OSUE Morrow Co.	Rebecca Barker		Coordinate applications from youth applying to attend international 4-H activities and host families
OSUE Cuyahoga Co.	Marie Barni	Korea	Extension Rural Development Delegation; programming in a rural setting, regional food policy coalition case study
OSUE Counties: Clark, Hamilton, Geauga, Allen, Delaware, Mahoning, Lorain, Lucas, Wood	Pamela Bennett, Joseph Boggs, Erik Draper, David Dyke, Yu Gao, David Goerig, Timothy Malinich, Amy Stone, Curtis Young, Rebecca McCann	Italy, Germany, UK, Russia, China, Japan, etc.	Buckeye Yard and Garden Line newsletter online; 81000+ inquiries; 90 countries other than US; primary ones listed here
OSUE Van Wert Co.	Nancy Bowen-Ellzey	Japan	Sister City visit; on coordinating team for program
OSUE Warren Co., Nationwide & OHFB 4-H Center	Stephen Brady, Nicolette McNeely	Canada	Presentation at International Camping Congress, Quebec
OSUE Montgomery Co.	Ann Clutter	Somalia, Sudan	Collaborated with USDA CSREES EFNEP (Expanded Food & Nutrition Education Program) to develop urban ag community garden for Somalian and Sudanese area residents

OSUE Montgomery Co.	Ann Clutter, Jenan Rabi	Middle Easter & North Africa	Teach nutrition lessons in native Arabic language; collect data for entry/exit documentation
OSUE Stark Co., Mercer Co., Portage Co., Montgomery Co.	David Crawford, Sara Kleon, Barbara Phares, Edward Werner, Elizabeth Wingerter	Japan	Leadership to LABO and IFEE exchange programs for youth and young adults
OSUE Champaign Co.	James Jasinski	Guyana	USAID Farmer to Farmer trip to address pumpkin production problems
OSUE Miami Co.	Louis Raison	Guatemala	Maya Tech Learning Center for technology access and computer lab learning center
OSUE Auglaize Co.	John Smith	Macedonia	Teaching dairy management and better forage production and harvest for small dairy farms; teaching cooperative principles to emerging cooperatives
OSUE Auglaize Co.	John Smith	Bulgaria	Creating demonstration plots for crops with Gypsy farmers
OSUE Auglaize Co.	John Smith	Haiti	Developing crop program for school farm
OSUE Enterprise Center for Economic Development	Julie Fox	Israel, Taiwan, Serbia	Direct Marketing and Agritourism operations tour

INTERNATIONAL LEARNING

Study Abroad

If you ever wished you could travel to Australia, Brazil, Chile, China, Costa Rica, the Czech Republic, the Dominican Republic, England, Ghana, Iceland, Ireland, Mexico, the Netherlands, South Africa or Uganda, you can if you are a student in the College of Food, Agricultural and Environmental Sciences.

Study abroad participation among CFAES students increased by 30% from the past academic year, with 133 students taking advantage of the opportunity to experience other cultures and to engage in conversations about global issues under the leadership of 21 faculty or staff members who served as resident directors.



EARTH University, Costa Rica

An increase in short term study abroad programs has been the focus over the past three years. Offerings vary from 10 days to six weeks, ranging from agricultural economics to food science and safety issues, from community development to sustainable agriculture, from horticulture and landscape designs to crop sciences, from animal sciences to foreign trade, from engineering to climate and natural resource issues, all in a global context.

Kelly Koren, who serves as the CFAES Study Abroad Coordinator and holds a joint appointment with the Office of International Affairs, can be contacted at 688-4144, at koren.10@osu.edu. Or, you can learn more about the many opportunities by visiting the website at <http://cfaes.osu.edu/studyabroad>.



Australia, Shepherding



Ecuador, Local Cuisine



Ireland, Kissing the Blarney Stone

Wolfe Study Abroad Scholarship

Each year, John F. Wolfe, chairman and CEO of The Dispatch Printing Company, honors OSU students with study abroad scholarships. To receive the scholarship, students must be a full-time student of sophomore, junior, or senior rank, have a minimum overall GPA of 2.75, be an Ohio resident who has graduated from an Ohio high school, and be admitted to an Ohio State approved quarter/summer-long study abroad program.

Recipients in 2009, Jessica Schafer and Josephine Byrk, used their scholarships to study in East Africa during winter quarter. Jessica, a 2005 graduate of Monroeville High School, a senior at Ohio State, is a plant pathology major. Josephine, a 2006 graduate of Orange High School, a senior at Ohio State, is an animal science major, with minors in international development and life sciences.

"By traveling to both Uganda and Tanzania this winter, I was given the opportunity to be immersed into an entirely new culture, and left with a new found understanding regarding their economics, agricultural issues, customs and traditions. This broadened my knowledge and increased my understanding of the differences and similarities between countries an ocean apart," said Shafer.

"I was looking to find a greater understanding of human development issues. In my passion for animal conservation, I am aware that human issues are frequently tied to preservation issues. The opportunity to experience these unique cultures has not only been life changing, but will make me a more effective veterinarian," Bryk said.

Summer Internship, Ataturk University

During the summer of 2009, Alissa Kriss and Margaret Ellis, graduate students in Plant Pathology, received support from IPA for their internship at the Ataturk University in Erzurum, Turkey. In the program were students from several other countries including Azerbaijan, Georgia, Italy, Taiwan, and Malaysia. Several of these students were also conducting research in plant pathology and other agricultural areas.

While there, Margaret and Alissa discovered that many of the faculty either received their degrees from OSU or had spent time participating in short term programs on our campus. "The interaction with the professors was the best part of my trip," said Alissa. "We discussed their research and possible collaborations. I also had the opportunity to assist with the preparation of a professional journal article. I had many discussions with one faculty member with whom I share similar research interests. We discussed statistical techniques and their application to various animal and plant experiments and I got new ideas for my

own research."

"One of the best parts of this trip was visiting some of the rural areas of Turkey," said Margaret. "Unlike agriculture in the United States, the fields are much smaller and sustainable. In the northeastern part of Turkey where they grow a lot of stone fruit, the orchard production seemed more similar to that of the United States. They had some of the best apricots, peaches, plums, and sweet cherries I have ever tasted. This was especially exciting for me since my previous research for my Master's was on a disease of stone fruits."



Margaret Ellis, Dr. Recep Kotan, Alissa Kriss

They both agreed the great contacts and discussions will be invaluable as they pursue their careers.

The Ohio Internship Program

The Ohio Program (TOP) had an eventful year placing 400 work/study participants from 41 countries. The Ohio Program has a total of more than 8000 past participants in 31 years of operation.

The TOP program was 98% successful this past year in placing participants who were satisfied with their first training placement. Nine staff members who have 108 years of combined experience facilitate this very high rate of success with student participants.

A new recruitment video won a bronze 2010 Telly Award in a nationwide competition. The FAES Communications and Technology staff did an excellent job of filming and editing. As fiscal year 2010/11 opens, an increase in applicants from those who view it at www.ohioprogram.org/video are expected.

The turf grass management program continues to gain recognition under the leadership of Program Manager Michael O'Keeffe. Judging by the unsolicited publicity received in the U.S. and abroad through magazine articles written by past participants and by the financial support from industry, specifically Syngenta, Scotts, Jacobsen, and the Golf Course Superintendents Association, this program is rapidly gaining prominence as the foremost training institution for future golf course superintendents.



