

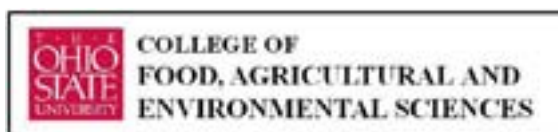
# ***International Programs in Agriculture Annual Report***

## ***International Outreach in the College of Food, Agricultural, and Environmental Sciences 2010-2011***

***113 Agricultural Administration  
2120 Fyffe Road  
Columbus, OH 43210  
614-292-7252***

***Online <http://go.osu.edu/ipa>***

***Mary Ann Rose, editor  
[rose.155@osu.edu](mailto:rose.155@osu.edu)***



# Contents

<b><u>I. International Programs in Agriculture – An Introduction .....</u></b>	<b><u>4</u></b>
<b><u>II. International Programs in Agriculture Active Programs 2010 – 11 .....</u></b>	<b><u>5</u></b>
<i><u>Innovative Agricultural Research Initiative.....</u></i>	<i><u>5</u></i>
<i><u>Collaborative Research Support Program (CRSPs).....</u></i>	<i><u>6</u></i>
<i><u>African Food Security Initiative.....</u></i>	<i><u>11</u></i>
<i><u>African Sanitary and Phytosanitary Faculty Exchange Program.....</u></i>	<i><u>12</u></i>
<i><u>Partnership with Université Gaston Berger (UGB), Senegal (2011-2012).....</u></i>	<i><u>12</u></i>
<i><u>Building Human Capital in Rural Microfinance with Colegio de Post-Graduado (CP).....</u></i>	<i><u>13</u></i>
<i><u>Univeristy Partnership with the Center for Economic Teaching and Research (CIDE).....</u></i>	<i><u>14</u></i>
<i><u>Poland-OSU Extension Collaboration.....</u></i>	<i><u>15</u></i>
<i><u>Table 1. International Programs in Agriculture Active Programs.....</u></i>	<i><u>16</u></i>
<b><u>III. CFAES Activities in the Global Gateways .....</u></b>	<b><u>17</u></b>
<i><u>CFAES Activities in the Brazil Gateway.....</u></i>	<i><u>17</u></i>
<i><u>CFAES Activities in the China Gateway.....</u></i>	<i><u>19</u></i>
<i><u>CFAES Activities in the India Gateway.....</u></i>	<i><u>22</u></i>
<b><u>IV. International News from the College &amp; Departments .....</u></b>	<b><u>23</u></b>
<b><u>V. International Learning.....</u></b>	<b><u>32</u></b>
<i><u>Study Abroad in the College of Food, Agricultural and Environmental Sciences.....</u></i>	<i><u>32</u></i>
<i><u>Alpha Zeta Partners.....</u></i>	<i><u>33</u></i>
<i><u>New SENR Study Abroad Program in China.....</u></i>	<i><u>33</u></i>
<i><u>Study Abroad Scholarships.....</u></i>	<i><u>34</u></i>
<i><u>The Ohio Program.....</u></i>	<i><u>34</u></i>
<i><u>International Students at OSU and in the College During the 2010-2011 School Year.....</u></i>	<i><u>35</u></i>

<i>The Peace Corps at OSU.....</i>	<i>35</i>
<i>Ohio State receives national recognition for Peace Corps Commitment .....</i>	<i>36</i>
<i>Ohio State-Zamorano Internship Program.....</i>	<i>37</i>
<i>Ohio Youth Institute / Borlaug-Ruan Scholars and the Global Youth Institute .....</i>	<i>37</i>
<b><u>VI. International Recognition .....</u></b>	<b><u>39</u></b>
<i>Herbert Ockerman Awarded 2010 Distinguished Diversity Enhancement Award .....</i>	<i>39</i>
<i>Lal named University Distinguished University Professor.....</i>	<i>39</i>
<i>College of Food Agricultural, and Environmental Sciences Alumni Merit Award.....</i>	<i>3</i>
<i>Nanjing Forestry University honors SENR Professor William Mitsch.....</i>	<i>40</i>
<b><u>VII. International Visitors and Scholars.....</u></b>	<b><u>41</u></b>
<i>Government of Malawi Delegation.....</i>	<i>41</i>
<i>Members of the French Consortium FESIA visit CFAES.....</i>	<i>41</i>
<i>Delegation from Xinjiang Agricultural University .....</i>	<i>41</i>
<i>Dr. Dennis Garrity visits CFAES.....</i>	<i>43</i>
<i>Addul Biswas visits the OSU Waterman Farm.....</i>	<i>43</i>
<i>USDA/OSU Norman E. Borlaug Fellows travel to the World Food Prize .....</i>	<i>43</i>
<i>2011 Norman E. Borlaug and Global Alliance International Fellows at OSU .....</i>	<i>43</i>
<i>Table 3. CFAES Borlaug / Global Alliance Fellows and Fulbright Scholars 2011 .....</i>	<i>45</i>
<b><u>VIII. CFAES Memoranda of Agreement 2011.....</u></b>	<b><u>46</u></b>
<b><u>IX. International Visitors and Scholars .....</u></b>	<b><u>47</u></b>
<b><u>X. International Scholarly Presentations.....</u></b>	<b><u>50</u></b>

*Photo Credits: thanks to Dr. Normand St-Pierre for several photos appearing on the cover.*

## I. International Programs in Agriculture – An Introduction

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 today by providing a broad array of services to faculty and students in the College and to international visitors, scholars, and students. In 2010-11, the service role of the IPA Office was manifest by leading or assisting faculty with international grants submissions, implementing multi-country and multi-disciplinary grant awards, facilitating the completion of Memorandums of Understanding, and administering both short-term training and degree programs for international participants. The Office of International Programs also encompasses The Ohio Program (TOP), a unique international exchange program specializing in internships in Horticulture, Agriculture and Turfgrass.

### OUR MISSION:

*We support the globalization efforts of the college by engaging OSU faculty and students in international research, extension, and learning. Employing the land grant model, we work with international partners to build capacity in sustainable agriculture throughout the world and to increase competitiveness at home. Recent IPA accomplishments include:*

- Proposals developed for international research and outreach by College faculty, staff, students. **Curently administer awards totaling \$5.5 million.**
- Welcome and assist international scholars, and visitors; manage short- and long-term degree training programs. **Eight prestigious Borlaug Fellowships awarded for 2011 -2012. 45 International visitors hosted; assistance with visas for 20.**
- Guide students to internship and Peace Corps opportunities. **405 international interns and 40 Peace Corps volunteers placed in 2010-2011.**
- Faciliate Memoranda of Understanding between OSU & international partners. **10 MOUs signed 2009-2011**

About this report: This report covers activities sponsored by International Programs in Agriculture (IPA) and by members of the College of Food, Agricultural and Environmental Sciences

(CFAES). Information was voluntarily provided by the CFAES community. It is not a complete record of international activities, but conveys the variety and depth of international outreach in the college.

### Director:

Dr. J. Mark Erbaugh

### Assistant Director:

Mr. Michael Chrisman

### Program Managers:

Dr. David Hansen

Mr. Michael O'Keeffe

Dr. Mary Ann Rose

### Office Associates:

Ms. Pat Rigby

Ms. Lisa Li

### Administrative Associate:

Mr. Fabrice Ligny

### Program Assistants:

Mr. John Beardmore

Dr. Christ George

Mr. Grzegorz Lecki

Ms. Anna Matwijow

Mr. Yining Zhang

### Peace Corps Coordinator:

Mr. Jack Campbell

### iAGRI Budget Manager:

Ms. Angie Brumfield



## II. International Programs in Agriculture Active Programs 2010 – 2011

### Innovative Agricultural Research Initiative – iAGRI (2011-2016)

The Innovative Agricultural Research Initiative (iAGRI) is a five-year project designed to improve agricultural productivity and food security in Tanzania. The project will accomplish this goal by strengthening the training and collaborative research capacity of partner institutions in Tanzania including Sokoine University of Agriculture (SUA) and the Ministry of Agriculture, Food Security and Cooperatives (MAFSC). \_



*Mark Erbaugh in Tanzania*

OSU/CFAES was selected in March 2011 by the United States Agency for International Development (USAID) to be the prime contractor and lead university for this centerpiece project in the recently launched USAID Feed-the-Future initiative. A group of five U.S. land-grant universities partner with OSU to implement the project, including Michigan State University (MSU), University of Florida (UF), Tuskegee University (TU), Virginia Tech (VT), and Iowa State University (ISU).

**David Kraybill** (AEDE) moved to Morogoro, Tanzania with his wife in 2011 to serve as project director. Kraybill, **Issac Minde** (MSU) and **Maria Mullei** (VT) are the long-term staff for iAGRI in Tanzania. IPA staff in Columbus

involved in the project include the Administrative Project Coordinator, **Mark Erbaugh**; program coordinator, **David Hansen**, training coordinator, **Mary Ann Rose**, budget manager, **Angie Brumfield Hersey** and office administrative assistant, **Pat Rigby**.



*Dave Kraybill and Mark Erbaugh at SUA*

The iAGRI project objectives are to: 1) Establish a program of collaborative agricultural research with SUA and MAFSC; 2) Provide advanced degree training in agriculture for Tanzanian graduate students; 3) Strengthen the capacity of SUA to develop and implement instructional and outreach programs in agriculture; and 4) Promote cooperation between SUA, U.S. universities, and global south universities. To date, the iAGRI field team headed by



*iAGRI students with USAID Tanzania Mission Director Robert Cunnane at a send-off for the students in Dar es Salaam in August 2011.*



David Kraybill has been established in Morogoro; an agriculture-sector needs assessment has been completed; and six Tanzanian M.S. students have been placed at partner universities (UF -3; Tuskegee - 1; MSU - 1; and OSU - 1). The Tanzanian scholar at OSU, **Respikius Gabagambi**, spent fall quarter 2011 in the American Language Program at OSU. He has satisfied his OSU English proficiency requirement and will begin an M.S. program in rural sociology in SENR in January 2012.

### **Collaborative Research Support Programs (CRSPs)**

Through the CRSP program, The United States Agency for International Development (USAID) provides a funding mechanism for U.S. Land Grant Universities to combine forces to strengthen the agricultural sector of developing countries. As of December 2011, Congress had appropriated 31.5 million to the CRSP programs for 2012. IPA staff and OSU faculty currently participate in Africa and Asia in four of USAID's nine CRSP programs: **The Integrated Pest Management CRSP, The International Sorghum and Millet CRSP, The Horticulture CRSP, and the Aquaculture and Fisheries CRSP.**

### **Integrated Pest Management Collaborative Research Support Program (IPM CRSP)**

CFAES faculty are involved in two IPM CRSP programs: **The Regional IPM Program for East Africa (RP/EA)** and the global theme **International Plant Diagnostic Network (IPDN).**

#### *The Regional IPM Program for East Africa (RP/EA)*

The Regional IPM Program for East Africa (RP/EA) is developing IPM strategies to improve the productivity of horticultural

crops and incomes for small-scale growers in Kenya, Tanzania and Uganda. The project is coordinated by **Mark Erbaugh**, IPA. Partners include Makerere University (Uganda), the National Agricultural Research Organization (Uganda), the Kenyan Agricultural Research Institute (KARI), Sokoine University of Agriculture (Tanzania), and Virginia Tech. The overall program is managed by a regional technical committee (RTC) of participants from the partner organizations. The RTC met this past year in Nairobi, Kenya and in Morogoro, Tanzania.

Key activities include both advanced degree training and specialized short-term training; enhancing linkages with agricultural stakeholders, including women; and developing and disseminating Integrated Pest Management programs to growers for key pests of tomato, onion, coffee, passion fruit, and scotch bonnet peppers.

During the past year, **Joe Kovach** (ENT), **Sally Miller** and **Feng Qu** (PPATH), **Matt Kleinhenz** (HCS), **David Kraybill** (AEDE) and **Mark Erbaugh** (IPA), visited the region to work with 20 scientists-collaborators from East Africa; their combined efforts trained nearly 2350 farmers from 15 different grower associations and contributed to the development of productivity-and production-enhancing IPM technologies. In the past year, the Co-PIs produced 3 peer-reviewed journal articles, 1 book chapter, 11 conference presentations, 5 poster presentations, 3 training manuals, and 6 brochure/fact sheets.

The overall program continues to support 19 students working on their M.S. or Ph.D. degrees. This year, 3 students completed part of their training at OSU:

- **Miriam Otipa** (Kenya) completed her research internship in October 2010 with Drs. **Feng Qu** and **Sally Miller** (PPATH).

After returning to Kenya, she presented her poster “Passion Fruit Production: Importance of Disease Diagnostics” to a group of dignitaries including **Jill Biden**, wife of US Vice President Biden and US-AID Administrator Dr **Raj Shah** at a special session held in June, 2011 in Nairobi, Kenya.

- **Warren Arinaitwe** (Uganda) completed his research internship on tomato virus disease characterization and bacterial wilt with Drs. Qu and Miller in August 2011.
- Graduate Student **Rosemary Emegu Isoto** (AEDE) returned to Uganda in the summer



of 2011 to work on research in “Estimating the Income Multiplier Effect of Integrated Pest Management Technologies on Livelihoods of Coffee Farmers in Mbale District, Uganda.” She is working on her M.S. with **David Kraybill** (AEDE).

*Ugandan Students Rosemary Emegu and Michael Kidoido at Farm Science Review*

#### *The International Plant Diagnostic Network (IPDN)*

**Sally Miller**, Department of Plant Pathology, leads this global IPM-CRSP project in Africa, Asia and Latin America. The chief goal of the global IPDN program is to improve plant disease and insect pest diagnostics at the clinical level in support of regional IPM CRSP projects by 1) assessing diagnostic capacity; 2) expanding a cooperative diagnostic network and

digital diagnostics; 3) prioritizing key crops and associated pests; 4) developing diagnostic assays; 5) identifying new pests and corresponding incidence maps; 6) developing standard operating procedures and IPM recommendations for key pests; 7) training clinical diagnosticians and key scientists. Goals are to be achieved using multiple training approaches, including train-the-trainer and web-based distance education. A distance diagnostics and information management web portal has been developed. **Visit the portal at <http://www.intpdn.org/>**

Key activities/publications in 2010-2011 included:

- A workshop to integrate virus diagnostics and the IPDN network into the East Africa regional IPM CRSP program, held November- December 2010 in Nairobi, Kenya.
- A workshop for diagnostic lab personnel in Guatemala City, Guatemala in December 2010. Topics included *Ralstonia* and *Clavibacter* bacterial pathogens of tomato, zebra chip and cyst nematodes in potato, and the use of immunostrips.
- A workshop on “Diagnostics and Vari-



*Sally Miller lectures on bacterial disease diagnosis in Legon, Ghana in June, 2011.*

ability of Plant Viruses” conducted at the Centre for Advanced Studies, Department of Agricultural Microbiology, TamilNadu Agricultural University, Coimbatore, India in February, 2011.

- **Sally Miller** (PPATH) gave a seminar on “The Importance of Plant Disease Diagnostics in Food Security and Trade”, University of Dakar, Senegal, in May 2011.
- A Workshop on Tomato Disease and Insect Pest Diagnostics at the University of Ghana in June 2011. During the 5-day workshop, 21 participants from five West African countries (Mali, Ghana, Senegal, Sierra Leone, Nigeria) were trained in basic and advanced techniques for disease and pest diagnosis.
- Two journal articles in Plant Disease; three articles in Plant Pathology New Disease Reports.
- A training manual “Integrated Pest Management for Vegetables in Farmers’ Fields.”
- **Isabel Arias**, chief technician from the IPDN hub lab for Central America (Agro-expertos) trained at OSU with **Sally Miller** (PPATH) in classical, serological and molecular diagnostics of bacterial diseases, January 6-16, 2011.