Media captures the OSU International Intern Program

Peace Corps

The OSU campus Peace Corps recruiter has been in the International Programs in Agriculture Office since 1974. During the past three years (2008-2010) twenty-four students from the College of Food, Agricultural and Environmental Sciences have joined the Peace Corps. These students possess what is termed "scarce skills" by the Peace Corps. These are skills which are in great demand by developing countries.

In 2009 twenty-eight OSU students entered the Peace Corps, joining the other 33 OSU alumni currently in the field, which enabled OSU to retain the distinction of being one of the top 25 universities in the country in terms of Peace Corps recruitment.

Since Peace Corps' official beginning on March 1, 1961, 1524 OSU alumni have served among the 200,000 volunteers in 139 countries.

OSU alumni who entered in 2009 are currently serving in Albania, El Salvador, Ghana, Guatemala (2), Jamaica, Kazakhstan, the Kyrgyz Republic, Macedonia,

Mali, Moldova, Nicaragua, Paraguay, Peru (2), the Philippines, the Republic of Azerbaijan, Romania (2), Rwanda, Senegal, Swaziland, Tanzania, Ukraine, and Zambia.

Jack Campbell, the current OSU Recruiter, is a former Peace Corps volunteer who served in Botswana and Fiji.



"This University is not maintained by its alumni or by the state merely to help its graduates have an economic advantage in the life struggle. There is certainly a greater purpose."

J.F. Kennedy
Address to Students
October 14, 1960

DISCOVERY THROUGH RESEARCH

During 2009 CFAES faculty continued to participate in collaborative agricultural research programs in many different countries. Through the IPA Office or through independent faculty initiative, these programs facilitate active participation by CFAES research scientists in global agricultural research networks. These programs represent important contributions to the overall research output of scientists in the college and are funded by U.S. Government agencies, especially the U.S. Agency for International Development (USAID) and the U.S. Department of Agriculture (USDA).

Collaborative Research Support Programs (CRSP)

A. International Sorghum & Millet CRSP

The CFAES project with the International Sorghum and Millet Program (INTSORMIL CRSP) is titled, *"Market Development in Support of Sorghum and Millet Farmers in Tanzania and Zambia."* Don Larson, AEDE, and Mark Erbaugh, IPA, co-PIs on this effort, are collaborating with social scientists at the University of Zambia (UNZA) and Sokoine University of Agriculture (SUA) in Tanzania. The overall approach is to increase food security for small-scale farmers by assessing new market opportunities for sorghum and millet products. Major achievements of the past year included the following:

- Completion of technology adoption studies in both countries and manuscript submissions to journals.
- Tanzanian M.S. student Joseph Mgaya completed his one year of course work at OSU and returned to Tanzania in July 2009 to conduct his field research. He was the recipient of AAEA Foundation Luther Tweeten Special Purpose Scholarship Funds to support his research. The title of his research paper was *"Feed Concentrates Market and Prospects for Increased Sorghum and Millet Utilization in Tanzania."* Joseph's committee consisted of OSU faculty members Eugene Jones, chair of the committee, Don Larson, Mark Erbaugh, and SUA faculty members Fredy Kilima and Emmanuel Mbiha. He graduated from OSU in June 2010.
- SUA PhD candidate Jeremia Makindara is completing his dissertation work titled *"Sorghum Based Clear Beer Value Chain in Tanzania."* For this sandwich degree program he completed one year of course work at OSU with funding from the HEPAD Project and field research in Tanzania funded by the INTSORMIL/CRSP. His degree will be granted by SUA.
- SUA MS candidate Salome Maseki completed her study titled *"Economic Analysis of the Improved Sorghum Seed Value Chain in Tanzania."*
- UNZA professor and co-PI, Gelson Tembo, completed a survey of 169 farm households in Luanshya district and drafted a report.

- UNZA lecturer and co-PI Priscilla Hamukwala completed her study titled *"Sorghum and Pearl Millet Improved Seed Value Chains in Zambia: Challenges and Opportunities for Smallholder Farmers."* In addition to INTSORMIL/CRSP funding, she was also awarded a USDA Foreign Agricultural Service Norman Borlaug Fellowship to support her research.
- Zambian MS student Bernadette Chimai will complete her one year of course work at OSU in June of 2010 and return to Zambia to complete her Master's thesis research. Her thesis topic is *"Optimal Levels of Production among Smallholder Sorghum Famers in the Luanshya District of Zambia."*
- UNZA agricultural economics student, Ester Zulu, with Bernadette Chimai, are completing the sorghum based clear-beer value chain study in Zambia and Gloria Musaba, UNZA senior in agricultural economics, analyzed the monthly and annual wholesale and farm price data for sorghum, millet, and maize for her undergraduate research thesis.
- Erbaugh attended the Technical Committee (TC) meeting held in Nebraska, July 2009. CFAES Associate Dean Steven Slack was appointed to the INTSORMIL Board of Directors and attended the Board meeting held in Lubbock, Texas in September 2009. For the next year, Dr. Slack will serve as the Vice Chair of the BOD. Larson participated in a workshop on Sorghum Utilization held in Botswana in October.



Karoline Kasternak, University of Nebraska-Lincoln, Don Larson, Mark Erbaugh, Bernadette Chimai, University of Zambia

B. Integrated Pest Management Collaborative Research Support Program

This was a transition year for OSU participation in the IPM CRSP. Phase 3 activities will be completed by March 2010. For Phase 4, all projects affiliated with IPM CRSP were re-competed in August 2009 requiring the development and submission of new proposals and budgets. Two OSU/CFAES led proposals were successful and will be funded for five more years: The Regional IPM Program for East Africa: Kenya, Tanzania, and Uganda (RP/EA), Mark Erbaugh, PI; and the Integrated Plant Disease Diagnostic Laboratories (IPDL), Sally Miller, PI.

The Regional IPM Program for East Africa: Kenya, Tanzania, and Uganda Phase 4:

The focus of this project is to design effective IPM systems for selected higher-value horticultural crops in East Africa: Uganda, Kenya, and Tanzania. The three

main complementary objectives are to develop a regional model of collaborative IPM research, training, and knowledge dissemination; implement a participatory and ecologically-based IPM research program focused on developing IPM packages that address priority pest (insects, diseases, weeds) constraints of selected crops; and the transfer IPM knowledge to local growers/farmers. The RP/EA collaborates with scientists from Makerere University Faculty of Agriculture and the National Agricultural Research Organization (NARO) in Uganda; the Kenya Agricultural Research Institute's (KARI) horticultural research station at Thika in Kenya; and Sokoine University of Agriculture (SUA), in Tanzania. Regional collaboration is fostered through the Regional Technical Committee (RTC) which is composed of two scientists from each country, the Regional Coordinator (Samuel Kyamanywa, Dean, Faculty of Agriculture, Makerere University), the Site Chairperson (Mark Erbaugh, OSU) and USA-based technical experts from OSU and Virginia Tech. OSU collaborating scientists are Sally Miller, Plant Pathology, Joseph Kovach, Entomology, Matt Klienhenz, Horticulture and Crop Science, and Dave Kraybill, Agricultural, Environmental and Development Economics (AEDE).