**International Sorghum and Millet Collaborative Research Support Program (INTSORML-CRSP) 2005-2011**

**Don Larson** (AEDE) and **Mark Erbaugh** (IPA) have been working since 2005 with agricultural economists at the University of Zambia and Sokoine University of Agriculture in Tanzania to improve food security and farm income. Sorghum and millet are well-adapted to semi-arid climates in these countries because they are drought resistant. The OSU project goal is to make the crops more commercially viable by identifying new



*Don Larson and Mark Erbaugh at the National Crop Resources Research Institute in Namulonge, Kenya*

market opportunities and removing market constraints. Studies have been designed to identify and quantify gaps in the sorghum/ millet supply chain for new or growing markets in clear beer, seed, and feed concentrate. These value-added markets offer more secure and profitable opportunities for smallholder sorghum and millet farmers. Recent progress in these three supply chains projects include:

- SUA faculty member and Ph.D. candidate **Jeremia Makindara** has nearly completed his dissertation in sorghum clear beer value chain analysis. In December, 2010, He presented a paper on his work, “Sorghum Clear Beer Value Chain,” at the workshop on “Sorghum Food Enterprise and Technology Development in Southern Africa” in Lusaka, Zambia.
- **Mr. Joseph Mgaya** completed his M.S. at OSU in Agricultural Economics in June 2010. His research identified new opportunities / constraints in the market for sorghum and millet in the animal feed industry. “Feed Concentrates Market and Prospects for Increased Sorghum and Millet Utilization in Tanzania” was presented at the workshop on “Sorghum Food En-



terprise and Technology Development in Southern Africa” in December, 2010.

- **Salome Maseki** completed her M.S. thesis research on the seed value chain at SUA in January, 2011. A paper from her work, “Constraints on the Adoption of Improved Sorghum Seed in Tanzania: A Value Chain Approach” was presented at the 27th Annual Conference of the Association of International Agriculture and Extension Education (AIAEE) in July, 2011 in Windhoek, Namibia.
- **Bernadette Chimai** completed her thesis “Determinants of Technical Efficiency in Smallholder Sorghum Farming in Zambia” and graduated from OSU in June 2011.



*The Hort-CRSP Project team at Ahmadu Bello University in Zaria, Nigeria*

Other recent INTSORMIL-CRSP activities included the analysis of baseline farm household surveys and the collection/analysis of monthly retail, wholesale and farm price data. In May, 2011 Larson and Erbaugh attended the INTSORMIL-CRSP meetings in Lincoln Nebraska and presented “Expansion of Sorghum Production Technology Transfer in Eastern and Northern Uganda.” In September 2011, A meeting between sorghum farmers and processors was organized to facilitate dialog and improve market linkages.

Publications from the project included: “Consumer Preferences and Market Potential for Sorghum Based Clear Beer in Tanzania.” 2011, Journal of Brewing and Distilling; “Constraints on the Adoption of Improved

Sorghum Seed in Tanzania: A Value Chain Approach”, 2011, Abstract, Journal of International Agricultural and Extension Education; “Adoption of Improved Technologies by Smallholder Cereal Producers in Siavonga District of Zambia.” UNISWA Research Journal of Agriculture, Science, and Technology; and “Profitability Analysis of Sorghum Farming:

The Case of Singida and Simanjiro Districts, Tanzania.” Journal of Agricultural Economics and Development (JAED).

#### **Horticulture Collaborative Research Support Program (HORT-CRSP)**

CFAES faculty are involved in two HORT CRSP projects, one in Nigeria and one in Kenya.

#### *Enhancing Trade in Horticultural Crops through food safety and phytosanitary measures*

This project, in its final year, has enhanced trade in Nigerian tomatoes through the promotion of food safety and phytosanitary measures. The PI for this project is **Sally Miller** (PPATH); co-PIs include **Jeff Lejuene** (FAHRP) and **Mark Erbaugh** (IPA). OSU has collaborated throughout the project with the Department of Crop Protection, Ahmadu Bello University (ABU) in Zaria, Nigeria. The research has combined an analysis of the value chain actors in food safety and phytosanitary compliance with field surveys to assess food safety in the market and phytosanitary conditions in farmers’ fields.

In 2010, several types of surveys were conducted at different times during the tomato growing season: interviews of value chain players (vendors, farmers); surveys of tomato (phytopathological) diseases in the field; surveys of potential contaminants (human diseases) in both the growing fields and produce markets.

The surveys revealed a divergence between perceptions and reality. The role of women in the tomato value chain was not as big as expected. Almost all tomato samples collected in the markets were contaminated with coliform prokaryotes, whereas contamination levels were low in samples from production fields. This suggested that produce was contaminated during postharvest operations. Several tomato diseases were identified in the field; including bacterial wilt (*Ralstonia solanacearum*), bacterial speck (*Pseudomonas syringae* pv. tomato), late blight (*Phytophthora lycopersici*), bacterial canker (*Clavibacter michiganensis* subsp. *michiganensis*) and tomato yellow leaf curl virus (TYLCV).

A Good Agricultural Practices (GAP) manual was developed, and a training workshop based on the GAP manual was conducted at Ahmadu Bello University (ABU) in Zaria, Nigeria in August, 2011. The 43 participants included tomato farmers, retailers, wholesalers, irrigation water users and extension staff from the Agricultural Development Projects (ADPs).

*Increasing Smallholder-Vegetable Farmer Utilization of Grafting and Low and High Tunnel Microclimate Management Tools*

**Matt Kleinhenz** (HCS) serves as project coordinator for this Hort-CRSP project in Kirinyaga District, Kenya that was funded in 2010 and began in 2011. Kleinhenz and co-PIs **Mark Erbaugh** (IPA) and **Sally Miller** (PPATH) collaborate with **Monicah Waiganjo** from the Kenyan Agricultural Research Institute (KARI) and other scientists and extension personnel from KARI and the Kenya-based 700+ member Kangai Tisa Horticultural Farmers Association (KTHFA). The overall goal is to improve

production and marketing of tomatoes by training farmers in the use of grafting and low/high tunnels. Activities have been designed to accomplish three objectives: first, to document the baseline grafting and microclimate management resources in Kirinyaga District (these resources include stakeholder interest, knowledge and perceptions and available material inputs); second, to provide edu-

cational programs and products designed to increase stakeholder success in the use of grafting and low/high tunnel technology; third, to evaluate the programs and products as potential prototypes for a scaled-up effort.

To date, a questionnaire was developed and administered to 109 farmers and the results tabulated. A coordinated series of five multi-day, hands-on and lecture style programs (trainings, workshops, farmer field schools) were held for nearly 300 farmers and research-extension personnel; attendees evaluated these programs using pre- and post-



*Matt Kleinhenz demonstrates grafting tomatoes*



*Inside a high-tunnel demonstration in Kenya*

program evaluations. A grafting manual was co-authored and distributed to program participants (farmers, institutional personnel).

Through these activities, project partners have made a number of key discoveries. For example, survey results strongly suggest that stakeholders (farmers; extension-research, NGO/NPO personnel) have a high level of interest, but little experience in vegetable grafting and low / high tunnel use. Results from pre- and post- program evaluations suggest that the five tested programs were suitable prototypes for a scaled-up effort in terms of content, organization and delivery. Farmer experience revealed that the use of grafted vegetable plants and/or low and high tunnels can have positive effects on plant disease management and yields, but successful implementation requires adherence to sanitation and management best practices. In general, the project has determined that U.S.-international partnerships can significantly enhance the successful adoption of farmer-centered technologies.

### **Aquaculture and Fisheries CRSP**

**Konrad Dabrowski**, SENR, is co-PI on an Aquaculture and Fisheries CRSP project with faculty from the Universidad Autonoma de Sinaloa/Mazatlan Campus, Mexico. In 2011 the program was expanded to include the “Air-breathing fishes” project and a new partner was added, **Dr. M.C. Portella** of Sao

Paulo State University, Jaboticabal, Brazil. Dabrowski is working with scientists at the University of Hawaii at Hilo and **Dr. Gustavo Rodriguez** of Mazatlan to improve the production of chame juveniles for aquaculture purposes. Chame is a widely distributed fish along the Pacific coasts of Americas, and is already a noteworthy fisheries commodity in Mexico. In 2011, two students, **Vanessa Lopez** from Mazatlan and **Thiago de Freitas** from Jaboticabal spent several months in Columbus working on histology of early life stages of fishes.

### **The African Food Security Initiative 2008-2011**

The key objectives of the African Food Security Initiative are to increase the production and availability of key staple commodities and reduce sanitary/phytosanitary constraints to trade. OSU has two subcontracts with Virginia Tech University to lead the adaptive research, extension, and education on maize in Uganda (**Mark Erbaugh**, PI) and to expand the plant diagnostics network for diseases and insects of rice, maize, tomato, and plantain in Uganda and West Africa (**Sally Miller**, PI). Other OSU collaborating scientists in the project have included **Rich Pratt** (formerly HCS), and **Feng Qu** and **Peg Redinbaugh** (PPATH). In Uganda, the project collaborators include Drs. Kyamanywa, Kalungi, Sseruwagi, and Asea from Makerere University and NARO. Dr. Asea is a 2005 graduate of OSU who is now directing the Cereals Program for the National Agricultural Research Organization in Uganda (NARO).

Specific research activities have focused on characterizing rice mottle virus strains using genome sequencing; conducting multi-locational trials to assess the mechanism of bacterial wilt resistance in the tomato variety MT56; Developing aflatoxin-resistant maize



varieties for Uganda; introgressing disease-resistant temperate maize germplasm into locally adapted tropical germplasm; and conducting preliminary serology and/or PCR work to identify the range of viruses occurring on tomato.

In 2010-2011, OSU faculty assisted Makerere University in upgrading its plant-disease and insect-pest diagnostic capabilities, thereby increasing its capacity to serve both farmers and the research community in Uganda.

#### Poster/Publications:

- Poster Presentation on the characterization of tomato-infecting viruses in Uganda; American Phytopathological Society Meetings, Honolulu, Hawaii, August, 2011. **Sally Miler** and **Mark Erbaugh** were among the authors.
- Lyimo, H.J.F., Pratt, R.C. and R.S.O.W. Mnyuku. 2012. Composted cattle and poultry manure provide excellent fertility and improved management of gray leaf spot in maize. *Field Crops Research* 126:97-103.
- Lyimo, H.J.F., Pratt, R.C. and R.S.O.W. Mnyuku. 2011. Heritability and gene effect estimates for components of partial resistance to grey leaf spot of maize by generation mean analysis. *Plant Breeding* 130:633-639.

#### The African Sanitary and Phytosanitary (SPS) Faculty Exchange Program 2007-2011

Now in its final year, the SPS Faculty Exchange Program, supported by USDA/FAS/ICD, has assisted African plant health authorities in implementing 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** (PPATH) and **Celeste Welty** and **Luis Canas** (ENT). In



*Papa Diedhiou, USDA FAS Faculty Exchange participant, speaks with students at Université Gaston Berger*

May, 2011 Sally Miller and plant pathology graduate student **Spencer Debenport** traveled to Senegal, and were hosted by **Dr. Papa Madiallacke Diedhiou**, a plant pathologist from the University of Thies, Senegal, and key participant in the SPS program. The group visited the University of Dakar, where Miller and Debenport presented a diagnostic workshop on plant diseases in food security and trade; the Université Gaston Berger, meeting with the dean, faculty and students; and the ISRA Center for Horticultural Development in Senegal.

#### Partnership with Université Gaston Berger (UGB), Senegal (2011-2012)

OSU is partnering with Senegal's **Université Gaston Berger** (UGB) to build up the West African nation's agricultural research and outreach capabilities, funded by a grant from the U.S. Agency for International Development (USAID) and Higher Education for Development (HED). **Richard Dick** (SENR), principal investigator and project co-director, is a professor of soil microbial ecology who has more than a decade of experience working in



*Richard Dick with Colleagues in Senegal*

Senegal. He is collaborating with the newly created agricultural science program at UGB, training its 17-member faculty in research and outreach activities based on the U.S. land-grant model. The goal is creation of an agroecology program for sustainable food production, addressing the severe environmental degradation in the fragile African Sahel region and developing the emerging fruit and vegetable export industry in northern Senegal. This program will create certificate, B.S., and M.S. programs in agriculture over a 10-year period.

Dick is also project leader for a 5-year NSF grant awarded in 2011 for multidisciplinary research in Senegal on the previously unrecognized role of shrubs as key determinants in biogeochemical process, sequestration of C, water relations, and soil degradation mitiga-



*Mateugue Diack (co-PI) and Amadou Ndiaye from UGB with Steve Neil (ATI)*

tion. He is joined by four Co-PIs in Senegal, two collaborating professors at Oregon State University (soil physics and pedology), one post-doc (plant ecology and mycorrhizae) and four African PhD. students.

### **Building Human Capital in Rural Microfinance with Colegio de Post-Graduado (CP) (2007-2012)**

The goal of this project, funded by Higher Education in Development (HED) and USAID/Mexico is to help microfinance institutions in rural Mexico increase the rural sector's competitiveness and reduce rural poverty. To accomplish this there are two principal objectives: a) provide a robust training program for the rural microfinance industry and government institutions that serve that industry and (b) build Colegio de Post-Graduado's (CP) institutional capacity.

#### **Outreach to the Microfinance industry.**

In 2010 the project sponsored a number of training sessions for the microfinance industry. key activities included two short-courses ("diplomados") for managers from 36 rural microfinance institutions, a short course in Microfinance Management; several short courses in agricultural lending for branch managers and credit agents; a field day for rural beneficiaries of microfinance programs; and presentations to government agencies. A one-day program on Women and Microfinance in October 2010 was attended by CP faculty, staff, students as well as another 110 female and 15 male participants. In total more than 300 persons were trained.

**Capacity Building at CP.** OSU AEDE faculty **Jerry Ladman, Richard Meyer, Dale Adams** and **Claudio Gonzalez** provided microfinance workshops for the CP team, including six faculty at the main Montecillo campus and four faculty and two graduate students at the Puebla campus. Workshops dealt with sav-



ings mobilization and risk and regulation of microfinance institutions. In addition, a new undergraduate program was launched by CP at the Technical University of Tecamachalco to prepare students to work in microfinance careers.

**Isai Guizar Matos** continued his Ph.D. studies in rural finance at OSU; he plans to join the CP faculty after the Ph.D. Matos is jointly funded through the project and CONACYT (Mexico's National Council of Science and Technology).

The program with CP continues to grow and build momentum. The demand for program activities has been apparent, both in terms of training needs for microfinance institution staff in rural areas, research of major problems associated with providing microfinance services, and policy inputs to national rural microfinance programs. The OSU team continues to make important inputs to CP programs on both Montecillo and Puebla campuses.

### **University Partnership with the Center for Economic Teaching and Research (CIDE) to Build Rural and Micro-Finance Capacity in Mexico (2005-2010)**

This project was financed through Higher Education for Development of the American Council on Higher Education, and was completed in 2010. OSU Co-Principal Investigators **Claudio Gonzalez** (AEDE) and **David Hansen**, (IPA) worked with faculty at the Center for Economic Teaching and Research (CIDE) in Santa Fe, Mexico, one of the most prestigious centers for economic research



*Villager at a bank: Microcredit programs assist rural communities increase business opportunities*

and graduate education in Mexico. This project built a strong collaborative relationship between CIDE and Ohio State University. The major objective of the project was to strengthen CIDE's capacity to provide important policy inputs to micro- and rural financial markets in Mexico. The project also developed human capital and institutions in the micro- and rural finance sector to increase Mexico's competitiveness.

Major accomplishments included research in developing a legal framework to support a strong, competitive financial sector; workshops to promote constructive interactions among university,

government, and private sector; publications to further stimulate additional public dialogue on rural Mexican financial markets; long-term training at the MS and PhD level; short-term training for scholars from CIDE and related institutions; and the networking of scholars via a virtual center of excellence in rural financial markets.



*Claudio Gonzalez speaking at a seminar for rural finance providers*

### **Poland-OSU Extension Collaboration**

International Programs in Agriculture was funded by USDA/FAS to conduct an Ohio study tour for a group of Polish extension and rural development specialists in June, 2010. A key objective of the program was to assist the Polish delegation with plans to reposition/reorganize extension services to better assist farm and agribusiness clientele. Marketing locally grown agricultural and food products was jointly identified as focus of the visit. Ohio State University South Center extension faculty played a key role in the study tour, contributing their expertise in marketing local food products and developing rural tourism programs.