Professor Miriam Otipa and Dr. Garrity

Phase 4 activities focus on developing IPM systems for regionally prioritized crops including tomatoes, passion fruit, onions, peppers and Arabica coffee. Highlights include two meetings of the RTC; the hosting of a workshop at KARI/Thika, Kenya, with 44 growers on tomato grafting and use of high-tunnels; training program on molecular characterization of passion fruit viruses at OSU/OARDC for Ms. Miriam Otipa with Dr.

Feng Qu; a notice appearing in the USAID fact sheet (October 19, 2009) about IPM CRSP technologies that are increasing Ugandan tomato grower farm income; launching of Impact Assessment and Gender Knowledge Global Themes activities in the region; and field trials on all crops.

The Regional IPM Program for East Africa: Kenya, Tanzania, and Uganda Phase 3:

Project Summary: Twelve students completed M.S. and/or PhD degrees funded entirely or partially by the IPM CRSP. Additional outputs include 15 presentations, 12 posters, 9 regional scientific training programs, and a total of 1056 (F: 249; M: 807) farmers participating in various regional training programs. Finally, 26 papers were published or appeared in conference proceedings and nine other papers have been submitted to journals.

Research Briefs: Tomato: 3 IPM packages developed for control of priority pests and diseases of tomatoes reduced pesticide applications from the farmer control of 8 (most farmers spray tomato between 15-24 times per season) to 3

sprays per season. The yields were 40% higher on IPM plots. **Passion fruit** studies confirmed occurrence of a novel potyvirus on passion fruit and detected tolerance in local passion fruit that may be useful in resistance breeding. Studies to develop an integrated disease management program for the control of *Fusarium* wilt determined 8 passion fruit root stocks with resistance and two agronomic treatments that in combination suppress this disease.

Banana: PCR used to monitor progressive movement of *Xanthomonas campestris* pv. *musacearum* in apparently healthy banana suckers determined that the

disease migrates fairly quickly from top to bottom of the plant and that suckers pose danger as dissemination vehicles for the disease. **Arabica coffee:** The most common insect pests were Antestia bugs, stem borers, root mealybugs, coffee berry borer (CBB), scales and canopy mealybugs. Soil application of Carbofuran granules, CAN fertilizer and animal manure all significantly reduced the incidence of coffee root mealy-bugs. Smoothing of coffee stems significantly reduced the incidence of coffee stem borers. Yield assessment for both experiments established yield advantage of each treatment.



IPM CRSP Tomato Plant Grafting, Kenya

International Plant Diagnostic Network (IPDN) Global Theme Program: This program, entitled the International Plant Diagnostic Network (IPDN), entered its second phase in 2009/2010. Led by Sally Miller, Department of Plant Pathology, the IPDN is operational in 13 countries in Africa, Central America and South Asia. The goal of the IPDN is to improve capacity for plant disease and insect pest diagnostics at the clinical level in developing countries. In addition to direct capacity building through shared expertise for sample identification, development of standard operating procedures and utilization of a specially designed distance diagnostics and information management web portal, IPDN conducted a regional training program in Mali in 2010. OSU worked with the International Institute for Tropical Agriculture (IITA) and the AVRDC-World Vegetable Center to conduct the training in Bamako, with additional funding from the USDA Foreign Agriculture Service. Twenty-seven people from ten West African countries were trained. Additional training activities included a 2-day IPDN training program near Jakarta, Indonesia, conducted by Dr. Fulya Baysal-Gurel, a Postdoctoral Associate with Dr. Sally Miller, and local resource people.

The 2-week OSU short course “Insect Pest and Disease Diagnosis for International Trade and Food Security” was conducted at the OARDC in Wooster and co-coordinated and taught by Dr. Sally Miller (Plant Pathology) and Dr. Luis Cañas (Entomology). Participants came from six African countries and Japan. This

was the third annual offering of this course, which grew from an IPDN workshop conducted at the OARDC in 2007. Participants are trained in classical and modern plant diagnostics including the use of advanced molecular techniques and internet resources.

Dr. Sally Miller participated in the IPM CRSP Regional Program in South Asia as the plant disease management research coordinator. The focus of the work is on the development of strategies for the management of diseases of vegetable crops. Development of disease-resistant germplasm, grafting technology, and biological control are among the tactics studied and moved into the farming systems in Bangladesh, Nepal and India.

Horticulture CRSP: The Horticulture CRSP awarded CFAES a contract for its proposal titled *“Enhancing Trade in Horticultural Crops Through Food Safety and Phytosanitary Measures, Kaduna State, Nigeria.”* The PI for this project is Sally Miller, Plant Pathology. OSU co-PIs are Jeff Lejuene, Food Animal Health Research Program, and Mark Erbaugh, IPA. The project is a collaboration with the Department of Crop Protection, Ahmadu Bello University (ABU), Zaria, Nigeria.

The purpose of the project is to improve the livelihoods of smallholder farmers in northwestern Nigeria, including women, by increasing the production, quality, and product safety of tomatoes. This will be done by assessing current production practices and concerns, perceptions of food safety and phytosanitary constraints, and market orientations to determine knowledge gaps, good agricultural practices (GAPs) and training programs for smallholder growers. It is expected that the project will lead to increased tomato production and improved quality that contribute to both enhanced food security and poverty reduction.



P. Chindo, LeJeune, Erbaugh, Vice Chancellor, Abdullahi Mustapha, Miller, L. Yakubu, & K. Shenge

exploratory meetings and visit fields with tomato growers affiliated with the National Agricultural Extension and Research Liaison Services (NAERLS).

In June, Miller, Lejeune and Erbaugh went to Nigeria to hold project start-up meetings with ABU collaborating scientists and to hold

Aquaculture and Fisheries CRSP: Konrad Dabrowski, SENR, is the co-PI on an Aquaculture and Fisheries CRSP project with the Universidad Autonoma de Sinaloa/Mazatlan Campus, Mexico. The title of this project is "*Human Health and Aquaculture: Health Benefits through Improving Aquaculture Sanitation and Best Management Practices.*" He is working with scientists at the University of Hawaii at Hilo to improve the production of chame juveniles for aquaculture purposes. Chame is a widely distributed fish along the Pacific coasts of the Americas, and is already a noteworthy fisheries commodity in Mexico.

African Food Security-Quality Food Production, Availability and Marketing

This associate award to Virginia Tech University has two subcontracts with OSU to lead the adaptive research, extension, and education on maize in Uganda and the expansion of the plant diagnostics network for diseases and insects of rice, maize, tomato, and plantain in Uganda and West Africa. The primary objectives of the African Food Security Initiative are to increase the productivity and availability of key food staple commodities and alleviate trade bottlenecks caused by sanitary/phytosanitary issues. OSU PI's are Mark Erbaugh, IPA, for work in Uganda, and Sally Miller, Plant Pathology, for plant disease diagnostic networking in Uganda and West Africa. Other OSU collaborating scientists are Rich Pratt, Horticulture and Crop Science, and Feng Qu, Plant Pathology. In Uganda, collaborators are Drs. Kyamanywa, Kalungi, Akol, Sseruwagi, and Asea from Makerere University and NARO. Dr. Asea is a 2005 graduate of the OSU who is now directing the Cereals Program for the National Agricultural Research Organization in Uganda (NARO).