The following year, the Polish visitors requested a reciprocal training visit from OSU Extension Specialists to continue the dialogue in mutually beneficial extension programs. In May, 2011, **Thomas Worley**, **Brad Bergefurd** of OSU South Centers and **Allan Lines** (AEDE) visited Poland and provided their vision of a re-vitalized and modernized Polish Extension Service. The OSU delegation was provided a very comprehensive overview of Polish agriculture, rural development and Extension Service activities. Visits were made to three Centers for Extension and Rural Development (Krokow, Radom and, Brinnow) which provide for training and professional development needs of Extension advisors. Visits also included a soil science research institute; county and local Extension offices; a research conference on animal genetics; Krakow Agricultural University; orchards, livestock and vegetable farms and several Extension-sponsored meetings, field days and fairs.

The Polish and American collaborators agreed that there is opportunity and need for continued collaboration in a Direct Marketing Extension Training Program for Poland. The overall program would provide collaborative training

and pilot demonstration on direct market development. Future plans are currently in negotiation.



*Tom Worley, Alan Lines, Brad Bergefurd with Colleagues in Poland*

**Table 1. International Programs in Agriculture Active Programs**

<b>Title</b>	<b>Sponsor</b>	<b>Investigator</b>	<b>Budget</b>	<b>Project Begin</b>	<b>Project End</b>
Collaborative research and capacity building of Sokoine Univ. of Agriculture and the National Agriculture Research System (iAGRI)	Agency for International Development (USAID)	Mark Erbaugh, David Kraybill	\$490,730 \$2,009,270	3/1/11 3/1/11	2/28/16 2/28/16
Building human capital for microfinance institutions in order to increase competitiveness and reduce rural poverty in Mexico	Higher Education for Development TIES Partnership, USAID	Jerry Ladman, Mark Erbaugh, David Hansen	\$199,145	1/1/11	12/31/12
Development of agronomy and crop production academic programs, research, and need based extension programs for sustainable food production in the Senegal	Higher Education for Development	Richard Dick, Mark Erbaugh, Kenneth Martin, Steven Neal, Emilie Regnier	\$1,100,000	12/21/10	9/30/15
Increasing smallholder-vegetable farmer utilization of grafting and low and high tunnel microclimate management tools in Kenya District, Kenya (HORT-CRSP)	Univ of California-Davis	Matthew Kleinhenz, Mark Erbaugh, Jeffrey LeJeune	\$75,000	10/01/10	9/30/11
Enhancing trade in horticulture crops through food safety and phytosanitary measures (HORT-CRSP)	Univ of California-Davis	Sally Miller, Mark Erbaugh, Jeffrey LeJeune.	\$141,504	2/1/10	8/31/11
Regional IPM Program for East Africa: Kenya, Tanzania (IPM CRSP)	Virginia Polytechnic Inst	Mark Erbaugh, John Cardina, David Francis, Matthew Kleinhenz, Joseph Kovach, Sally Miller	\$547,180	10/1/09	8/31/10
OSU Africa Food Security Initiative	Virginia Polytechnic Inst., USAID	Sally Miller, Mark Erbaugh	\$99,941 \$153,509	9/29/08 9/29/08	9/28/11 4/30/12
African SPS Faculty Exchange Program	USDA Foreign Ag Service	Mark Erbaugh	\$93,765	7/26/07	7/26/11
Market Development in Support of Sorghum and Millet Farmers in Tanzania and Zambia (INTSRML-CRSP)	University of Nebraska, USAID	Mark Erbaugh, Donald Larson	\$392,508	7/1/07	9/29/12
USDA Scientific Exchange Program for Jamaica	USDA Foreign Ag Service	Mark Erbaugh, Luis Canas	\$25,300	9/30/10	12/31/11
USDA Norman E. Borlaug Fellowship Program	USDA Foreign Ag Service	David Hansen, Mark Erbaugh	\$104,537	9/12/06	9/11/11
USDA Norman E. Borlaug Fellowships/ Global Research Alliance Fellowship Program	USDA Foreign Ag Service	Mark Erbaugh	\$156,373	7/2011	12/2013
		<b>TOTAL</b>	<b>\$5,588,764</b>		

### III. CFAES Activities in the Global Gateways

#### CFAES Activities in the Brazil Gateway

The College of Food, Agricultural and Environmental Sciences (CFAES) has a strong record of collaboration with Brazilian partners dating back to the 1960s, including relationships with 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, the Ministry of Agriculture, the Ministry of Education, and the Brazilian Agricultural Research Enterprise.

According to **Dr. Mark Erbaugh**, director of International Programs in Agriculture, "A strong, enduring relationship has been retained with the agricultural college of the University of Sao Paulo in Piracicaba, Brazil (ESALQ)." This program was funded by the U.S. Agency for International Development from 1964 to 1973, and collaborations continue to this day."

One key collaboration includes the placement more 50 Brazilian trainees in US horticultural /agricultural businesses in 2010-2011 through The Ohio Program (TOP), part of International Programs in Agriculture.

Each year **Dr. Jill Pfister**, Assistant Dean, CFAES travels with approximately 20 OSU students to Brazil for a study abroad program that explores historical, institutional, and individual leadership perspectives in Brazilian society. The students are specially selected members of Alpha Zeta Partners, a profession-

al honorary fraternity in the college of Food, Agricultural, and Environmental Sciences that focuses on leadership and professional development. The study-abroad classes are taught by ESALQ faculty, some of whom are OSU alumni.

OSU and Rutgers University are working with ESALQ on developing a collaborative interdisciplinary Ph.D. program in Molecular and Cellular Biology. In December 2009, **Steve Slack** (OARDC Director), **John Finer** and **Rich Pratt**, (formerly 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 ESALQ and Rutgers University. A follow-up visit occurred in June, 2010 when visitors

from ESALQ/USP visited the Columbus campus and OARDC for additional discussion. The proposed joint degree program is currently working through the approval process.

For more than a decade, faculty in Horticulture and Crop Sciences have worked closely with Brazilian counterparts in Seed Technology research and teaching. OSU faculty are currently working with ESALQ, Universidade Federal de Lavras (UFLA), Universidade Federal de Vicosa (UFV), Universidade Estadual



*Alpha Zeta Students sampling local cuisine*



Paulista (UNESP), and the Universidade Estadual de Campinas (UNICAMP) in the “Imaging Analysis in Seed Technology” project. Project activities are organized by four key objectives, each with 2-5 research subgroups. The key objectives involve (1) detection of mechanical injury in seeds; (2) imaging to assess changes in physiological quality during seed storage; (3) imaging to characterize seed development and maturation; and (4) correlating seed vigor levels to actual seed/seedling performance.

A key collaborator, **Mark Bennett** (HCS) was sponsored by the Sao Paulo Research Foundation to visit Brazil in September, 2010. Bennett gave presentations on “Vegetable Seed Vigor and Seedling Establishment” during visits to two public universities in the Brazilian state of Sao Paulo: USP-ESALQ and UFLA (Universidade Federal de Lavras). During this trip he discussed research collaboration and “sandwich program” exchanges to OSU for Brazilian grad students from USP-ESALQ and UFLA. In the past two years, twelve (12) students from Brazil have worked for periods of 2-8 months in the OSU Seed Biology laboratory. Return visits of OSU students to conduct research/study visits in Brazil were discussed. Bennett also traveled and gave seminars to the vegetable research and germplasm centers of EMBRAPA, the Brazilian Agricultural Research Corporation. Future collaborations between EMBRAPA seed storage/physiology scientists and the OSU Ornamental Plant Germplasm Center faculty were discussed.

**Normand St-Pierre** (ANSCI) was on special research assignment in Brazil through October, 2010 at the Jaboticabal campus of the

Universidade Estadual Paulista (UNESP). During the SRA he taught semester-long graduate classes at the host institution in applied biometry and mathematical biology; an undergraduate short course in ruminant nutrition; and a 2-day short course in statistical methods. St.-Pierre advised five UNESP graduate students in the nutrient requirements of pregnant dairy goats and the production of goats for meat. He also collaborated in projects on nutritional factors affecting fish behavior, amino acid requirements of poultry, cattle behavior under various management systems, and the physical factors affecting embryonic mortality in eggs. St-Pierre finished a book to be published in English and Portuguese in statistical methods in experimental biology and agriculture.

During the SRA, St.-Pierre generated great interest in his 2-day statistical short course and received funding from the Brazilian

government to return in March, 2011 to repeat the program. The Brazilian Society of Animal Science has accepted his proposal to offer the short course annually. St-Pierre plans to return to Brazil in the summer of 2012 to conduct research at UNESP, USP, and initiate collaborative work with the University of Vicosa.



*Swine feed digestibility study in Brazil (St. Pierre)*

**Jeffrey Firkins** (ANSCI) presented “Reconsidering rumen microbial consortia to enhance feed efficiency and reduce environmental impact of ruminant livestock production systems” at the 47th Annual Meeting of the Brazilian Animal Science Society in July, 2010.

**Scott Shearer** recently joined CFAES as the new Chair of FABE. In his previous position at the University of Kentucky he worked to



foster collaborative research and educational programs with the Universidade Federal de Viçosa (UFV - Minas Gerais, Brazil). These programs included undergraduate student exchange, study abroad, and graduate sandwich experiences in agricultural engineering. Currently he is working on an OSU-UFV Memorandum of Understanding.

Brazilian Ph.D students, **Marcelo Júnior Gimenes** and **Rone Batista de Oliveir** from Sao Paulo State University spent 6 months in 2010-11 with **Erdal Ozkan** (FABE) participating in various research activities to improve their knowledge of pesticide application technology and complete part of their Ph.D. research.

**Sudhir Sastry** (FABE) has a current collaboration with **Dr. Ligia Marczak** of the University of Rio Grande do Sul, in Porto Alegre, Brazil in ohmic heating research. Dr. Marczak's student, **Giovana Mercali**, is currently a visiting scholar in Sastry's lab.

**Monica Guisti** (FST) was invited to present "Monitoring authenticity of commercial juices by infrared spectroscopy" at the 22nd Brazilian Congress of Food Science and Technology (SBCTA) in November 2010. Funding for her trip was provided by the SBCTA. She currently hosts visiting scholar **Vivian Bochi** from the Universidade Estadual de Campinas (UNICAMP) Department of Food Science. The scholar is a PhD candidate working on "Chemical characterization of Ceilon Gooseberry (*Dovyalis hebecarpa*) at different ripening stages." The Scholar's exchange program is sponsored by Capes (Coordenação de Aperfeiçoamento de Pessoal de Nível Superior)



*Cholorphonia* spp. (Rodewald)

-- The Brazilian Ministry of Education, and by the Fulbright Commission – U.S. State Department.

**Amanda Rodewald** (SENR) gave a presentation, "Understanding demographic and behavioral mechanisms that drive avian responses to urbanization," and organized a roundtable discussion group, "Frontiers in urban ecology: moving from pattern to process," at the International Ornithological Congress in Brazil in 2010.

### CFAES Activities in the China Gateway

In 2010, the **School of Environment and Natural Resources** signed a Memorandum of Understanding with **Guangxi Eco-Engineering Technical and Vocational Institute** for faculty and student exchanges and collaborative teaching and research. Guangxi Eco-Engineering Technical and Vocational Institute is located in the city of Liuzhou, population 1.4 million, which is located in the central portion of Guangxi province in southern China.

One of the activities stemming from the new agreement was the creation of a new undergraduate research/study abroad program for OSU students at Guangxi. Study abroad director **Roger Williams** (SENR) traveled with five undergraduate students to Guangxi China from June 17 – July 12, 2011.

**Roger Williams** also was appointed to the Science Advisory Board for the World Congress of Environmental Biotechnology by BITeomics, Inc., held in Dalian, China in Octo-

ber 2011. As a board member Roger evaluated abstracts and helped plan the Renewable Energy from Wastes section of the Congress, including Biofuel from Forestry Wood By-products and Timber Wastes. He presented an invited paper entitled “The Feasibility of Using Plantations, Logging Residues, and Other Wood Wastes for Bioenergy: Cost and Scale Considerations”.

**Warren Dick** (SENR) visited China in May 2011 to prepare for OSU Ph.D. student **Joshua Kendal**’s research project at Nanjing Agricultural University, and to meet with current and former collaborators in China. Joshua Kendal plans to begin work in 2012 in **Professor Qirong Shen**’s laboratory, Dick’s long-time collaborator and Vice President of Nanjing Agricultural University. Dick also met with **Minggang Xu** at the Chinese Academy of Agricultural Science to discuss long-term no-tillage production agriculture; the faculty advisor of **Yongqiang Tian**, a student from China Agricultural University who conducted research in Dick’s lab as part of a “sandwich” degree program; **Dr. Xuchang Xu** and **Yuqun Zhou** of Tsinghua University in Beijing to discuss a joint NSF proposal on uses of recycled gypsum to remediate degraded and/or sodic soils; and with Professor Huang at Xian University of Architecture and Technology. Warren Dick currently hosts a visiting scholar from Xian University, **Dr. Manli Wu**.

Four OSU faculty from the Food, Agricultural and Biological Engineering department (FABE) were funded by a **OSU Gateway Grant** to visit China in October, 2010. **Lingying Zhao, Yibo Li, Jay Martin** and **Ann Christy** participated in this scientific exchange exploring potential collaborations in agricultural, environmental, and energy research. The faculty delivered presentations in China at the “Sino-US Symposium on New Technology of Biogas and Low Concentration Waste Water Treatment,” and visited with faculty of the

Fudan, Tongji, Shanghai Jiao Tong, Zhejiang, Quinghua, and Shandong Universities and the Chinese Academy of Agricultural Engineering.

In 2010, **Karen Mancl** (FABE) hosted **Dr. Ying Liu**, expert in Waste to Energy from the Shandong Academy of Agricultural Sciences, to speak at the Annual OSU Ohio Water Quality and Waste Management Conference.

Mancl traveled to China in October 2010, May & September 2011 for wastewater treatment research projects and speaking engagements. Mancl speaks Chinese and graduated with a MA in East Asian Studies in June, 2010. The title of her M.S. Thesis was “Environmental Technology Transfer to Rural China.” During her visits to China, she gave presentations on wastewater treatment, some delivered in Chinese, at the Sino-China Symposium at



*Karen Mancl and colleague at a sand bioreactor wastewater treatment site, Weishan Lake, China. Photo above shows the construction phase*

Shandong Academy of Agricultural Sciences and at the “Science and Technology for Water Pollution Control in China, Japan and US” symposium at Zhejiang University.

Mancl worked with an engineer from the Shandong Academy of Agricultural Science to design and build a wastewater treatment system in a small village in Southern Shandong Province. The village of 1200 people is on an island in a large lake and had been discharging raw sewage to the lake.

**Larry Brown** (FABE) hosted visitors from Hohai University in July, 2011. The group met to discuss Wetland Reservoir Subirrigation Systems (WRSIS) experiences and implementation. One of the visitors, **Prof. Guo**, gave a presentation on his experience with a wetland paddy system.

Brown hosted a second delegation in August, 2011 from Wuhan University College of Water Resources and Hydropower Engineering. A member of the group, Professor Xia Junqiang, gave a seminar on Flash Flood Risk to People and Property in Urban Areas. Other members of the delegation included: **Professor Xie Ping** (hydrology and water resources); Professor **Zhang Xiaofeng** (river mechanics and sediment transport); **Professor Qian Zhongdong** (hydraulics and hydraulic machinery); **Professor Chen Yifeng** and Associate **Professor Wang Weiming** (computational hydrodynamics and geotechnical engineering).

**Professor Dong Bin**, also of Wuhan University, is currently a visiting scholar with Larry Brown. He has been instrumental in adapting Ohio’s WRSIS concept to China, particularly to Hubei, Guangxi, and Jiangsu provinces. His work for the year at OSU will focus on constructed wetlands, hydrology, hydraulic dynamic modeling, agricultural water management, and nonpoint source pollution.

**Professor Jianmin Gao and Dr. Hui Liu**

from Jiangsu University, China joined **Erdal Ozkan’s** (FABE) research group for year-long programs in 2010 and 2011, respectively. Ozkan also hosted two visitors from China in 2011, **Xiongfui He** from China Agricultural University, and **Junjie Tan** from Nanjing Polytechnical University, China. In addition, two Chinese PhD students are currently completing their dissertation work in Erdal’s lab: **Ji-abin Gao**, visiting Ph.D. student from Nanjing Agricultural University, and **Xiang Dong**, Ph.D. student, Chinese Academy of Agricultural Mechanization Sciences.