Specific project activities focus on characterizing strains of rice mottle virus using genome sequencing; conducting multi-locational trials to assess the mechanism of bacterial wilt resistance with tomato variety, MT56; assessing the distribution and occurrence of tomato yellow leaf-curl virus in tomato growing areas; assessing ways of increasing predatory mites as a management approach against red spider mite on tomato; introgressing multiple disease resistance temperate maize germplasm in locally adapted tropical germplasm; and conducting preliminary serology and/or PCR work to identify the range of viruses occurring on tomato.

U.S.-Serbia Management of Maize Redness

Richard Pratt, Horticulture & Crop Science, and Peg Redinbaugh, USDA, ARS Corn & Soybean Research, Plant Pathology, both at the Ohio Agricultural Research & Development Center (OARDC), were invited to join a collaborative group to address the cause of dramatic maize yield losses in the South Banat region of Serbia. The putative disease had come to be known as corn redness syndrome (CRS) but the etiology remained unknown.

In November a workshop sponsored by USDA Foreign Agricultural Service (FAS) brought together all relevant stakeholders (researchers, extension agents, farmers, industry representatives, and administrators) to listen to producer concerns and invite interested parties to support future field experiments. Producers are key to field studies which are critical to determine appropriate management strategies as foundation for best Integrated Pest Management (IPM) practice recommendations.

Since collaboration began in 2004, the Serbia Institute for Plant Protection and Environment (IPPE) and CABI Switzerland have drawn upon the technical expertise and physical facilities of the Ohio State University/USDA Agricultural Research Service maize virus research group to plan strategies and to address the following goals: determine the etiology of CRS (*accomplished*); develop diagnostic procedures for CRS, develop a research-based CRS management program for Serbia-Montenegro, and develop an active network of crop protection research and extension units for CRS management (*in active development, substantial progress made*); and select procedures for CRS-resistant maize varieties (*TBD*).

Current work is underway to develop the first summaries of the yield impact (screenhouse) studies. Investigating effective disease management strategies will be the focus of research in the coming year.

Iceland Collaborative Research on Carbon Sequestration and Climate Change

Collaborative activities with scientists in Iceland continued during 2009. This included several highlights. Dr. Gudrun Gisladdottir, University of Iceland, returned to The Ohio State University to continue her collaborative research with Rattan Lal and other members of the Climate, Water and Carbon program housed in the School of Environment and Natural Resources. The collaborative research is becoming long-term as points of collaborative interest are identified and activities coalesce around them.

Olafur Ragnar Grimsson, President of Iceland, received an honorary degree from The Ohio State University at the fall commencement. While in Ohio he made presentations on the Columbus campus and at the Ohio Agricultural Research and Development Center in Wooster. President Grimsson has been a leader of the environmental movement, with particular attention to climate change related to potential sea level rise and the melting of glaciers and its impact on neighboring communities. Rattan Lal was invited to accompany President Grímsson to a high level meeting in India at which these topics were discussed.

African Sanitary & Phytosanitary (SPS) Faculty Exchange Program

The African Sanitary and Phytosanitary (SPS) USDA Faculty Exchange Program supported by USDA/FAS/ICD was designed to strengthen the capacity of African plant health authorities to implement effective programs and policies dealing with sanitary and phytosanitary trade issues. The project was managed by Mark Erbaugh, IPA, with specialized interactive training at OSU and OSU/OARDC provided by Mike Boehm and Sally Miller, Plant Pathology, and Celeste Welty and Luis Canas, Entomology. This past year, Celeste Welty made a follow-up visit to Kwame Nkrumah University of Science and Technology, Ghana, to work with past participant Dr. Kofi Afun, Entomology; and Mark Erbaugh visited Ahmadu Bello University, Nigeria, to develop further collaborations with past participant, Dr. Kenneth Shenge, Plant Pathology. Sally Miller continues to communicate and work with Dr. Papa Madiallacke Diedhiou, Plant Pathology, University of Thies, Senegal.

Rural Micro-Credit Anti-Poverty in Mexico Program with CPG

Jerry Ladman continued as the principal investigator (PI) for this project which was awarded by Higher Education in Development. Fernando Manzo from the Colegio de Pósgraduados (CPG) in Montecillo, Mexico is the partner PI. The project sponsored a number of significant events over the past year. A short course focusing on rural financial intermediation was offered to CPG faculty and graduate students. Offered on the Puebla campus by Hector Cisneros in early fall, it was attended by twelve faculty members and four graduate students. The final session of the course in Rural Microfinance was held October 5th and 6th. It was jointly led by the short course leaders and the director of credit from SUMATE, a microfinance institution. There were 34 participants from 11 Mexican states.

Isai Guizar Mateos completed the second year of his PhD program and is focusing on fine-tuning his dissertation topic. He is expected to return to the CPG upon graduation and become a member of the microfinance team. He continued to receive his scholarship support from CONACYT (National Council of Science and Technology) and the project.

CFAES and CPG personnel participated in the HED/TIES Conference "United States and Mexico, Sustainable Partnerships: A Call to Action" October 8-10 in Veracruz. Participants were Dr. Fernando Manzo, Project co-PI, J. Jesús Vargas Hernández, Director of the GPG Montecillo Campus, Dr. Jerry Ladman and Dr. David Hansen, Ohio State University. The delegation prepared a FORUM poster session on their short-term training program at CPG.

Mexican Rural Financial Markets Program with CIDE

The rural and micro-finance project links the Center for Economic Studies and Research (CIDE) of Mexico, considered the preeminent program related to economic policy, with the CFAES financial markets group. This program, initiated in 2005, is central to the HED-managed TIES program with Mexico. Claudio Gonzalez, AEDE, is the principal investigator for this project, and David Hansen is co-principal investigator. Major activities during the year included the holding of workshops on policy issues related to rural and micro-credit, collaboration with a parallel program at the Colegio de Pósgraduados en Ciencias Agrícolas, and rural research. One of the major activities proposed for this project was the study of barriers to effective rural financial intermediation. During the year, several research grants involving Mexican investigators and graduate students were awarded and the research was undertaken. It is anticipated that the results of this research will be presented at a workshop at CIDE in 2010.

Other activities included the completion of a geospatial analysis of financial systems in Mexico under the leadership of Gustavo del Angel, with the assistance of several CIDE graduate students. This project resulted in the creation of a data base which maps micro and rural finance market activity in Mexico. The program will continue to update it and the website for the program (<http://cide-osu.cide.edu>).

OUTREACH AND ENGAGEMENT

OSU Alumni Receive International Alumni Award

Three individuals were recognized for their lifetime achievements with the CFAES International Alumni Award. They are: Dr. Luis Alfaro Navarro, Dr. Adipala Ekwamu, and Dr. [Shih-Torng Ding](#).

Born in Guatemala, Dr. Alfaro is professor at the INCAE School of Business established in 1966 with the assistance of the Harvard Business School. It has campuses in Costa Rica and Nicaragua. His undergraduate and graduate courses in microfinance, management control, finance, entrepreneurship and new enterprise development are always oversubscribed.



Dean Bobby Moser and Dr. Luis Alfaro

Professor Alfaro also founded and is president of an enterprise and development consulting firm which helps form new enterprises and strengthens public organizations, private companies and non-governmental organizations to promote integrated national development activities. He has assisted more than 150 companies in the Americas with strategic and managerial solutions.