In June, 2010 **Jyan-Chyun ‘JC’ Chang** (HCS) gave invited talks in molecular biology for the Department of Biology, The Chinese University of Hong Kong, China; and at the Institute of Molecular Biology and Institute of Plant and Microbial Biology Academia Sinica, Taipei, Taiwan.

**Mark Partridge** (AEDE) hosted visiting professor **Anping Chen** from the School of Economics, Junan University, China.

**Zhongtang Yu** (ANSCI) visited the College of Animal Sciences and Technology at China Agricultural University in Beijing, and the College of Animal Sciences and Technology of Zhejiang University in Hangzhou in 2010. He gave two presentations in China relating to molecular and metagenomic studies on the ruminal microbiome.

During a visit in the fall of 2010, **Jeff LeJeune** (FAHRP) established research collaborations with researchers at Xinjiang Agricultural University (XAU), Urumqi City, China. He hosted a delegation from XAU during a April, 2011 visit to the College of Food, Agricultural and Environmental Sciences’ Wooster and Columbus campuses.

In July, 2010 **Guo-Liang Wang** (PPATH) accompanied **Drs. Gordon Gee and Bobby Moser** on their visit to the Chinese Academy



of Agricultural Sciences for the signing of a Memorandum of Understanding (See IPA Annual Report 2009 for more details of that trip). In October, 2010 Wang visited Hunan Agricultural University to give a seminar and discuss research collaboration. Wang gave four presentations in China in 2010 on host (rice)/pathogen interactions at the molecular level. Two scientific exchange scholars from China have worked in Wang's lab in 2010-11.

### **CFAES Activities in the India Gateway**

**Zhongtang Yu** (ANSCI) is hosting a visiting scholar, **Dr. Amlna Patra**, from West Bengal University of Animal and Fishery Sciences, India. Dr. Patra is supported by a BOYCAST (Better Opportunities for Young Scientists in Chosen Areas of Science & Technology) fellowship funded by the Department of Science and Technology, Government of India. Patra and Yu are working on mitigation of methane emissions from cattle.

**Omprakash Mittapalli** (ENT) is working with the Central Plantation Crops Research Institute (CPCRI; Kesaragod, Kerala, India) on the genomics of the red palm weevil. This research is being supported by both OSU/OARDC and CPCRI funds. In 2010-11 he gave four invited talks in India at the Biotechnology for Better Tomorrow Conference; the International Conference on Biotechnology; and the International Coconut Conference. His plenary lecture at the International Conference on Biotechnology was titled "Transcriptomics to decipher Insect-Plant Interactions."

**Sudhir Sastry** (FABE) was invited in 2010 to present a plenary talk at the National Symposium on the 200th Anniversary of the Invention of Canning in Hyderabad, India.

**Guo-Liang Wang** (PPATH) hosted scientific exchange scholar **Sheshu Maganti** from the

Directorate of Rice Research, Hyderabad, India, March 2008 - Sept, 2010.

**Cathy Anne Rakowski** (SENR) is a member of the Agricultural Education and Innovation Systems Project, USAID-India. Ohio State is member of the consortium that received the grant for the project in India in 2010.

**Warren Dick** (SENR) hosted visitors from the TATA Group, an Indian multinational conglomerate, in May, 2010. He also hosted Indian Scientists at the long-term tillage and rotation plots in June, 2010.

Three visiting scholars, **Dr. Meharban Singh Kahlon**, **Chetan Singla**, and **Dr. Maninder Kaur Khosa** from Punjab Agricultural University came to the School of Environment and Natural Resources in 2010. Singla and Khosa worked for 3 months at the Ohio State University South Centers in Piketon on "Long-term effects of management practices on carbon sequestration and soil quality" under the supervision of **Rafiq Islam** (SENR). Dr. Kahlon came for a one-year fellowship funded by the Indian Government to work on irrigation and drainage management including soil-plant-water relationships under conventionally-tilled and no-till conditions. He worked under the supervision of **Drs. Ratan Lal** (SENR) and **Rafiq Islam**.



*Punjab University of Agriculture*

#### IV. International News from the College & Departments

In July 2011, Dean **Bobby Moser**, OARDC Director **Bill Ravlin**, and SENR faculty **Ron Hendrick**, **Rattan Lal**, and **Brian Slater** joined OSU President **Gordon Gee** in a visit to Iceland. The highlight of the visit was a working dinner with the President of Iceland, Dr Ólafur Ragnar Grímsson, to discuss research



*Sveinn Runolfsson, Director of the Icelandic Soil Conservation Service, explains Soil Conservation and land management practices to Drs. Bobby Moser and Rattan Lal during trip to Mt Hekla area, southern Iceland*

and educational cooperation with Icelandic institutions. **Memoranda of Understanding** were signed with the **University of Iceland** and **The Soil Conservation Service of Iceland** to accelerate the successful collaborations between Ohio State and Iceland that have been established through CFAES faculty efforts in the past five years. Cooperative activities have included research in soil science, carbon sequestration, and land restoration, as well as the popular Iceland study abroad

program through SENR. The OSU entourage visited the University of Iceland, the Soil Conservation headquarters in southern Iceland, a geothermal power plant, and land restoration sites.

**Dr. Jeffory Hattey** joined CFAES as the Assistant Dean of Academic Programs in July, 2011. In his previous position at Oklahoma State University he was a professor of Soil and Environmental Sciences and the Dillon and Lois Hodges Professor of International Agriculture. His previous international experiences in Ethiopia, Kenya, Brazil, and Sierra Leone addressed food security issues by building capacity in higher education.



*Jeff Hattey greeting a farm worker at Njala University, Sierra Leone in 2010*

#### *Agricultural Communication, Education, and Leadership*

---

**Robert Agunga** hosted a delegation of five senior Staff members of Bunda College of Agriculture and the Government of Malawi in December, 2010. Agunga was a 2008- 2009 Fulbright Scholar at Bunda College of Agriculture where he helped establish a new undergraduate curriculum in Agricultural Communications.

**Ken Martin**, Associate Director of Ohio State University Extension (OSUE), spent a week in February, 2011 with the OSU project team



at the Universite de Gaston Berger and gave presentations on “Extension and Outreach - Taking the University to the People,” and “Program Planning - Creating an Extension Plan of Work.” In September, 2011, Martin hosted two faculty from the University of Rzeszow, Poland who came to experience the OSU land grant model and small business and local government extension activities.

---

*Agricultural, Environmental  
and Development Economics  
(AEDE)*

---

In the last two years **Mark Partridge** has received awards from international funding organizations including the European Research Policy center/ European Commission; The Social Science Humanities Council of Canada; and the Canada International Development Agency. In the last two years he has given presentations in Peru, Spain, UK, Sweden, and Portugal, and was invited to deliver the plenary address, “North American Regional Dynamics in a 21st Century of Climate Change.” at the Regional Studies Association International Conference in May 2010 in Pécs, Hungary. He served on an expert panel for the European Commission on Regional Indicators for Cohesion Policy in Oct 2010, Jan. 2011, and April 2011.

**Ian Sheldon** is the chair of the **International Agricultural Trade Research Consortium** (IATRC), a trade research network involving over 200 trade researchers and policy practitioners from around the world <http://iatrcweb.org/>. He currently has collaborative work with faculty at the University of Exeter Business School, UK, and at the Universidad de Guadalajara, Mexico.

Sheldon was the joint organizer of the IATRC Symposium “Climate Change in World Agriculture: Mitigation, Adaptation, Trade and Food Security” held at the University of Hohenheim,

Stuttgart in June 2010. He attended the Association of Agricultural Economists Congress (EAAE) in Zurich, Switzerland (Aug/Sept 2011) where he organized the IATRC Pre-Congress Mini-Symposium, “Trade Financing in the Aftermath of the 2008 Financial Crisis: Implications for Agricultural Trade,” and the “Economics and Animal Welfare” joint session. He was invited to speak at the University of Guelph, Guelph, Ontario (Sept. 2010); at the El Instituto Tecnológico y de Estudios Superiores de Monterrey, Guadalajara, Mexico (February 2011); and as part of a one-week course at the Centro Universitario de Ciencias Económico Administrativas (CUCEA), Universidad de Guadalajara, Guadalajara, Mexico (Feb. 2011). In April, 2011, he participated in 3-day conference, “Environmental Protection and Sustainability Forum,” University of Exeter Business School, UK.

**Brent Sohngen** recently completed a Special Research Assignment at the University of Alberta, Canada. During that time he collaborated with colleagues on policy analysis related to the Canadian forest sector; analyzed impacts of the Renewable Fuel Standard of the Energy Independence and Security Act (2007) on the forest ecosystem; and worked on a book modeling the economic effects of climate change on forest ecosystems.

**Douglas Southgate** will be on professional leave at the Institute for Agricultural Economics and Social Science at the University of Hohenheim, Germany between October 2011 and June 2012.

---

*Animal Sciences (ANSCL)*

---

**Steve Moeller** will lead a group of students in the study of human uses of animals in Chile in December, 2011.

**Mark Morrison** is the science leader in metagenomics for the livestock industries di-

vision of the Commonwealth Scientific and Industrial Research Organization (CSIRO) based in Brisbane, Australia. Morrison is researching how the bacteria in the marsupial gut may be responsible for relatively low methane emissions compared to livestock animals, and whether there may be practical applications to livestock.

**McDonald Wick** will host Fulbright Scholar **Dr. Zoran Popovski** from Macedonia August 2011 – May 2012. Dr. Popovski is a Macedonian scientist and professor from the Institute of Animal Biotechnology, Faculty of Agricultural Sciences and Food at Ss. Cyril and Methodius University, Skopje, Republic of Macedonia. He is an animal science specialist in molecular biology, genetic engineering and GMOs.



*Zoran Popovski working in McDonald Wick's lab at OSU*

**Zhongtang Yu** gave 2 presentations in China and one in Thailand in 2011 relating to molecular and metagenomic studies on the ruminal microbiome. In China he visited the College of Animal Sciences and Technology at China Agricultural University in Beijing, and the College of Animal Sciences and Technology of Zhejiang University in Hangzhou. During a visit to Khon Kaen University, Thailand, he delivered a lecture to the faculty. He hosted international scholars from India, Malaysia and Denmark in the past year.



*Dave Denlinger with colleague in the Antarctic*

---

*Entomology (ENT)*

---

**Dave Denlinger** and his graduate students **Nicholas Teets** and **Alena Kobelkova** have worked in 2010-11 at Palmer Station, Antarctica on NSF-support research on the physiological and molecular mechanisms used by insects to survive extreme environments. Graduate student **Megan Meuti** worked for 6 weeks at the Czech Academy of Sciences, Ceske Budejovice, Czech Republic, on an NSF-supported study of in-situ hybridization of clock genes in insects

Denlinger gave keynote addresses for the International Conference on Invertebrate Reproduction (Prague, July '10) and for the Joint meetings of the British Ecological Society, Biochemical Society, and Society of Experimental Biology (London, January 2011). He was also invited to present at the Invertebrate Neuropeptide Conference in Kota Kinabalu, Malaysia.

**Dan Herms** was invited to present the keynote address "Resource allocation trade-offs and the evolutionary ecology of optimal plant defense" at the 4<sup>th</sup> International Symposium of SFB 607 entitled "Growth and Parasite Defense: Competition for Resources in Economic Plants from Agronomy and Forestry." The program was held in March, 2010 at the Technische Universität München in Freising-Weihenstephan, Germany.

**Joe Kovach** has collaborated with Italian scientists in work on pest control strategies in apples. The work was presented at the Conference on Sustainable Protection of Fruit Crops in the Mediterranean Area, held in Vico del Gargano, Italy in 2010, and was published in Integrated Environ. Assessment and Management in 2011.

---

*Food Animal Health Research  
Program (FAHRP)*

---

**Linda Saif** has hosted 14 visiting scholars from Argentina, China, Ethiopia, Italy, Kenya, and Tanzania in her laboratory in the past year. In 2010 Saif was an invited speaker in several venues: the symposium “Practical Alternatives to Reduce Animal Testing in Quality Control of Veterinary Biologicals in the Americas” in Buenos Aires, Argentina (February); the NIH conference on “Oral Vaccination Response in Developing Countries and the Intestinal Microbiome” in Goa, India (August), and the International Symposium on Important Zoonoses in Taipei, Taiwan (September). Saif was invited to give the keynote address at the 1<sup>st</sup> International Congress on Pathogens at the Human-Animal Interface held in Addis Ababa, Ethiopia in September, 2011. **Wondwossen**

**Gebreyes**, director of Global health Programs in the College of Veterinary Medicine chaired the conference which was also attended by **William Brustein**, OSU Vice Provost for Global Strategies and International Affairs.

---

*Food, Agricultural and Biological Engineering (FABE)*

---

**Scott Shearer** recently joined CFAES as the new Chair of FABE. In his previous position at the University of Kentucky he worked to foster collaborative research and educational programs with the Universidade Federal de Viçosa (Minas Gerais, Brazil). These programs included undergraduate student exchange, study abroad, and graduate “sandwich” training experiences in agricultural engineering.

In 2010 and 2011 **Erdal Ozkan** gave international presentations on pesticide application technology in Uruguay, Turkey, Netherlands, and France. He also made several visits to Turkey to discuss collaborative research, visiting **Dr. Huseyin Guler** at the Ege University Agricultural Machinery Department, Izmir Turkey; **Professor Ali Bayat** at Cukurova University, Adana, Turkey; and **Professor Ergin Dursun** at Ankara University, Department of



*OSU Students install a roof rainwater collection system in Potshini, KwaZulu-Natal South Africa*

Agricultural machinery. Ozkan hosted a visit to OSU by **Associate Professor Kenan Peker** from Selcuk University, Turkey in August 2011.

**Sudhir Sastry** has assisted Dr. Ricardo Simpson, Chemical and Environmental Engineering Department, Universidad Tecnica Federico Santa Maria, Valparaiso, Chile in setting up a program in ohmic heating. Sastry visited Chile in October 2010 to work on some co-authored publications.

In March 2010, **Andrew Ward** traveled to Witsand, South Africa with three OSU students and worked with the local community to install two rain tanks for a rooftop rainwater collection system. This effort was part of a larger pilot study to develop and implement a rooftop rainwater harvesting decision tool for impoverished communities in South Africa. Ward also directs a Study Abroad program in South Africa.

---

*Food Science and Technology  
(FST)*

---

In March 2011, **Valente Alvarez** and Frank Danalewich were invited to Puebla, Mexico to conduct an audit at a food canning plant and present the FDA inspection Requirements. As a result of the visit, an international food safety training program may be developed at the Food Industries Center. Later that month he traveled to India to represent the College at the Curriculum Development Strategies Consultation Workshop of the Innovation Partnership Initiative. The workshop was sponsored by the U.S. Agency for International Development and the government of India. In June, Alvarez was invited by the Chijnaya Foundation to visit Peru and assist the community of Chijnaya with planning and improvement of their cheesemaking plant.

**V.M. Balasubramaniam** served as scientific

committee chair for the 2010 International Nonthermal Processing Workshop, held in Montreal, Canada. He gave invited presentations on high pressure processing at the 11<sup>th</sup> International Congress on Engineering and Food in Athens, Greece May, 2011, and on novel food preservation technologies for the 2011 Society of Applied Microbiology Summer conference in Dublin, Ireland.

**Monica Guisti** is a visiting faculty member at the Universidad Nacional Agraria, La Molina (UNALM) in Lima, Peru. She spent 3 weeks in June, 2010 as co-organizer of a workshop and guest lecturer for two graduate level courses. During this trip she visited the International Potato Center, an important partner and collaborator in work on phenolic-rich potato varieties. She also spent a week in Cusco, Peru in June 2010 teaching a workshop at the Universidad Nacional San Antonio Abad de Cusco (UNSAAC). During that visit she consulted on the use and application of newly acquired HPLC / PDA / MS equipment and worked on a publication with a professor in the pharmacy department.

In October, 2010 Giusti met with researchers at CREAS (Regional Center for Healthy Foods Research) and the Pontificia Universidad Catolica de Valparaiso (Valparaiso, Chile). She was interviewed by CREAS and a local TV show about her research on anthocyanins, natural pigments and functional foods. In November, 2010 she gave several presentations on her work at the Brazilian Congress of Food Science and Technology (SBCTA), Bahia, Brazil.

In May, 2010, **Lynn Knipe** was invited by the US Meat Export Federation (USMEF) to speak at the Curso Latinoamericano en Produccion de Embutidos (CLAPE), the Latin American Processed Product Course, coordinated by the American Soybean Association and held in San Jose, Costa Rica. In May 2011, USMEF





*Lynn Knipe in the Philippines*

invited Knipe to speak to importers of U.S. beef and pork raw materials in the Philippines and South Korea. USMEF partnered with the Philippines Association of Meat Processors to host seminars in Manila and Cebu, Philippines. Knipe's topics included Introduction to the US Processed Products, Raw Material Quality and Cost, Non-Meat Ingredients and Raw Materials, New Technologies & Products, and Troubleshooting Meat Product Defects. The seminar in South Korea was for pork production and quality management employees from the major processed pork companies in that country.

---

*Horticulture and Crop Science  
(HCS)*

---

**Mark Bennett** traveled to Brazil in September, 2010 as a collaborator and international consultant on seed imaging technologies. He visited several universities during this trip hosted by FAPESP, the Sao Paulo research Foundation. Read more about the program the in Brazil Gateway section p.15.

In June, 2010 **Jyan-Chyun 'JC' Chang** gave invited talks in molecular biology at the Graduate School of Nutritional and Environmental Sciences, the University of Shizuoka, Japan; the Department of Biology, the Chinese Uni-

versity of Hong Kong, China; and the Institutes of Molecular Biology and Plant and Microbial Biology, Academia Sinica, Taipei, Taiwan.

**David Francis** gave an invited presentation "Next generation sequencing of the tomato transcriptome" at the International Horticulture Congress in Lisbon, Portugal, in August, 2010. He also gave two presentations related to genomics at the European Association for Plant Breeding Research in Malaga, Spain in April, 2011. Francis has hosted scholars from France, Bolivia, China, and Japan in the last year. He currently serves as adjunct faculty at Universitat de les Illes in Balears, Spain and at the University of Guelph, Canada.

---

*Ohio State University Extension*

---

OSU extension faculty **Jeff McCutcheon** (Morrow Co.), **Chris Bruynis** (Wyandot Co.) and **Barry Ward** (AEDE) gave presentations at the 18th International Farm Management Congress held in Methven, New Zealand March 20-25, 2011. Farm business manage-



ment was the focus of this conference which brought together a diverse group from universities, industry, and farming.

The group participated in tours of New Zealand agribusinesses that highlighted the importance of dairy, cattle, deer, and sheep production to the NZ economy.

*Moveable electric fence optimizes  
pastureland use in New Zealand*

---

*Plant Pathology (PPATH)*

---

In 2011, Plant Pathology Alumnus **Adipala Ekwamu** was selected as one of "100 BUCK-



EYES You Should Know” by The Ohio State University Alumni Association. In the previous year he was honored with a 2010 International Alumni Award from the College of Food, Agricultural, and Environmental Sciences at OSU. Ekwamu received an M.S. from Makerere University in Uganda in 1980 and a Ph.D. in plant pathology from Ohio State in 1992 under the guidance of **Patrick Lipps** and **Larry Madden**.

**Pierluigi Bonello** was an invited lecturer in “Tree Resistance to Natural Enemies: Physiology, Ecology and Management” in May 2011 at the Southern Swedish Forest Research Centre, Alnarp, Sweden. Plant Pathology graduate student **Anna Conrad** also participated in the seminar.

**Pierluigi Bonello** and **Terry Graham** were invited to present a workshop in Natural Products at the VI Congress of Science and Technology, Army Polytechnic School (ESPE), Quito, Ecuador in June 2011. They were invited by **Maria Soledad Benitez**, faculty member at ESPE and a plant pathology alumnus (PhD, 2008 with **Brian McSpadden Gardener**).

**Sally Miller** and Graduate Student **Spencer Debenport** traveled to Senegal in 2010 to demonstrate diagnostic testing for mycotoxins and plant pathogens to the students and faculty of Dakar and Gaston-Berger Universities.



**Sally Miller** and **Luis Canas** (Entomology) presented the 2-week short course “Pest and Disease Diagnostics for International Trade and Food Security” at OARDC in 2010. Thirteen participants came from Burundi, Ghana,

Japan, Kenya, Mozambique, Nairobi, Nigeria, and South Africa. Participants were trained in classical diagnostic techniques as well as in advanced molecular methods and internet resources.

**Brian McSpadden Gardener** has collaborated in developing biological control technologies for plant disease control with South Korean scientists at Chonnam National University (CNU) through the South Korean World Class University Program. He has spent approximately 14 weeks in this program each year since 2009. While in Korea he visited several government institutes and public-private partnerships, including The Gokseong Biocontrol Center, the Korean Research Institute of Biology and Biotechnology, and the Jeonnam Province Extension Research Office. In November, 2010 he spoke at the Korean Society of Plant Pathology Annual Meeting and at the 10th International Symposium on Plant Metabolism at Kyung Hee University. He also hosted visiting scientist **Dr. Songhee Han** from the World Class University Program in 2010. In addition to research, he has taught graduate-level courses in plant disease biocontrol and biostatistics via video-link between OSU and CNU.

McSpadden Gardener is also working with **Richard Dick** (SENR) on rhizosphere biology in the African Sahel. Dick is PI for a five-year NSF-funded project in the Sahel. As part of the project, McSpadden Gardener will advise a graduate student working in Senegal and co-teach a short course.

**Thomas Mitchell** hosted Colombian Fulbright scholar **Oscar Burbano Figueroa** in 2011.

**Margaret Redinbaugh**, USDA/ARS Corn and Soybean Research Unit and Adjunct Professor, Department of Plant Pathology, continues work on Maize redness, an emerging disease of corn in Eastern Europe. She is working

with the Centre for Agricultural Bioscience International in Switzerland, and the Institute for Plant Protection and Environment in Serbia. The USDA/FAS and Serbian Ministries of Science and Agriculture jointly fund this project. **Pierce Paul** (Plant Pathology) and **Ronald Hammond** (Entomology) have recently joined the project. In September, 2011, Redinbaugh and Hammond met with Scientists at the Institute of Plant Protection and Environment (IPPE) in Zemun, Serbia and visited field sites with Maize Redness disease.

**Jorge David Salgado**, Ph.D. student in plant pathology at OSU, presented "Relationship between Grain Yield and Fusarium Head Blight in Soft Red Winter Wheat as Influenced by Cultivar Resistance" at the Regional Conference on Building Capacity for Improved Food and Livelihood Security in Africa, Entebbe, Uganda. The September 2010 conference was hosted by Makerere University and Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), and was attended by over 300 international participants. RUFORUM is a consortium of African universities that provides educational and professional development opportunities. Salgado was invited to the conference by **Adipala Ekwamu**, RUFORUM regional coordinator and Ohio State alumnus (Ph.D. 1992). Salgado's graduate advisor is **Pierce A. Paul** at Ohio State's Ohio Agricultural Research and Development Center in Wooster.

**Guo-Liang Wang** is working with **Dr. K.K. Jena** and **Hei Leung** at the International Rice Research Institute (IRRI) on the cloning of the broad-spectrum resistance gene Pi40. The work is funded by a 2010 award from the USAID-IRRI Linkage Program.

---

*School of Environment and  
Natural Resources (SENR)*

---

**Nicholas Basta** gave a presentation and was

a symposium organizer at the International Conference for Trace Element Biogeochemistry in Florence, Italy in June, 2011.

**Richard Dick** is the PI for two substantial grants awarded in 2011 for work in Senegal. Higher Education for Development awarded 1.1M for development of agronomic teaching, research and extension at the University of Gaston Berger, Senegal. NSF awarded 2.6M for "Hydrologic redistribution and rhizosphere biology of resource islands in degraded agroecosystems of the Sahel: a PIRE in Tropical Microbial Ecology." Richard has given invited presentations at the University of Saskatchewan (January 2010); the International Conference on Enzymes and Biocatalysis-2010 in Shanghai, China (April 2010); the Pontificia Universidad Javeriana, Bogota, Colombia (July 2010); and the Croucher Institute for Environmental Science in Hong Kong (December, 2011). He served as executive director for the International Conference on Enzymes in the Environment: Ecology, Activity, and Applications held in Frankfurt, Germany in July 2011.

**Joseph Francis Donnermeyer** gave a presentation at the York Deviancy Conference on Rural Crime in the UK in 2011.

**Rafiq Islam** visited Erzurum University in Eastern Turkey in July 2010 to establish research and educational collaboration in agricultural sustainability; carbon sequestration, soil quality, and soil erosion. His two-week visit was sponsored by the Turkish Ministry of Education. During the visit he delivered presentations on soil quality and management practices, and climate change and the future of agriculture at the Dept. of Soil Science, Erzurum University.

**Tom Koontz** was on a special research assignment in Germany for spring quarter 2011.

In 2010, **Rattan Lal** hosted 17 international scholars from India, Turkey, Egypt, Germany,

Ethiopia, Iceland, China, and Norway. Lal traveled to the Republic of Moldova in September, 2010 to meet with the rector and faculty of Alecu Russo Balti State University. In March, 2011, Dr. Lal and other members of the Institute for Advanced Sustainability Studies (IASS) convened a workshop “Recarbonization of the Biosphere” in Potsdam, Germany. In July, 2011 Lal traveled to Reykjavik, Iceland with **President Gordon E. Gee** and other faculty, meeting with the President of Iceland and the Rector of the University of Iceland. A MOU was signed initiating a dual degree program.

**LaVonda Harrington**, graduate student of Professor **Cathy Rakowski**, traveled to Mexico in 2010 to conduct research for her MS thesis, “Mexico’s Conditional Cash Transfer Program: Promises, Predictions, and Realities.”

**Amanda Rodewald** and **Paul Rodewald** received funding from the US Fish and Wildlife Service to collect data on migratory and resident birds in shade-coffee plantations and silvopasture in the Central Andes of Colombia in December 2010.

From August 2011 through June 2012 **Amanda Rodewald** and **Paul Rodewald** will be on sabbatical at the Doñana Biological Station in Sevilla, Spain. They plan to work with **Dr. Jordi Bascompte** and others in the Integrative Ecology Group at Doñana Biological Station, a center of the Spanish Research Council (CSIC). The research will focus on understanding how human activities such as urban development affect networks of ecological interactions

among species and how changes to network structure can influence human health and safety.

**Eric Lee Toman** was a faculty study-abroad leader in Australia in 2011.

**Roger Williams** was appointed in January 2011 for a 3-year term to the Society of American Foresters (SAF) World Forestry Committee by **Roger A. Dziengeleski**, SAF President. The committee advises and assists in the development and implementation of effective SAF programs and activities in an international context.



*Children wear cerulean warblers on their hats at a migratory bird festival in Colombia. Photo from Amanda Rodewald*

Three graduate students from SENR traveled to Iceland during the summer of 2010 as part of an exchange program between OSU and the University of Iceland. **Melissa Hermann**, **Josh Beniston**, and **Nick Stanich** were part of a team of soil scientists examining soil development along the rapidly receding

path of a glacier.

Two students from SENR traveled to Peru in 2010 to help a community access clean water. **Andrew Pochedly** and **Felipe Moreno** and members of the OSU Chapter of Nourish International raised the funds for a clean water pipeline and reservoir for Cerro Blanco, Peru. The Chapter sponsored their trip to South America to help villagers with the project. Both students hope to work in international development or conservation after graduation.

## V. International Learning

### Study Abroad in the College of Food, Agricultural and Environmental Sciences

Short-term study abroad programs, ranging from 10 days to 6 weeks in length, have grown in popularity over the past several years. Between 2009 and 2010, study abroad participation jumped by 30%, then held steady in 2011 at 149 participants. CFAES student participation in study abroad programs for 2010 as a percentage of graduates was 30.9%. Fourteen study abroad programs were sponsored by the College of Food, Agricultural and Environmental Sciences in 2010-2011.

Table 2. Study Abroad Programs in the College of Food, Agriculture and Environmental Sciences Fall 2010 - Summer 2011.

Country	Focus Area	Resident Director	participants	Dates
Australia	Human and Environment Interactions	Dr. Eric Toman and Jennifer Sherry (SENR)	29	June-July '11
Brazil	Alpha Zeta Partners Program: Economics, Rural Sociology, Agricultural Development, History	Dr. Jill Pfister (Academic Programs)	20	Jan.-Feb. '11
Chile	Agroecosystems	Dr. Doug Doohan (HCS)	9	Dec '10
China	Forestry Research	Dr. Roger Williams (SENR)	5	June '11
Costa Rica	Ecosystems, Sustainability	Paul Heimberger (Academic Programs)	10	Spring Break '11
Czech Republic	Economic Transitions	Kelly Koren (Academic Programs)	8	June-July '11
Dominican Republic	Economic Development	Dr. Joe Bonell (SENR)	13	Jan.-Feb. '11
England	Ornamental horticulture / turfgrass (2 tracks)	Dr. Pablo Jourdan Matt Williams (HCS)	14	August '11
Ecuador	Sustainable Agriculture	Dr. Emily Rhoades (HCRD) Kelly Koren (Academic Programs)	10	Dec '10
Europe	Equestrian Studies	Dr. Kimberly Cole, Kelly George (Animal Sciences)	17	March 2011
Ghana	Culture, Arts, Development	Dr. D Elder (ATI)	7	June-July '11
Iceland	Environment and Natural Resource Scholars	Susie Burks, Dr. Brian Slater (SENR)	10	June '11



Country	Focus Area	Resident Director	participants	Dates
Netherlands	Dairy Science	Dr. Maurice Eastridge (Animal Sciences)	10	June '11
New Zealand	Human and Animal Interactions	Dr. Steve Moeller, Kelly George, Jeanne Osborne, Dr. Henry Zerby (Animal Sciences)	34	Dec '10



*European Equestrian Study Abroad*

**Kelly Koren** serves as the CFAES Study Abroad Coordinator and holds a joint appointment with CFAES and the Office of International Affairs. Koren can be contacted at 688-4144, and @ [koren.10@osu.edu](mailto:koren.10@osu.edu). Learn more about the many opportunities for study abroad by visiting the website at <http://cfaes.osu.edu/studyabroad>

### Alpha Zeta Partners

In both January 2010 and 2011, approximately 20 students traveled to Brazil for the Alpha Zeta Partners study abroad program in the company of resident director **Dr. Jill Pfister**, Assistant Dean, CFAES. Alpha Zeta Partners is a professional honorary fraternity in the college of Food, Agricultural, and Environmental Sciences that focuses on leadership and professional development. Membership is highly selective. Each year the members have an opportunity for in-depth international study (6 weeks) in Piracicaba, Brazil. In this program, students explore the historical, institutional,

organizational, and individual leadership perspectives in a contemporary foreign society.

Learn more about Alpha Zeta Partners at <http://alphazetapartners.osu.edu>

### New SENR Study Abroad Program to China

In the summer of 2011, a new OSU undergraduate research/study abroad program commenced at the Guangxi Eco-Engineering Technical and Vocational Institute in China. Study abroad director **Roger Williams** (SENR) traveled with five undergraduate students to Guangxi China from June 17 – July 12, 2011. The undergraduate students participating in the program's first year were Carol Brown, **Shawn Stone**, **Jonathan Joo**, **Rachel Hefflinger**, and **Margaret Smyth**. The students developed two research projects with Williams in China. One project featured



*OSU Student Carol Brown works with Chinese students measuring tree diameters*

a bird census in mature eucalyptus, Chinese fir, and Masson pine forests, and examined the relationship between bird species and number with forest structure. The second project involved quantifying carbon stocks in eucalyptus, Chinese fir, and Masson pine forests, and determining the rate of carbon sequestration. Students receive undergraduate research credits for the program, including pre-trip credits in spring quarter for developing project proposals, and in autumn quarter for data analysis and summary.

### Study Abroad Scholarships

The Wolfe Study Abroad Scholarships Endowed Fund was established September 1, 1999 with a \$1 million gift from the Robert F. Wolfe and Edgar T. Wolfe Foundation. In 2009, John F. Wolfe presented another \$1 million gift to the university, which doubled the endowment. The financial support of these University-wide undergraduate scholarships has changed the lives of a growing number of students who have had the opportunity to participate in long-term study abroad programs.