Professor Alfaro has been the academic director of several executive training programs for private, public and non-governmental sectors such as the INCAE Microfinance Institution Senior Management Program which he has taught in Nicaragua, Ecuador, and Peru.

In light of his outstanding accomplishments, he was invited to become a member of the world network of MBA Programs, an international academic network of highly competitive business schools. He has presented results of his research at conferences in more than 20 countries in Central, South and North America, Europe, Africa and Asia. Among his 108 registered writings are case studies of some of the most outstanding microfinance institutions in Latin America and South America.

Professor Alfaro has continued to engage faculty members from CFAES in his networks and professional activities in Latin America. He says his greatest contribution has been to promote, in Latin America, the new vision of developmental finance developed at Ohio State.

Dr. Adipala Ekwamu, received his PhD in Plant Pathology from OSU, and returned to Makerere University in 1992. He moved up through the faculty ranks with ease while serving as chair or secretary of virtually every key governing and advisory committee at Makerere.

Adipala not only established himself as a local and regional leader in plant pathology and agricultural development for East Africa, he and his 46 graduate students made numerous contributions on the epidemiology and management of plant diseases and pests, publishing over 150 journal articles.



*R. Pratt, I. Deep, Dr. Ekwamu, Dean Bobby Moser, M. Erbaugh,
D. Kraybill, Pat Lipps*

Never satisfied with just teaching and performing research, he wanted to help transform agricultural research and its impact throughout Sub-Saharan Africa. To this end, he has numerous achievements: he created and served as Editor of the African Crop Science Journal [ACSJ] and revitalized two other journals; served as president of the African Crop Science Society; served on the Board of Directors for several national and international organizations dealing with agriculture and science; and has been a consultant with FAO and the Rockefeller Foundation.

In his role as founder and Regional Coordinator of the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), a consortium of 25 African universities, he is contributing to the re-building of agricultural science and human resource capacity by sponsoring faculty development activities and research opportunities, and developing new and innovative Ph.D. programs at various member institutions.

In his capacity as Director of RUFORUM, he continues a 15 year collaboration with Mark Erbaugh on multiple USAID grants.

Dr. Shih-Torng Ding, also known as “Stone,” is a biotechnologist with an emphasis in food producing animals. Recognized as one of the youngest and brightest researchers in Taiwan, Stone was selected as head of the National Taiwan University Biotechnology Center. His research findings are being translated to help humans cope with obesity and fatty livers. His creative abilities have led to the award of several highly competitive, extramural funding grants. He was selected as the lead investigator on the successful Pan-Pacific Genome Proposal, providing him a platform to develop an internationally recognized



Dean Bobby Moser, Dr. Shih-Torng Ding, Michael Lilburn

research program in food producing animals' growth and development that is matched by few scientists worldwide .

Dr. Ding has also been recognized as an outstanding teacher at Taiwan National University. His ability to translate his scientific knowledge base and philosophical grounding to students earned him the position of Associate Director for the Center for Teaching and Learning at Taiwan National University.

Visiting Scientists Sponsored/Hosted during 2009

- ◆ Sam Kyamanywa, Makerere University, Uganda
- ◆ Sigmund Sher, China
- ◆ Charles Hoza, Tanzania Chamber of Commerce
- ◆ Fernando Manzo Ramos, Colegio de Postgraduados, Mexico
- ◆ Kerry David Hayden, Global Mission Development, Dayton/El Salvador
- ◆ Bill Davis, Finnish Line Ministries/Malawi Orphanage Farm, Columbus
- ◆ Lin Qiang, Hunan Agricultural University
- ◆ Manjit S. Kang, Vice Chancellor, Punjab Agricultural University (PAU); S.C. Sharma, Director, PAU Regional Research Station (hosted by Rattan Lal)
- ◆ Kasi Gabbita, Project Management Strategies Group, California
- ◆ Papa Ilora SAMB & Dr. M.R. Girish, Bangalore, India
- ◆ Amauri Bogo, Dean International Affairs, & Sebastian Melo, Santa Catarina State, Brazil
- ◆ Krishan Khera, Punjab Agricultural University, India
- ◆ Kasi Gabbita, Project Management Strategies Group, California
- ◆ Lisa Wendel, USDA/FAS (Borlaug Fellowship Program)
- ◆ Mayuko Kimura, Tokoyo University of Science
- ◆ Chief J. G. Delano, WAI (Water, Agriculture and Industries) Africa Foundation
- ◆ Professor Frederique Jourjon, Associate Dean of Research at ESA Angers
- ◆ Dr. Christophe David, Associate Dean of Research & International Relations at ISARA Lyon
- ◆ Professor Jean Dayde, Associate Dean of Research & International Relations at Toulouse
- ◆ Dr. V.K. Dilawari & Dr. Sandeep Kapur, Punjab Agricultural University, India
- ◆ Dr. Mateugue Diack, Dr. Adama Diaw, Mrs. Fatou Diop, University of Gaston Berger, Senegal
- ◆ Mina Ettair, Ministry of Agriculture & Fisheries, Morocco
- ◆ Mondher Rouis, Abderrazak Tlili, Chiraz Ressaissi, Ministry of Agriculture, Tunisia

CFAES Contributions to Global Gateways

The Vice Provost for Global Strategies, William Brustein, initiated the Global Gateway concept as a strategy to expand the reach and impact of OSU's many resources with a physical presence in strategic areas of the world. The first of these Gateways was established in Shanghai, China, this summer, with future Gateways to be established in India and Brazil. When a Gateway is fully implemented, it will serve as a state-of-the-art facility for recruiting, networking, teaching, business consulting, and executive training.

CFAES has been extensively engaged in all three Gateway countries for many years. A brief summary of current CFAES engagement in these three countries follows.

CFAES Activities with the China Gateway

Chinese Academy of Agricultural Sciences (CAAS): OSU/CFAES signed a new Memorandum of Understanding (MOU) with CAAS on July 5, 2010. In a ceremony held in Beijing at CAAS the document was signed by OSU President Gee and CAAS President Huqu Zhai, with CFAES Vice President Moser, Vice Provost for Global Strategies Brustein, and CFAES faculty members Guo-Liang Wang, Plant Pathology and Hua Wang, Food Science in attendance.

CFAES has maintained study-abroad linkages with CAAS since 1991. There were 9 OSU students who participated in this year's study abroad class at CAAS that was led by Laura Burchfield.

China Agricultural University (CAU): An MOU was also signed with CAU by Vice President Moser and Qixin Sun, Vice President for Research and Development Planning, on July 6, 2010, with OSU faculty members Guo-Liang Wang, Plant Pathology, Hua Wang, Food Science, and several colleagues from CAU, including Associate Dean Beizhong Hang, College of Food Science and Nutrition Engineering, in attendance.

In October 2009 Dr. Luo Yunbo, Dean of the College of Food Science and Nutrition Engineering, joined the food safety symposium at the China International Food Safety and Quality Conference in Beijing, jointly organized by Dr. Ram Rao, USDA and Dr. Hua Wang, CFAES, OSU. In November 2009 CFAES Vice President Moser, Associate Deans Linda Martin and Melissa Krygier, as well as Hua Wang from Food Science visited CAU College of Food Science and Nutrition Engineering, and were hosted by Dean Yunbo Luo and Associate Dean Beizhong Han. Several graduates from CAU will join the Food Science graduate program at OSU this fall, including two Chinese overseas scholarship winners (food safety and food chemistry). Dean Luo will again join Hua Wang for the

food safety education collaboration symposium discussion, at the 2010 China International Food Safety and Quality Conference in Shanghai.