Each year the Wolfe Study Abroad Scholarship recipients are honored at a recognition luncheon at the Faculty Club. At the May, 2011 luncheon, **John Wolfe** and **President E. Gordon Gee** congratulated the 32 recipients of the \$2,500 study-abroad scholarship. "This is one of the most uplifting days of the year for me, to see all these wonderful students and what they've accomplished," said John Wolfe. "I was fortunate when I was young to be able to go abroad, and it's a pleasure for us to help broaden students' educational experiences with the opportunity to study abroad."

The College had five recipients in the previous year (2009-2010), all majoring in animal sciences: **Elizabeth Carstensen** (Australia), **Samantha Delfing** (Brazil), **Drew Enigk**

(Australia), **Brittani Jones** (Brazil), **Catherine Shaw** (Australia), **Bethany Stammen** (Australia). There were no CFAES scholarship recipients in 2010-11. This program is administered by the OSU Office of International Affairs. Interested students are encouraged to learn more at <http://oia.osu.edu/grants-and-scholarships/undergraduates/352-wolfe-study-abroad-scholarship.html>.

Students with a strong desire to study abroad may wish to explore other international scholarships at OSU such as the Ralph D. Mershon Study Abroad Scholarship, The International Affairs Grant, the Sonkin-Bergman-Wasserman Families' Scholarship for International Understanding and Peace, and the Phyllis Krumm Scholarship. Information on these opportunities can be found on the OSU Office of International Affairs Webpage. See the OSU Foreign Language Center website for information on NSEP Boren Awards for International Study. OSU is among the top ten universities for Boren Fellowships, which focus on languages and geographic regions critical to US security. Visit the College of Food, Agricultural and Environmental Sciences Study Abroad Office for more information on scholarships for CFAES study abroad programs.



*TOP Intern Gabriel Moaes Costa at a bulb production facility in Oregon*

### The Ohio Program (TOP)

The International Programs in Agriculture TOP program is a unique provider of intern-



*Left to Right: TOPS Interns Lucja Korpysz in Washington State, Jan Willibald Petter in North Dakota, and Gabriel Moraes Costa in North Carolina*

ships in horticulture, agriculture, and turf-grass. In its 31 years of existence the program has placed more than 8000 international students in internships in the U.S. In 2010- 2011 the program achieved a 99% success rate in successful placement of interns; 405 intern/traineeships were provided to students from 48 countries. Countries that sent 5 or more interns through the program included Brazil (56), Ireland (42), Ukraine (37), China (36), Denmark (30), UK (29), Netherlands (23), Australia (20), Indonesia (18), Germany (14), Poland (12) Costa Rica (11), France (10), Hungary (8), and Romania (5). More recently, the program has begun to place US students abroad, particularly in golf course management. Last year, 8 US students were sent to the UK, the Netherlands, and Australia.

The high visibility of the TOP program and the success of its international interns have helped attract corporate sponsorship. Syngenta Corporation has generously supported the TOP turf grass seminar for 16 years and sponsored 27 students to attend the Ohio Florist Association Short Course in July 2010. Other sponsors included the Jacobsen Equipment Company, The Golf Course Superintendent's Association (GCSAA), and PT Greenfields/Indonesia. For the **TOP website** see <http://ohioprogram.org/>

### **International Students at OSU and in the College During the 2010-2011 school year**

The College of Food, Agricultural, and Envi-

ronmental Sciences had 223 international students, representing 4.1% of all international students at OSU (5,383). Countries sending 6 or more students to OSU-CFAES included China (86), India (22), Korea (18), Indonesia (12), Malaysia (9), Honduras (7), Taiwan (6), Brazil (6), and Thailand (5). The following countries were represented by 4 or fewer students enrolled in CFAES: Argentina, Bahamas, Canada, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Egypt, Guatemala, Ghana, Germany, Iceland, Iran, Ireland, Italy, Jamaica, Japan, Kenya, Libya, Mexico, Nepal, Panama, Peru, Philippines, Poland, Spain, Singapore, Tajikistan, Trinidad & Tobago, Turkey, Uganda, United Kingdom, Vietnam, and Zimbabwe.

### **The Peace Corps at OSU**

2011 is the 50th anniversary of the executive order signed by President John F. Kennedy that ushered in the Peace Corps and Kennedy's bold vision to recreate spreading and good the world by knowledge will. Since 1961, 1576 OSU graduates the Corps have served OSU ranks overall in producing Peace Corps volunteers nationwide.



Recruitment of Peace Corps volunteers has been coordinated through International Programs in Agriculture since 1974. Currently





*Peace Corp Volunteers David Bise teaching English in the Ukraine; Villagers in Tanzania; Volunteer Eilen Tateman with more villagers in Tanzania*

**Jack Campbell** serves as the OSU Peace Corps coordinator. Jack can speak first-hand to students of his experiences as a volunteer in Fiji and Botswana.

In the year 2010, 68 OSU alumni were in service to the Peace Corps. Forty OSU Alumni entered service during the 2010-2011 school year. Countries that the 68 volunteers worked in included Albania, Azerbaijan, Belize, Cameroon, Cape Verde, China, Costa Rica, Dominican Republic, Eastern Caribbean, Ecuador, El Salvador, Ethiopia, Ghana, Guatemala, Honduras, Jamaica, Kazakhstan, Kyrgyzstan, Lesotho, Macedonia, Madagascar, Malawi, Mali, Mexico, Moldova, Mozambique, Namibia, Nicaragua, Panama, Paraguay, Peru, Philippines, Romania, Rwanda, Senegal, Swaziland, Tanzania, Uganda, Ukraine, Vanuatu, and Zambia. The volunteers came from many different backgrounds and represented more than 40 different undergraduate majors; their educational credentials encompassed Business, Arts and Humanities, Science/Agriculture, Social Sciences, and Language. Skills that volunteers provided in their programs were highly diverse, including teaching English, Agricultural & Forestry Extension, Health & Hygiene Education, Community Service, Youth Development, Primary and Secondary Education, and Business Development. Service is open to any U.S. citizen 18 years or older and requires a 27-month commitment, including 3 months of intensive language, culture, program and safety training. Contact

[peacecorps@osu.edu](mailto:peacecorps@osu.edu) for more information.

### **Ohio State receives national recognition for Peace Corps commitment**

The United States Peace Corps presented a Distinguished Service Award to Ohio State on March 1, 2011 during a 50th Anniversary Commemorative Salute at the Ohio Union organized by Outreach & Engagement. The award honors Ohio State's 50 years of commitment to the Peace Corps and recognizes OSU "as a leader among universities for graduates entering into Peace Corps service." **Katie O'Connor**, regional manager of Peace Corps Chicago presented the award; accepting for Ohio State were Senior Vice President **Joyce Beatty** and OSU Medical Center CEO **Steven Gabbe**.



*OSU's first Peace Corps Volunteer, Judge Stephen Honore, speaking at the 50th Anniversary Commemorative Salute*

This award was the first presented to a college or university during the anniversary year in the 11-state region covered by the Peace Corps Recruitment office in Chicago.

Illustrious speakers at this Commemorative Salute included OSU **President Gordon E. Gee**, State Representative and former Peace Corps volunteer **Ted Celeste**, Former Gov-



ernor **Bob Taft**, Columbus Mayor **Michael Coleman**, and Judge **Stephan Honore**, OSU's first Peace Corps volunteer. Taft, Celeste, and Honore spoke about the lasting impact of their Peace Corps volunteer experience.

### **Ohio State-Zamorano Internship Program**

The First Symposium of Zamoranos in the US was organized by the OSU Zamorano Alumni Association and held May 21, 2011 at OARDC. The symposium featured a research poster exhibition and competition and highlighted the accomplishments of Zamorano University alumni working and studying in the US. The program drew 49 Zamorano alumni from nine Latin American Countries, currently working at four US Universities.

Zamorano University is a renowned agricultural university in Honduras that combines a rigorous education with hands-on learning. Zamorano sprung from the vision of Samuel Zemurray, who made millions in the Central America fruit export business before turning to an ambitious philanthropic project – an agricultural university to transform agriculture and livelihoods in Central America.

Since 2004, **Dr. Luis Cañas** (ENT), a graduate of Zamorano, has championed his own vision of bringing scholars from Zamorano University to the Wooster Campus for internships lasting 9 months to 1.5 years. Each year, Dr. Cañas receives 15-20 applications and selects 5-8. To date, OSU has hosted 43 Zamorano interns from 7 Latin America Countries (Honduras, Guatemala, Nicaragua, El Salvador, Bolivia, Ecuador and Dominican Republic). Eleven interns have continued on to OSU graduate School, and 12 have gone on to graduate Schools at other universities.

### **Ohio Youth Institute / Borlaug-Ruan Scholars and the Global Youth Institute**

The late **Dr. Norman Borlaug**, wheat breeder

and Nobel Peace Prize awardee whose work saved millions from hunger, was a strong advocate of youth. His vision for youth led to the **Global Youth Institute**, an annual event at the **World Food Prize** in Des Moines, Iowa. Each year at the Global Youth Institute, high school students from across the US have an opportunity to learn and interact with World Food Prize Laureates and international experts in world hunger.

Prior to the World Food Prize, the state-wide youth institutes are held, and the best students are selected to attend the annual Global Youth Institute. The state-wide coordinator of the Ohio Youth Institute is **Micki Zartman**, recipient of OSU's distinguished Service Award, founder of the Micki Zartman Scarlet and Gray Ag Day, and tireless promoter of both agriculture and OSU.

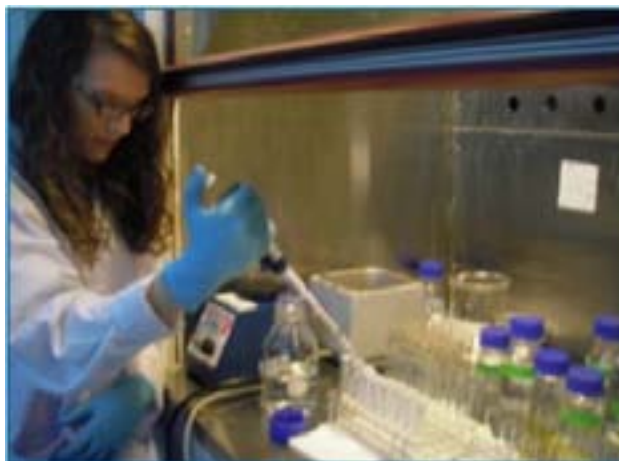


*Borlaug-Ruan Scholar Mary Isabella Esler at the World Vegetable Center in Hyderabad, India*

Forty-three Ohio high school students participated in the **8th Annual Ohio Youth Institute** held on the OSU campus September 16, 2011. The students attended with their high school teacher-mentors and gave presentations on global solutions to poverty and hunger. Students had the opportunity to tour Ohio State and hold discussions with fellow students, OSU faculty and staff.

Six Ohio youth were selected to attend the Global Youth Institute in October, 2011. Students who make it to the Global conference may in turn compete for the prestigious **Borlaug-Ruan International Internships** – all-expense paid, eight-week internships in leading research centers in Africa, Asia, Latin America, and the Middle East. Winners have not yet been selected for the 2012 program. In the previous year, (2011) a total of 18 international internships were awarded; three of the recipients were from the Ohio Youth Institute. In the summer of 2011, **Sarah Cox** (Zane Trace High School) spent her internship at the World Vegetable Center in Shanhua, Taiwan; **Mary Isabella Esler** (Upper Arlington HS) worked at the the World Vegetable Center in Hyderabad, India. **Elizabeth Roche** (Metro HS) went to the International Maize and Wheat Improvement Center in El Batan, Mexico, where Norman Borlaug, father of the Green Revolution, led the wheat breeding research program from 1963-1979.

Another outstanding participant in the Ohio Youth Institute, **Sara Watson** (Upper Arlington HS), was awarded a **Buckeye-Borlaugh Internship** to work at the World Agroforestry Center in Nairobi, Kenya. Two OSU undergraduate students also were awarded the Buckeye-Borlaug Internship at the World Agroforestry Center: **Dustin Homan** and **Amy Jo Frost**.



*Sara Cox working with African nightshade extracts in the lab at the World Vegetable Center in Shanhua, Taiwan*

High School Students interested in global hunger and **The Ohio Youth Institute** see [http://www.worldfoodprize.org/en/youth\\_programs/global\\_youth\\_institute/ohio/](http://www.worldfoodprize.org/en/youth_programs/global_youth_institute/ohio/)

## **VI. International Recognition**

### **Herbert Ockerman Awarded the 2010 Distinguished Diversity Enhancement Award**

**Herbert Ockerman** (Animal Science) received the Distinguished Diversity Enhance-



ment Award that recognizes individuals or groups who have demonstrated a significant commitment to diversity at Ohio State. In his 49 years at OSU he has encouraged scores of American students to study abroad. He has enhanced diversity at OSU by encouraging and advising 95 international graduate students and 86 post-doctorates from 35 countries. He keeps in touch with international alumni and promotes advances in his field through a daily listserv on meat industry news. For almost 30 years, he has been devoted to a personal philanthropy: collecting used books on nearly all fields of endeavor and donating them to students, schools, universities, and libraries all over the world. Ockerman ships about 36,000 books once or twice a year, funneling most through OSU alumni in distant lands. He has donated an estimated \$500 million in books (if purchased) to approximately 300 locations around the world.

### **Lal named University Distinguished University Professor**

**Rattan Lal** (SENR) was named an OSU Distinguished University Professor on April 22, 2011 by **President Gordon E. Gee**.

The great impact of Dr. Lal's research program on world agriculture was a key motivation for the award. In his remarks delivered while bestow-

ing the honor, Dr. Gee linked Lal's world-renowned program in carbon sequestration in soils and no-till agriculture to solving the problem of world hunger.



### **College of Food Agricultural, and Environmental Sciences Alumni Merit Awards**

**Fahri Yavuz** (M.S., Agricultural Economics, 1992; Ph.D. Agricultural Economics, 1994) Director of International Affairs at Ataturk University, Erzurum, Turkey, was awarded a 2011 International Alumni Award for his expertise in international affairs and administrative service to his university and the Turkish Ministry of Agriculture. Dr. Yavuz arrived on campus with a delegation from Ataturk University that met with OSU **President Gordon Gee**, Vice Provost for Global Strategies **William Brustein**, and **Alam Payind**, Director of the Middle East Studies Center to discuss further collaboration between their universities. Dr. Yavuz returned to OSU in the summer of 2011 to teach a course in CFAES.

**Yoo Yong Kim** (Ph.D., Agricultural Economics, 1992) was awarded a 2011 International Alumni Award for his contribution as an international expert in swine nutrition and pork production and for excellence in teaching. Dr. Kim is a Professor of Seoul National University, Korea and Associate editor-in-chief of the Australasian Journal of Animal Science. He is a member of the advisory committee for the Korean Ministry of Food, Agriculture, Forestry, and Fisheries. He has established swine research and instructional facilities in Korea that train individuals in swine management.

**Nanjing Forestry University honors SENR professor William Mitsch**

**William Mitsch** (SENR), Director of the Wilma H. Schiermeier Olentangy River Wetland Research Park, was honored with concurrent professorship at Nanjing Forestry University, Naging, China in May 2011. Mitch is an international expert in wetlands research; Nanjing University awards this honor to scientists of distinction in Nanjing's mission areas. He also received a 2010 Einstein Professorship from



the Chinese Academy of Sciences (see IPA 2009 report) and an honorary doctorate from the University of Tartu, Estonia in December, 2010.



## VII. International Visitors and Scholars

### Government of Malawi Delegation



A team of five senior staff members of Bunda College of Agriculture and the Government of Malawi visited the College of Food, Agricultural and Environmental Sciences on December 15, 2010. The delegation came to hold discussions with CFAES leadership and to study how the land-grant institution model may apply to Malawi. Bunda College and CFAES have signed a memorandum of agreement to foster collaborative efforts in teaching, research, and student/faculty exchange programs

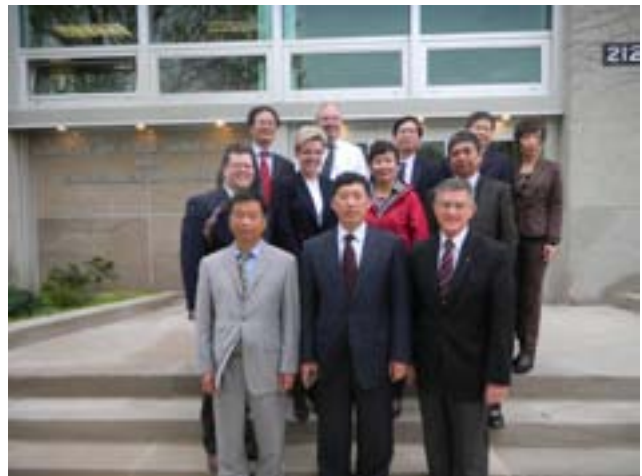
Members of the delegation included **Professor Moses Kwapata**, Principal, Bunda College of Agriculture; **Dr. Stanley Khaila**, Dean of Faculty of Development Studies; **Dr. William Mfitilodzi**, Dean of Faculty of Agriculture; **Mr. Michael Lwanda**, Principal Education Officer, Ministry of Education, Science and Technology; and **Dr. Alfred Mtukuso**, Director of Agricultural Research Services in the Ministry of Food and Agriculture. The host for the delegation was **Dr. Robert Agunga (ACEL)**, who was a Fulbright Scholar at Bunda College in 2008-2009 where he helped develop a new undergraduate curriculum in Agricultural Communication.

### Members of the French Consortium FESIA visit CFAES

**Dr. Christophe David** and **Dr. Stephane Brochier** visited the college on February 17, 2011 to

discuss the potential for future collaboration and student exchanges between FESIA and CFAES. FESIA is a consortium of four french universities: Group ESA-Angers, Il Purpan-Toulouse, Groupe ISA-Lille, and ISARA-Lyon. The FESIA consortium grants approximately 500 Master's degrees ("Diplome d'ingenieur") per year in the fields of Agriculture, Food Science, Environmental Management and Agribusiness. FESIA strongly emphasizes international experiences for its students and its faculty actively seek opportunities abroad for them. **Mark Erbaugh**, director of International Programs in Agriculture, hosted this visit to discuss future cooperative activities. The visitors also met with **Bill Randle** (formerly HCS) and **Dieter Wanner**, OSU Vice Provost and Director of the Office of International Affairs. A General Agreement for Academic Cooperation between CFAES and FESIA was signed after their visit.

### Delegation from Xinjiang Agricultural University



Seven delegates from Xinjiang Agricultural University, Urumqi City, China visited the College of Food, Agricultural and Environmental Sciences' Wooster and Columbus campuses April 25-26, 2011. The guests included the Vice President of Xinjiang University, **Wang Changxin**, Director of Academic Affairs, **Liu Weizhong**, and deans from several Xinjiang

colleges. During the visit, delegates met with **Dean Bobby Moser** and **Associate Dean Linda Martin** to discuss graduate and undergraduate education and program administration. This group was hosted by **Jeff LeJeune**, Food Animal Health Research Program (FAH-RP). LeJeune has established research collaborations with researchers at XAU.

#### **Dr. Dennis Garrity visits CFAES**

**Dr. Dennis Garrity**, CEO of the World Agroforestry Centre (ICRAF) and OSU Alumnus (B.S., Agriculture) visited OSU in July, 2010, and gave an invited presentation on "Partnerships for Creating an Evergreen Agriculture in Africa for Food Security and Environmental Resilience." Dr. Garrity is an agronomist and expert in sustainable agroforestry systems in the developing world.

#### **Addul Biswas visits the OSU Waterman Farm**



*Bangladesh Minister Biswas with Mark Erbaugh at the Waterman Farm*

Mr. Abdul Latif Biswas, Fisheries and Live-stock Minister of Bangladesh, visited Ohio State University Waterman farm in August 2010. He was hosted by **Mark Erbaugh** (IPA), **Rafiq Islam** (SENR) and **Tony Nye** from the Ohio Department of Agriculture. Minister Biswas was very interested in the Jersey dairy

cows at the farm. He expects that the Jersey breed of dairy cows, which are relatively small in stature, to be an excellent fit for Bangladesh production. During his visit he negotiated with USDA staff to acquire Jerseys for Bangladesh farmers.

#### **OSU/USDA Norman E. Borlaug Fellows travel to World Food Prize.**

Four Borlaug fellows came to the OSU main campus as visiting scholars in the fall of 2011.



For the first week of their fellowship program, **Enrique Delgado**, **Narendra Lenka**, **Nikolina Rusenova**, and **Fallou Sarr** attended

a special program for USDA Borlaug Fellows that is held each year at the World Food Prize Symposium in Des Moines Iowa. **Mary Ann Rose** (IPA) traveled to Des Moines to meet with the scholars and attend the symposium.



*Borlaug Fellow Narendra Lenka with the daughter and granddaughter of Norman Borlaug at the World Food Prize, October, 2011 in Des Moines,*

**2011 Norman E. Borlaug and Global Alliance International Fellows at OSU**

**Mohd Saufi Bastami**, Research Officer at the Malaysian Agricultural Research and Development Institute, Malaysia. Mohd Bastami worked with **Zhontang Yu** (ANSCI) in April-June 2011 on mitigation of methane production by ruminal cultures using herbs and denitrifying bacteria.

**Juliet Goldsmith**, Manager & Rest Risk Analyst in the Ministry of Agriculture and Fisheries, Jamaica. In May-June, 2011, Goldsmith worked with both **Luis Canas** (ENT) on the Wooster campus of OSU and **Cal Welbourn** at the University of Florida to develop technical expertise in pest



survey design and the collection and identification of mite species.

**Dr. K. Ramesh**, Senior Scientist, Indian Institute of Soil Science, Bhopal, India. Ramesh worked with **Rafiq Islam** (SENR) at OSU South Centers in July-September 2011 on studies with organo-zeolitic mixtures for enhancing crop nutrient use efficiency.



**Dr. Narendra Kumar Lenka**, Senior Scientist, Indian Institute of Soil Science, Bhopal, India. Narendra Lenka

worked with **Rattan Lal** (SENR) from October 2011-January 2012 on soil moisture dynamics and modeling.

*Narendra Lenka (right) in the field and Aditya Pratap (below) in the Laboratory*



**Dr. Aditya Pratap**, Senior Scientist in Plant Breeding at the Indian Institute of Pulses Research, Kanpur, India. Aditya Pratap worked with **Leah McHale** (H&CS) in March-April 2011 on the molecular breeding of mungbean with special emphasis on marker-assisted breeding, high throughput sequencing and the use of bioinformatics.

**Fallou Sarr**, Researcher, Institut de Technologie Alimentaire, Dakar, Senegal. Fallou Sarr worked with **Steven Schwartz** (FST) from October – December, 2011 on the effects of processing and storage on bioactive lycopene from different varieties of tomato.



*Fallou Sarr with Karen Uetrecht, USDA/FAS*

**Nikolina Rusenova**, Assistant Professor, Trakia University, Stara Zagora, Bulgaria. Nikolina Rusenova worked with **Wondwossen Gebreyes** (Veterinary Preventive Medicine) from October – December 2011 on conventional and molecular characterization of selected bacterial pathogens.



**Enrique Jesus Delgado Suarez**, Associate Professor, Universidad Nacional Autónoma de México, Mexico City, Mexico. Enrique Jesus Delgado Suarez worked with **Wondwossen Gebreyes** (Veterinary Preventive Medicine) from October – December 2011 on the identification and molecular characterization of food borne pathogens with emphasis on pathogens from meat and meat products.



*Nina Rusenova and Enrique Delgado Suarez in Wondwossen Gebreyes' laboratory*



**Table 3. CFAES Borlaug / Global Alliance Fellows and Fulbright Scholars 2010-2011.**

<b>Fellow</b>	<b>Institution</b>	<b>Country</b>	<b>Mentor/Host</b>	<b>Department</b>
<b>Borlaug and Global Alliance Fellows</b>				
Dr. Aditya Pratap	Indian Institute of Pulses Research	India	Leah McHale	HCS
Ms. Juliet Goldsmith	Ministry of Agric. & Fisheries	Jamaica	Luis Canas	ENT
Dr. K. Ramesh	Indian Instit. Soil Sciences	India	Rafiq Islam	SENR
Dr. Narendra Lenka	Indian Instit. Soil Sciences	India	Rattan Lal	SENR
Mr. Enrique Delgado	Autonomous Univ. Mexico	Mexico	Wondwossen Gebreyes	Veterinary Prev. Med.
Ms. Nikolina Rusenova	Trakia Univ.	Bulgaria	Wondwossen Gebreyes	Veterinary Prev. Med.
Mr. Fallou Sarr	Instit. Food Technol.	Senegal	Steven Schwartz	FST
Mr. Mohd Bastami	Malaysian Agric. Res. and Dev. Instit.	Malaysia	Zhongtang YU	ANSCI
<b>Fulbright Scholars</b>				
Professor Oguz Can Turgay,	Ankara University	Turkey	Richard Dick	SENR
Dr. Zoran Popovski	SS. Cyril and Methodius University	Macedonia	McDonald Wick	ANSCI
Oscar Burbano Figueroa		Colombia	Thomas Mitchell	PPATH

## VIII. CFAES Memoranda of Agreement 2011

Institution	Country
Signed Agreements	
Guangxi Eco-Engineering Technical and Vocational Institute	China
Univerisidade Do Estado De Santa Catarina (UDESC)	Brazil
FESIA Consortium: Groupe ESA-Angers, El Purpan-Toulouse, Groupe ISA-Lille, ISARA-Lyon France	France
The Robert H. Smith Faculty of Agriculture, Food and Environment, Hebrew University	Israel
Pending Agreements	
The Republic of Iceland (University level)	Iceland
Sokoine University of Agriculture	Tanzania
Federal University of Viçosa	Brazil
Egerton University	Kenya
Empresa de Pesquisa Agropecuária e Extensão Rural de Santa Catarina (EPAGRI)	Brazil
Universidad de Sao Paulo(Brazil) and Pontifica Universidad Catolica de Chile	Brazil Chile

## IX. International Visitors and Scholars

Country	Visitor or Scholar	Institution, if known
Argentina	Marina Bok	CICV, INTA
Argentina	Enrique Louge-Uriarte	CICV, INTA
Argentina	Celina Vega	CICV, INTA
Brazil	Vivian	UNICAMP
China	Dong Bin	Wuhan Univ.
China	Anping Chen	Jinan Univ.
China	Chen	Xian Jiaotong Univ.
China	Jizhang Huang	Chinese Acad. Agric. Sciences
China	Guo-Mei Jia	China Three Gorges Univ.
China	Feng Li	Harbin Medical Univ.
China	M. Lui	
China	Yang Mei	Guangxi Univ.
China	Hui Wang	China Agric. Univ.
China	Zongzhao Yang	Hangzhou Univ.
China	Zhenwen Zhang	
China	Lijun Zhao	Guangxi Univ.
Colombia	Yira Lucia Sepulveda Pulgarin	Univ.of Colombia
Costa Rica	Nancy Huarachi Morejón	Earth Univ.
Czech Republic	Alena Kobelkova	
Egypt	H. Yehia	
Ethiopia	M. Gelaw	
Ethiopia	Tadele Seifu	Addis Ababa Univ.
Ethiopia	Dr. Zufan Worku	Addis Ababa Univ.
France	Ms. Debora Liabeuf	National Instit. of Hort. and Landscaping
Germany	A. Lenz	
Germany	Dr. Christine Siegismund	
Iceland	G. Gisladdottir	

## International Visitors and Scholars, Cont'd

Country	Visitor or Scholar	Institution, if known
India	O.M. Aishwath	
India	K. Bandyopadhyay	
India	Kuldeep Chattha	
India	D. R. Choudhary	Central Salt and Marine Chemicals Res. Instit.
India	A. Datta	
India	Meharban Singh Kahlon	Punjab Agric. Univ.
India	M.S. Kahlon	
India	Sukumar Kandasamy	
India	Maninder Kaur Khosa	Punjab Agric. Univ.
India	M.K. Khosa	
India	Sheshu Maganti	Directorate of Rice Res.
India	H.P. Maheswarapp	
India	Praveen Mamidala	Hyderabad Central Univ.
India	Amina Patra	West Bengal Univ. Animal and Fishery Sci.
India	Chetan Singla	Punjab Agric. Univ.
India	C. Singla	
India	V. Srinivasan	
India	S. Veersamy	
Indonesia	Tantan Wiradarya	Univ. Suska Riau
Italy	Vito Martella	Univ. of Bari
Italy	Pierfrancesco Pinto	Univ. of Bari
Japan	Shin Goto	Osaka City Univ.
Japan	Tomoko Ikeno	Osaka City Univ.
Japan	Yoshitake Okada,	Sakata Seed Corp.
Japan	Sayaka Takanashi	
Kenya	Joshua Amimo	Univ. of Nairobi
Kenya	Rarin Ole Sein	Rimpa Estates



## International Visitors and Scholars Cont'd

Country	Focus Area	Institution, if known
Korea	Songhee Han	Chonnam National Univ.
Korea	Juyeon Park	Chonnam National Univ.
Lebanon	Malak Esseili	
Malawi	Stanley Khaila	Bunda College of Agriculture
Malawi	Moses Kwapata	Bunda College of Agriculture
Malaysia	Gunilla Bech-Nielsen	Malaysian Agric. Res. Dev. Instit.
Nicaragua	Baleshka Brenes Mayorg	Zamorano Univ.
Norway	B.R. Singh	
Norway	O. Vilmindardotir	
Philippines	Ms. Marianne Bautista	Univ. of the Philippines
Senegal	Mateugue Diaue	Univ. Gaston Berger
Spain	Mr. Manuel Fernandes	Estacion Experimental del Zaidin
Tanzania	Isaac Kashoma	Sokoine Univ. of Agric.
Tanzania	Redovick Kazwala	Sokoine Univ. of Agric.
Turkey	Aykut Gul	Osmaniye Korkut Ata Univ
Turkey	Derya Lucel	Plant Protection Res. Inst.
Turkey	I. Ortas	
Turkey	Celex Yucel	Gukurova Agric. Instit.
UK	Jennifer Dungait	Rothamsted Res.Center
UK	Alessandra Faggian	Univ. of Southampton

## X. International Scholarly Presentations

DEPT	PRESENTER	COUNTRY	TITLE
AEDE	C.González-Vega	Perú	El futuro de las microfinanzas. Consideraciones preliminares
AEDE	D. Kraybill	Tanzania	General Equilibrium Modeling of the Kilimanjaro Economy
AEDE	M. Miranda	Colombia	Course on Computational Economic Dynamics
AEDE	M. Miranda	Costa Rica	Systemic Risk, Index Insurance, and Agricultural Contracting in Developing Countries
AEDE	M. Miranda	Italy	Agricultural Index Insurance and Weather Derivatives
AEDE	M. Miranda	Italy	Overview of Computational Techniques for the Analysis of Dynamic Economic Models
AEDE	M. Miranda	Mexico	Survey of Modern Portfolio Theory
AEDE	M. Miranda	Mexico	Introduction to Computational Economics
AEDE	M. Miranda	Mexico	El-Nino Southern Oscillation Index Insurance for Peruvian Agriculture
AEDE	M. Miranda	South Africa	Review of Conference Findings
AEDE	M. Miranda	South Africa	Systemic Risk, Index Insurance and Optimal Management of Agricultural Loan Portfolios in Developing Countries
AEDE	M. Partridge	Hungary	North American Regional Dynamics in a 21st Century of Climate Change
AEDE	M. Partridge	Hungary	International Immigration and Domestic Out-Migrants: Are Domestic Migrants Moving to New Jobs or Away from Immigrants?
AEDE	M. Partridge	Peru	Place-based Policy and Identifying Spatially Heterogeneous Effects
AEDE	M. Partridge	Spain	Dwindling U.S. Internal Migration: Evidence of a Spatial Equilibrium?
AEDE	M. Partridge	Sweden	Cultural avoidance and internal migration in the USA: Do the Source Countries Matter?
AEDE	M. Partridge	Sweden	The Downfall of American Migration
AEDE	M. Partridge	Netherlands	International Immigration and Domestic Out-Migrants: Are Domestic Migrants Moving to New Jobs or Away from Immigrants?
AEDE	M. Partridge	UK	Creating an environment for economic growth: human capital, creativity and entrepreneurship in the USA
AEDE	M. Partridge	UK	Dwindling U.S. Internal Migration: Evidence of a Spatial Equilibrium?
AEDE	B. Roe	Germany	The Role of Trust and Risk Aversion in Farmers' Used Machinery Transactions
AEDE	I. Sheldon	Canada	Climate Policy, Carbon Tariffs and Trade