In July, at OARDC/Wooster, David Francis, Horticulture and Crop Science, hosted CAU faculty members Dr. Wencai Yang (former post-doctoral researcher in HCS) and Dr. Hong Zhai, at a three-day research planning meeting.

Hunan Agricultural University (HAU): Vice President Moser also renewed an MOA with Hunan Agricultural University located in Changsha, Hunan Province. Signing for HAU was President Qingming Zhou, with OSU faculty members Dr. Guo-Liang Wang, Plant Pathology and Dr. Hua Wang, Food Science, in attendance. OSU/CFAES has had linkages with HAU since 2007.

Einstein Professorship Awarded to William Mitsch: At a ceremony held in Beijing, CFAES/SENR faculty member Bill Mitsch was awarded a 2010 Einstein Professorship from the Chinese Academy of Sciences (CAS). This prestigious award is made to distinguished, international scientists actively working at the frontiers of science and technology. President Gee and Vice President Moser were present at the award ceremony where Mitsch provided a lecture on "Saving the Planet in an Energy-limited Future." He was accompanied on his pre- and post-award travels by Olentangy River Wetland Research Park Director, Li Zhang. They toured several major Chinese watersheds including the Yangtze River Basin where he has done extensive work on the effects of the massive Three Gorges Dam on the Yangtze River.

International Consortium Collaboration on Antibiotic Resistance and Food Safety (ICARM): The ICARM kickoff meeting for the United States (OSU, USDA-ARS, Colorado State University, FDA, ISU) and Chinese collaborators (CAAS, South China University of Science and Technology, Nan Kai University, Tianjin Normal University) is tentatively scheduled to be in Tianjin, China in November 2010, co-hosted by the ICARM founder Hua Wang, Food Science, and collaborators from Nan Kai University.

International Forum on Water Resources and Sustainable Development: Larry Brown, FABE, served on the organizing committee, was an invited presenter, and served as session moderator at this forum held in Wuhan, China, in 2009. OSU Vice Provost for Global Strategies, William Brustein, and Associate Provost for Global Strategies/OIA, Dieter Wanner, also attended this forum. Larry Brown is collaborating with Wuhan University, College of Water Resources and Hydropower, Hubei Province on a project titled "*Integration of Constructed Wetlands in Paddy Schemes and Other Agricultural Landscapes (WRSIS).*"

The Ohio (International Internship) Program: A close working relationship with the Chinese Academy of Agricultural Sciences (CAAS) led to the placement of 39 participants on various internship/trainee programs.

CFAES Activities with the India Gateway

President E. Gordon Gee India Visit: CFAES helped organize a major visit by President Gordon Gee to India. Accompanied by Bobby Moser, CFAES Dean, William Brustein, Vice Provost for International Affairs, Professor Rattan Lal, and Presidential Assistant Kate Wolford, President Gee visited with Ratan Tata, Indian industrial giant and philanthropist, and OSU Honorary Degree recipient. The College also helped arrange for President Gee to meet with Mr. Timothy J. Roemer, U.S. Ambassador to India, and Smt. Pratibha Devisingh Patil, President of India; Shri Kapil Sibal, Minister of Higher Education; Shri Prithviraj Chavan, Minister of Science and Technology, and Dr. Mangala Rai, Director General of the Indian Council for Agricultural Research. A proposal has been prepared as a result of these meetings and presented to the Tata Trust for possible funding. Representatives from Tata Chemicals visited the College to discuss how to jointly address rural development needs in India.

Punjab Agricultural University (PAU) Partnership: CFAES has maintained a long-standing relationship with India, beginning back in the late 50's when it was asked by the U.S. Department of State to participate in building institutions of higher agricultural education in the North of India. A part of this legacy is the Punjab Agricultural University, located in Ludhiana, Punjab State. This institution played a major role in the green revolution that occurred in South Asia during the 70's and 80's. Dr. Manjit Kang, Vice Chancellor of this university, visited the College in September to attend the Farm Science Review and to participate in an Agricultural Knowledge Initiative workshop held by the School of Environmental and Natural Resources.

Agricultural Knowledge Initiative: As part of the on-going relationship with the Punjab Agricultural University, a number of young, outstanding scientists from that institution, funded by their government and by the Initiative, are currently working on the Columbus and/or Wooster campuses with senior FAES colleagues on research topics of joint interest. Pat Whittington, FAES Academic Programs, and Tom Shockey, Horticulture and Crop Sciences, exchanged visits with staff from the Punjab Agricultural University related to student internship programs. This activity was designed to identify needed related exchange programs among U.S. and Indian participant institutions working within the Initiative. Mark Erbaugh, Director, International Programs in Agriculture, and Valente Alvarez, Director of the OSU Food Industries Center, attended a symposium on the Agricultural Knowledge Initiative in Bangalore. Organized under the leadership of Purdue and Iowa State, it focused on identification of follow up activities to

the Initiative. FAES scientists continue to collaborate with the M.S. Swaminathan Foundation on programs of rural development and natural resource conservation and management.

M.S. Swaminathan Award: Rattan Lal, Director of the Carbon Management & Sequestration Center, traveled to India last summer to receive the prestigious M.S. Swaminathan Award. This award had previously only been made to three other individuals. The award represents the important contributions that he has made to agricultural and rural development in India. He represents a relatively large group of Indian scientists and educators on the OSU campus who form an important bridge to Indian academia, society and culture and to its economy.

India Natural Resources Management Project

CFAES continued its participation with the M.S. Swaminathan Research Foundation in a follow up project, "*Bio-fuels and integrated Watershed Management*," dealing with the conservation and management of soil and water resources in India. Rattan Lal, School of Environment and Natural Resources, continued as principal investigator for this project. Funded by the Sir Jamsetji Tata Trust Fund in India, it involves research at five sites in India – Chennai (2), Orissa, Madhya Pradesh, and Punjab. University research scientists from local universities continue to be engaged in conducting the actual field work at the Madhya Pradesh and Punjab sites. This project is focused on the use of existing watershed resources to increase rural income generation while conserving the natural resource base. CFAES inputs are focused on research related to changes in micro watershed balances in water and changes in soil and water quality as a consequence of specific interventions introduced through the project, such as the application of minimum and no tillage practices.

Discussions were held with Mr. Ratan Tata, Tata Group, about the possibility of additional funding to support this activity. Follow up continued with scientists working in the Kandli district of Punjab State and arrangements were made to receive several young scientists from Punjab Agricultural University in relation to this program.

Borlaug International Agricultural Science & Technology Fellow: Anjani Kumar, Senior Scientist, National Center for Agricultural Economics and Policy Research, New Delhi, India, was a visiting Borlaug scholar in CFAES from October 6 to November 13, 2009. Luther Tweeten, Emeritus Chaired Professor, AEDE, was his principal supervisor, directing Professor Kumar's perusal of key recent food economics literature, consultation with food economics experts (e.g. Professor Douglas Southgate, senior author of *World Food Economics*), and auditing classes in food policy economics and econometrics. They outlined proposed

collaborative research on estimating and remediating excess variation over time in prices, production, trade, and consumption for cereal markets in India and the world. As part of his program, Dr. Kumar attended the World Food Prize conference in Ames, Iowa and he and Professor Tweeten spent three days at Michigan State University interacting with recognized international experts in food security economics.