## International Scholarly Presentations Cont'd

DEPT	PRESENTER	COUNTRY	TITLE
AEDE	B. Sohngen	Japan	Economics of Forestry Carbon Sequestration and REDD.
AEDE	B. Sohngen	Japan	The implications of Carbon Markets for Global Timber Trade
AEDE	D. Southgate	Canada	National Interests, Multinational Actors, and Petroleum Development in the Ecuadorian Amazon
AEDE	S. Thompson	Brazil	"Structural change in Agriculture: Modeling Policy Impacts"
AEDE	S. Thompson	Germany	"Regional Effects of the Fischler-Reforms on the European Calf Market"
AEDE	S. Thompson	Germany	"Payment Decoupling and the Intra-European Calf Trade"
AEDE	S. Thompson	Germany	"Structural Change in European Calf Markets: Policy Decoupling and Movement Restrictions"
AnSci	M. Day	Brazil	Development of the 5 d CO-Synch+CIDR Program. Enhanced Fertility and Convenience?
AnSci	J. Firkins	Brazil	Reconsidering rumen microbial consortia to enhance feed efficiency and reduce environmental impact of ruminant livestock production systems.
AnSci	J. Firkins	Canada	Matching Quantity and Quality of Protein Sources with Rumen Bacterial Requirements.
AnSci	J. Firkins	Costa Rica	Feeding protein to dairy cows.
AnSci	J. Firkins	Costa Rica	Nutrition and reproduction interactions in cattle.
AnSci	J. Firkins	Costa Rica	Feeding fat to dairy cows.
AnSci	J. Firkins	Costa Rica	Effective fiber and non-structural carbohydrates for dairy cattle.
AnSci	J. Firkins	Costa Rica	Nutrition and reproduction interactions in cattle.
AnSci	F. Fluharty	Chile	Development of an integrated market research, transportation logistics, and animal management feasibility study for a branded, Aysen meat program
AnSci	J. Hogan	New Zealand	Environmental mastitis.
AnSci	H. Ockerman		56th ICoMST, South Korea
AnSci	W. Weiss	Belgium	Feed cost controls
AnSci	W. Weiss	Canada	Antioxidant for dairy cattle
AnSci	W. Weiss	Canada	Does nutrition affect immunity and mastitis
AnSci	Z. Yu	Thailand	The Study of Ruminant Microorganisms ecology by Using Molecular Technique
AnSci	H. Zerby	Chile	Improved Meat Quality for Patagonia Grass-based Beef and Sheep Programs
ENT	P. Grewal	India	Research without boundaries: An ecosystem to molecule approach
ENT	P. Grewal	Thailand	Local self-reliance as an organizing principle for addressing global challenges: the role for agricultural sciences

## International Scholarly Presentations Cont'd

DEPT	PRESENTER	COUNTRY	TITLE
ENT	P. Grewal	Thailand	Molecular mechanisms of symbiosis and virulence of entomopathogenic nematodes and bacteria
ENT	P. Grewal	Thailand	Entomopathogenic nematodes and bacteria and emerging model systems in biological sciences
ENT	R. Hammond	Wales	Conservation Tillage, Field Crops, and Slugs in North America
ENT	D. Herms	Germany	Resource allocation trade-offs and the evolutionary ecology of optimal plant defense.
ENT	O. Mittapalli	India	Transcriptomics to decipher insect-plant interactions
ENT	O. Mittapalli	India	Functional genomics to study insect-plant interactions.
FABE	A. Christy	China	Using wastes to produce electricity with Microbial Fuel Cells
FABE	Y. Li	China	Emerging Technology for Production of Bioenergy and Biomaterials
FABE	Y. Li	China	AD Integrated Algae Production System
FABE	Y. Li	China	Bioenergy, Biofuels and Bioproducts
FABE	K. Mancl	China	Sand Biofilter Reactor
FABE	K. Mancl	China	Biofilms and Wastewater Treatment
FABE	J. Martin	Canada	Transforming Anaerobic Digestion with the 'Model T' of digesters
FABE	J. Martin	Colombia	Metodos Sostenibles de Escorrentia en Zonas Urbanas
FABE	J. Martin	Colombia	Ecological Engineering Approaches to Storm water Management
FABE	J. Martin	Colombia	Mi Trabajo en Ingenieria Ecologica
FABE	F. Michel	Greece	Effect of Loading Rate on Anaerobic Digester Reactor Performance and Stability
FABE	F. Michel	Greece	Fate of Clopyralid and Aminopyrachlor Herbicides during Yard Trimmings Composting
FABE	E. Ozkan	Uruguay	Drift in terrestrial and aerial applications: causes, quantification methods, drift control, drift simulation softwares
FABE	E. Ozkan	Uruguay	Effect of application equipment on deposition efficiency of pesticides in soybean and wheat canopies
FAHRP	Renukaradhya	India	Mucosal vaccine to protect against porcine reproductive and respiratory syndrome: a new perspective
FAHRP	Renukaradhya	Japan	Mucosal vaccine to protect against porcine reproductive and respiratory syndrome: a new perspective
FAHRP	L. Saif	Argentina	Efficacy testing of vaccines for enteric infections: Correlates and concerns for mucosal vaccines
FAHRP	L. Saif	India	Enhancement of rotavirus vaccines in a neonatal gnotobiotic piglet disease model for infants in developing countries



## International Scholarly Presentations Cont'd

DEPT	PRESENTER	COUNTRY	TITLE
FAHRP	L. Saif	Taiwan	Noroviruses in swine: Epidemiology, relatedness to human noroviruses and in a pig model of human norovirus infection
FAHRP	Q. Wang	Chile	Characterization and prevalence of new porcine caliciviruses in US swine
FoodSci	M. Giusti	Brazil	Monitoring authenticity of commercial juices by infra-red spectroscopy
FoodSci	M. Giusti	Brazil	Quantification of Soy Isoflavones in Commercial Eggs and Their Transfer from Poultry Feed into Hen Eggs and Tissues
FoodSci	M. Giusti	Chile	Selected anthocyanins are stable in the digestive tract: A kinetic study of black raspberry anthocyanins in rat stomach and intestine
FoodSci	M. Giusti	Chile	Anthocyanins, the healthy colors of foods
FoodSci	K. Lee	South Africa	Food safety in the United States
FoodSci	K. Lee	South Korea	National Food Safety Clusters in the United States
FoodSci	K. Lee	South Africa	Roundtable discussion on Higher Education
FoodSci	Yael	Korea	Functional Food Research at The Ohio State University
HCS	K. Danneberger	Austria	Effects of low light conditions on turfgrass growth
HCS	K. Danneberger	Austria	Plant Growth Regulators
HCS	K. Danneberger	Czech Republic	New Technologies for turfgrass management
HCS	K. Danneberger	Czech Republic	Putting Green Management
HCS	K. Danneberger	Germany	Plant Growth Regulators
HCS	K. Danneberger	Italy	Turfgrass Ecology
HCS	K. Danneberger	Italy	Impact of Shade on Turfgrass Growth
HCS	K. Danneberger	Slovenia	Impact of Shade on Turfgrass Growth
HCS	K. Danneberger	Slovenia	High Temperature Stress Injury on Turfgrasses
HCS	K. Danneberger	Slovenia	Turfgrass Ecology
HCS	D. Francis	Spain	Next generation sequencing of the tomato transcriptome.
HCS	JC Jang	Japan	P-body and stress granule localized AtTZF1 can mediate plant development and hormone responses.
HCS	J.C. Jang	China	P-body and stress granule localized AtTZF1 can mediate plant development and hormone responses
HCS	J.C. Jang	Japan	P-body and stress granule localized AtTZF1 can mediate sugar, ABA, and GA responses
HCS	J.C. Jang	Taiwan	P-body and stress granule localized AtTZF1 can mediate plant development and hormone responses
HCS	M. Loux	Brazil	Glyphosate resistance issues
HCS	E. Stockinger	Norway	Structural and regulatory features of barley CBF genes at Frost Resistance-2 in relation to freezing tolerance and VRN-1 allelic states

## International Scholarly Presentations Cont'd

DEPT	PRESENTER	COUNTRY	TITLE
HCS	R. Sulc	Brazil	Integrated Crop-Livestock Systems in the United States.
HCS	E. van der Knaap	Argentina	The role of the tomato fruit shape gene SUN in vegetative and reproductive development.
HCS	E. van der Knaap	Argentina	Discovery of Genes and Networks Regulating Tomato Fruit Morphology
HCS	E. van der Knaap	Argentina	Diversity in tomato fruit shape: identification of the underlying mechanisms controlling morphological variation
HCS	E. van der Knaap	Germany	Identification of the molecular mechanisms underlying tomato fruit morphology
HCS	E. van der Knaap	Netherlands	Genetic and phenotypic diversity of domesticated plants
HCS	E. van der Knaap	Scotland, UK	Classification of tomato varieties based on fruit shape category, fruit shape genes, germplasm class and genotype
HCS	E. van der Knaap	United Kingdom	Identification of the molecular mechanisms underlying tomato fruit morphology
HumComRes	J. Thomas		Creating Self-Learning Environments
HumComRes	R. Agunga	Malaysia	The role of extension communication in turning smallholder farmers in Malaysia into agro-entrepreneurs
HumComRes	R. Agunga	Canada	Making extension relevant for the 21st century: A communication perspective
IPA	J.M. Erbaugh	Canada	Implications of Gender and Context on the Design of IPM Programs for Tomato Growers in East Africa
OSUE Admin	R. Horton	Kenya	Advancing 4-H Youth Development and Agricultural Science Programming in Sub-Saharan African Countries.
OSUE-Com Dev	R. Fisher Merkowitz	Germany	Celebrating Diversity through Leadership
OSUE Co	T. Gabriel	Canada	Effective Lake Erie Education and Outreach: The Aquatic Visitors Center at Put-in-Bay, Ohio.
OSUE Co	J. Hoorman	Canada	Soil Ecology, Nutrient Recycling, Biology of Soil Compaction with Cover Crops
OSUE Co	J. Hoorman	Canada	Soil Ecology, Biology of Soil Compaction, Cover Crop Selection
PPATH	L. Madden	Brazil	Contemporary approaches to forecasting Fusarium head blight of wheat: The cost of decision making
PPATH	L. Madden	China	Contemporary approaches to plant disease forecasting: A case study with Fusarium head blight of wheat.
PPATH	B. McSpadden	South Korea	Marker-Assisted Selection to Focus Bioprospecting Efforts: Focus on Biopesticide Development
PPATH	B. McSpadden	South Korea	Microbial Community Analysis for Health Soils

## International Scholarly Presentations Cont'd

DEPT	PRESENTER	COUNTRY	TITLE
PPATH	B. McSpadden	South Korea	Changing views of biological control and plant health promotions: Implications for biopesticide development
PPATH	S. Miller	Bangladesh	IPDN in South Asia: Plans for Bangladesh
PPATH	S. Miller	Guatemala	Biology and Management of Tomato Bacterial Canker.
PPATH	S. Miller	Guatemala	Overview: Goals and Expected Outcomes.
PPATH	S. Miller	Guatemala	IPDN Phase II Objectives
PPATH	S. Miller	India	IPDN in South Asia: Plans for India
PPATH	S. Miller	India	The International Plant Diagnostic Network (IPDN): Improving Capacity for Diagnosing Diseases
PPATH	S. Miller	Kenya	Diseases of Tomatoes in Protected Culture.
PPATH	S. Miller	Kenya	IPDN and Virus GTs: The Common Denominator.
PPATH	S. Miller	Mexico	Biology and Management of Tomato Bacterial Canker.
PPATH	S. Miller	Nepal	IPDN and Virus Global Themes in South Asia: Plans for Nepal
PPATH	S. Miller	India	Tomato Canker and the Impact of Grafting on the Disease
PPATH	S. Miller		Enhancing Trade in Horticultural Crops through Food Safety and Phytosanitary Measures
PPATH	T. Mitchell	China	ChIP-chip and other whole genome approaches to understanding fungal genomes
PPATH	T. Mitchell	China	New model of calcium mediated signal transduction in fungal pathogens
PPATH	T. Mitchell	China	Using whole genome approaches to understand fungal biology and virulence
PPATH	T. Mitchell	China	Comparative genome analysis of two field isolates of the rice blast pathogen
PPATH	G. Wang	China	Molecular mechanism of rice and Magnaporthe oryzae interactions
PPATH	G. Wang	China	Conserved Functions of SPL11/PUB13 in the Regulation of Cell Death and Defense Response in Rice and Arabidopsis
PPATH	G. Wang	China	Novel functions of a fungal effector and a RING E3 ligase in the rice and Magnaporthe oryzae interaction
SENR	R. Wilson		Are public preferences for gray wolf management subject to risk-driven biases in information processing?
SENR	N. Basta	USA	Predicting Trace Element Bioavailability in Contaminated Soils.
SENR	P. Goebel	Portugal	How important are riparian forests to aquatic food-webs in agricultural watersheds of north-central Ohio, USA?
SENR	R. Lal	Argentina	Characterization of soil organic matter
SENR	R. Lal	Austria	Mulch farming for agroecosystems

## International Scholarly Presentations Cont'd

DEPT	PRESENTER	COUNTRY	TITLE
SENR	R. Lal	Brazil	Soil gaseous flux and applications of biosolids
SENR	R. Lal	Chile	Soil conservation and restoration for mitigating climate change
SENR	R. Lal	China	Soil carbon sequestration and climate change
SENR	R. Lal	Egypt	Mitigating climate change by combating desertification
SENR	R. Lal	Germany	Soil and land use
SENR	R. Lal	India	Soils and Climate
SENR	R. Lal	Israel	Albedo effects of afforestation for desertification control and climate change
SENR	R. Lal	Japan	Managing soils for advancing food security in Africa and South Asia
SENR	R. Lal	Mexico	Carbon sequestration in agricultural systems as a strategy to mitigate climate change
SENR	R. Lal	Spain	Carbon sequestration in agricultural and forest ecosystems
SENR	R. Lal	Spain	Dual response of conservation agriculture to climate change: reducing CO <sub>2</sub> emissions and improving the soil C sink
SENR	W. Mitsch	Botswana	The role of wetlands in carbon cycling and climate change
SENR	W. Mitsch	Botswana	Three Gorges Dam pool in southwestern China: An opportunity for enhancing ecosystem services of new floodplains
SENR	W. Mitsch	Canada	Ecosystem services of wetlands in an energy-limited future
SENR	W. Mitsch	China	Ohio State University's Ramsar Wetland of International Importance: Creating wetlands for teaching, research, urban ecotourism and saving the planet
SENR	W. Mitsch	China	Saving the planet in an energy-limited future
SENR	W. Mitsch	China	Wetlands as the lost carbon sink?
SENR	W. Mitsch	Sweden	Pollution control, carbon sequestration, and other ecosystem services of wetlands
SENR	W. Mitsch	Sweden	A new future for public water supply management?
SENR	W. Mitsch	Sweden	Water Future Challenges – How Can Science Contribute? The Global Perspective
SENR	W. Mitsch	China	Ohio State University's Ramsar Wetland of International Importance: Creating wetlands for teaching, research, urban ecotourism and saving the planet
SENR	R. Moore		Farmer Back to Farmer in the Sugar Creek Project. In the Culture and Agriculture Section Invited Panel: The Heights and Depths of Putting People First: A Tribute to the Work of Robert Rhoades
SENR	R. Mullen	Canada	Sensor-based algorithm approaches for nitrogen management.



## International Scholarly Presentations Cont'd

DEPT	PRESENTER	COUNTRY	TITLE
SENR	R. Mullen	Canada	Corn nitrogen strategies for the next decade
SENR	A. Rodewald	Brazil	Understanding demographic and behavioral mechanisms that drive avian responses to urbanization.
SENR	A. Rodewald	Brazil	Roundable Discussion - Frontiers in urban ecology
SENR	M. Sullivan	Lithuania	Habitat-Geomorphic Linkages in Streams and Rivers
SENR	M. Sullivan	Lithuania	Learning from the Past: An Ecolinguistic Approach to Reconstructing and Predicting Biocomplexity in Lithuanian Watersheds