CFAES Activities with the Brazil Gateway

The College of Food, Agricultural and Environmental Sciences (CFAES) has a strong record of collaboration with counterparts in Brazil dating back to the 1960's. These relationships have been with multiple institutions in Brazil, including the Federal University of Rio Grande do Sul, the University of Sao Paulo, the Federal University of Parana, the Brazilian Association of Higher Agricultural Education (ABEAS), the Ministry of Agriculture, the Ministry of Education, and the Brazilian Agricultural Research Enterprise (EMBRAPA).

A strong enduring relationship has been retained with the agricultural college of the University of Sao Paulo in Piracicaba, Brazil. This program with the "Escola Superior de Agricultura Luiz de Queiroz (ESALQ)" was funded by the U.S. Agency for International Development from 1964 to 1973. During that time numerous OSU faculty visited ESALQ on assignments ranging from several weeks to several years. Also during that period, many faculty members from ESALQ visited the OSU campus, and many of them completed graduate degrees. Over the years this program matured into additional exchange activities including hosting of faculty, students and stakeholders from the partner institution. Several important related programs are currently being implemented today.

Molecular and Cellular Biology Joint Graduate Degree Program: CFAES has been very active in promoting a joint PhD degree program with the University of Sao Paulo (USP) and Rutgers University. In December 2009, CFAES faculty members Steve Slack, OARDC, Director, John Finer and Rich Pratt, Horticulture & Crop Sciences/HCS, Erich Grotewold and Rebecca Lamb Plant, Cellular & Molecular Biology/PCMB, and Bob Tabita, Microbiology, traveled to São Paulo and Piracicaba, Brazil to meet with colleagues from the ESALQ/University of São Paulo, and collaborators from Rutgers University. The purpose of the tripartite research meeting was to discuss how OSU, Rutgers and USP could further expand collaborations to take advantage of collective strengths in plant biotechnology.

A follow-up visit occurred in June when visitors from ESALQ/USP visited the Columbus campus and OARDC for additional discussion.

Denman Forum for Undergraduate Research: Over the past five years, CFAES has had students participating in the Denman Undergraduate Research Forum. Each year it has supported the participation of FAES students in a trip to Sao Paulo to participate in a similar forum at the University of Sao Paulo. It has also helped to host visiting students from the University of Sao Paulo who have participated in Denman Forum activities on the OSU campus.

ATZ Study Abroad Program: For over a decade, CFAES has sent an annual study abroad class to ESALQ. The class is part of the leadership program of the Alpha Tau Zeta fraternity. It has been hosted by ESALQ faculty members who did their graduate degrees at CFAES. This program is one of the most popular study abroad programs in the college. This past year the resident director was Jill Pfister, Assistant Dean, CFAES.

Joint Seed Technology Online Program: The Department of Horticulture and Crop Sciences has worked closely with ESALQ to establish a joint M.S. degree program in Seed Technology. This industry has become globalized during the past two decades and students who graduate from it have a distinct advantage in the global market place, making it a popular program among students on participating campuses. The program includes active participation of faculty and graduate students from FAES, ESALQ and the Catholic University of Chile. Courses are taught by faculty from each of the three participating institutions, and students from each of the institutions take the courses utilizing distance education technology.

The Ohio (International Internship) Program: Working with ESALQ (Escola Superior de Agricultura in Piracicaba, 55 participants were placed on internship/trainee programs.

AgriTourism Sponsored by the Negev Foundation

Dr. Julie Fox, Leader of the Ohio Direct Marketing Team at the OSUE South Center in Piketon, was host to two Israeli collaborators as part of The Ohio-Israel Agricultural Initiative of the Negev Foundation. Bracha Gal, Director of the Farm Management and Economic Department for the Israel Ministry of Agriculture, Extension Services Headquarters, and Yoav Gal, Assistant Professor at the Department of Economics and Management, Tel – Hai Academic College, were on campus July 27-30, 2009.

They visited key various farm enterprises, including Young's Dairy, Freshwater Farms, Rothschild's, Moyer Winery, Champaign Berry Farm, North and Pearl Markets, JR's General Store, and Leeds Farms. They also visited the Ohio State Fair. On July 30th they presented a seminar on "Agrotourism in Israel." As with America's farmers, an Israeli farm owner embarks on tourism development

activities when profit from agricultural activities is insufficient.

Collaboration with Université Gaston Berger, Senegal

Richard Dick, SENR, received a planning grant award from Higher Education for Development to prepare a strategic plan focused on enhancing sustainable agriculture in a fragile ecosystem, such as that represented by the Sahel region of Africa, in collaboration with the Université Gaston Berger in northern Senegal. The resulting strategic plan emphasizes the creation of new programs at the certificate, AAS, BS and MS levels over a 10 year period. Programs include an emphasis on agribusiness practices, soil and water management, and the production of high value crops for local consumption and for export. Funding has been secured for implementation of strategic plans under this program.



Richard Dick and Senegalese farmers



Richard Dick, Emilie Regnier, Senegalese farmers

Planning activities included active participation of representatives of the OSU Extension, the Agricultural Technical Institute, the Ohio Agricultural Research and Development Center, and faculty from the OSU campus. It included a planning visit by this team including, Richard Dick, SENR, Mark Erbaugh, IPA, Steve Neal, ATI, Ken Martin, Extension, and Emilie Regnier, HCS, to Senegal and a reciprocal visit by four Université Gaston Berger faculty to the OSU campus. Of the 33 planning grants funded by HED, it is anticipated that about 12 of them will be selected.

Representatives of French Grandes Ecoles Visit CFAES

On March 29th three representatives from a consortium of four French Grandes Ecoles visited CFAES. The consortium, named FEISIA, is comprised of the universities of Angers, Lyon, Lille and Toulouse. The visitors were Professor Frederique Jourjon, Associate Dean of Research at ESA Angers; Dr. Christophe David, Associate Dean of Research & International Relations at ISARA Lyon; and Professor Jean Dayde, Associate Dean of Research & International Relations at Toulouse. The purpose of the meeting was to explore the possibilities of building student and faculty exchanges with CFAES. They were particularly interested in

developing exchanges in the areas of Rural Development, Agronomy and Agroecology, Food Science and Technology and Animal Science.

They met with CFAES representatives Dean Bobby Moser; Linda Martin, Associate Dean & Director of Academic Affairs; Steve Slack, Associate Vice President/Associate Dean, Ohio Agricultural Research & Development Center (OARDC); Mark Erbaugh, Interim Director, IPA; Dr Mo Saif, Assistant Dean, Veterinary Medicine, Food & Animal Health Research Program, OARDC; Ken Martin, Chair, OSU Extension Administration; Tom Bean, Chair, F&E; Ron Hendrick, Associate Dean, SENR; Stephen Myers, Assistant Director, OARDC; Alan Randall, Chair, AEDE; William Randle, Chair, H&CS; Mary Yerina, Director of Development; Pablo Jourdan, H&CS, Director of the Ornamental Plant Germplasm Center (OPGC); Melvin Pascall, FS&T; Jill Pfister, Assistant Dean & Administrative Director; Kelly Koren, Director Study Abroad & Recruitment; Mike Chrisman and Fabric Ligny, Ohio Internship Program; Henry Zerby and Rusty Burgett, Animal Sciences; Clive Edwards, Entomology; William Brustein, Vice Provost, Global Strategies, and Dieter Wanner, Associate Provost, Office of International Affairs.

Tajikistan Extension Agents Visit Ohio

Working with the Columbus International Program (CIP), OSU Extension and IPA hosted 12 extension personnel from Tajikistan, June 7th – 8th. Presenting were an array of extension specialists and educators including Mark Erbaugh, Ken Martin, Graham Cochran, Troy Cooper, Nancy Taylor, Joanne Kick-Raack, Matthew Sullivan, Don Breece, Greg LaBarge, Julie Fox and Gustavo Schuenemann.

Cochran Animal Disease Surveillance Training

Working collaboratively with IPA, Fernando Silveira and Wondwossen Gebreyes, College of Veterinary Medicine, hosted four Cochran Fellows from Morocco and Tunisia to a two week program in veterinary epidemiology and disease surveillance. Participating scientists were veterinarians Mina Ettair, Morocco Ministry of Agriculture & Fisheries and Mondher Rouis, Abderrazak Tili, and Chiraz Ressaissi, Tunisia Ministry of Agriculture.



Drs. Tili, Silveira, Ettair, Wm. Saville (Chair, Vet Preventive Medicine), Ressaissi, Rouis, Gebreyes

Presenters included Mark Erbaugh, IPA; Mo Saif, Jeff LeJeune, and Gireesh Rajashekara, OARDC's Food and Animal Health Program;

Dr. Bimbo Welker, Ohio Large Animal Services in Marysville; Dr. Beverly Byrum, Animal Disease Diagnostic Laboratory, Reynoldsburg; and Dr. Phillip Kozimer, OPI Meat Processing Plant, Saint Henry.

In various forums the group addressed key aspects of disease surveillance, planning and development; biosecurity, analytic and molecular epidemiologic approaches useful for control; and disease diagnostic systems and lab capacities.

Extension Mini-grant Award

With support from an OSU Extension Mini-Grant and IPA, Kristi S. Lekies, Department of Human and Community Resource Development, presented a paper on *“Organized Community Activities for 5-8 Year Old Children: A Review of the Research Literature”* at the European Early Childhood Education Research Association Conference (EECERA) held August 26-29, 2009 in Strasbourg, France. Kristi was one of 12 Americans among the 700 attendees.

The study was a meta-analysis of key studies of out-of-school activities such as children's gardens, music lessons, sports programs, museums, and clubs such as 4-H Cloverbuds. Attendees at her session were from Malta, Italy, Belgium, New Zealand, Finland, and possibly other countries.

She was approached by the past president to consider serving as the North American liaison (country coordinator) to the organization in collaboration with faculty from Kent State.

Delegation to Ghana

The College of Food, Agricultural and Environmental Sciences is committed to helping developing countries meet their food, agricultural and environmental research needs through partnership in research, extension and application of

best practices. Towards this end, the College participated in an OSU seven-person, 10-day visitation to Ghana in March 2010 led by the Senior Vice President for Outreach and Engagement, Joyce Beatty. Robert Agunga, Ag Communication and a citizen of Ghana, represented CFAES.



Dr. Robert Agunga, Mr. Joe Boamah, Chief Director of Agriculture; Alexis Swain, Stacia Allen and Habiba Kamagate

The delegation was in line with OSU's mission of building partnership and critical gateways across the

globe and providing our students with the opportunity to experience the world as global citizens.

The delegation met with the Principal Secretary of Food and Agriculture, Chief Director for Agriculture, Joseph Boamah, who expressed interest in collaborative ways of increasing and sustaining food production in order to reduce poverty and ensure environmental sustainability. He noted that capacity strengthening, especially in agricultural extension, remains a challenge, and he welcomed opportunities for strengthening extension, agricultural research and decentralization.

The delegation also visited three of the four largest universities in the country: the University of Ghana in Legon, the University of Cape Coast in Cape Coast, and the University of Education at Winneba. All three institutions expressed interest in collaboration in various areas of agricultural research, distance learning and faculty exchange.

Other members of the delegation included: Mary Jo Welker, Chair and Clinical Professor of Family Medicine and Associate Dean for Primary Care; Otto Beatty, Jr., a prominent attorney and former State Representative in Ohio; Habiba Kamagate, senior student in Human Nutrition (family is from Ghana); Anna-Stacia Allen, junior student in Strategic Communication; and Alexis Swain, junior student in Business and Health Sciences and a member of Ohio State's Board of Trustees.

This international experience was made possible because of partnerships among the College of Food, Agricultural and Environmental Sciences, the College of Medicine, the Office of International Affairs, the International Programs in Agriculture Office, and the Department of Human and Community Resource Development.

OSU Extension Sheep Team to Australia

The Ohio State University Sheep Team trip to Australia and New Zealand was led by Paul Kuber, Extension Meat and Youth Development Specialist/Animal Science, and Roger High, OSU Extension sheep specialist and director of the Ohio Sheep Improvement Association. Other extension educators participating were Gary Wilson, Extension, Hancock County, Rory Lewandowski, Extension, Athens County, and Jeff McCutcheon, Extension, Morrow County. A total of 16 people from Ohio and one from West Virginia participated in the trip.

In summary, counting both Australia and New Zealand, the group visited 15 farms, 1 fruit orchard, 2 vineyards, 2 kiwi orchards, 1 meat packing plant, 1 wool

processing plant, 1 livestock yard, and 3 agriculture universities. In New Zealand several persons in the group stayed overnight with farm families.

Some of the highlights were being exposed to a computer program called Lamb Plan that provides breeding values (similar to our EPD's) and tracks the genetic potential of breeding animals; the meat quality analytical lab and Beef and Sheep Research Centers at the University of New England; the Fletcher International Exports that is harvesting and processing 5000 head of sheep a day and exporting boxed meat product to 100 different countries; the Dubbo Livestock Auction sale yard where 30,000 head of sheep are auctioned; and the Roger Fletcher farm which is 80,000 acres devoted to crops and pasture with about 60,000 head of sheep.

World Food Day Celebration

Mark Erbaugh hosted the 26th Annual World Food Day Teleconference, *Achieving Food Security in Times of Crisis*, on October 16, 2009. This year's teleconference considered the impact of the financial crisis on those living in poverty, the responsibilities of the rest of the world, and the solutions that are emerging. Keynote speakers were Max Finberg, USDA Director of Faith-Based and Neighborhood Partnerships, Representative Jim McGovern, co-chair of the Congressional Hunger Caucus, and Joy Phumaphi, a native of Botswana, Vice President and Head of the Human Development network at the World Bank.

NEW AGREEMENTS

Several agreements were signed between CFAES and counterpart institutions around the world. They are designed to facilitate additional program development.

Chinese Academy of Agricultural Sciences (CAAS), China, renewal

Hunan Agricultural University (HAU), China, renewal

China Agricultural University (CAU), China, renewal

University of Agriculture, Abeokuta, Nigeria

The Technological University of Pereira, Columbia

Autonomous University of Sinaloa, Marine Science Faculty, Mexico

University of Malawi, Bunda College of Agriculture, Malawi