Message from the Director - *Building Walls or Building Bridges?*

It has been nearly two years since the events of 9-11 transformed life in this country. We are still adjusting to the changes which that day brought us. Airport security, color-coded terrorism alerts, increasingly complex immigration and visa rules, and a host of other daily reminders are never far away. Our work in Purdue’s office of International Programs in Agriculture (IPIA) is often impacted by a new reality of last minute cancellations of international visitors, international student “no shows,” visa problems for traveling faculty and students, difficulties in shipping research and teaching materials to international partners, and other inconveniences. These are all part of the price we pay as we seek a safer, more secure world.

An important question arises in this regard: What is the role of a great university as a contributor to global security? Some look to science and education as tools to serve the security agenda through the development of new technologies to protect our citizens and our way of life. But is this really our principal and most relevant contribution? We must ask these questions: Are we doing our best when we devote energy to building higher walls to assure a safer, more secure nation and world? Is there another way in which we can deploy our unique institutional capacity to serve the goal of a more peaceful and secure world?

I would argue that national security, in the context of what a university does best, is more directly linked to building bridges than to building walls. Our work in IPIA, at its core, is about building bridges – bridges of understanding, of common scholarly interests, of tolerance, of shared scientific insight, of human kindness – that connect people around the world. Through our work, the community of scholarship that we call the School of Agriculture does its part to assuring national security and a more peaceful world by connecting people to one another.

As you read the articles that follow, you will learn what we have done during the past year to use our gifts and skills as bridge builders to make the world a better place.

David J. Sammons, Director

Research and Development Cooperation

*International research contributes to global science and benefits both Indiana citizens and people around the world.*

*With administrative support from International Programs in Agriculture, Purdue’s School of Agriculture has been actively involved during the past year in multiple research and development efforts that serve these goals.*

*China.* IPIA-led programs in China, supported in part by a gift from Professor emeritus John Tse, continue to thrive. Tse’s gift supports a unique partnership with the Beijing office of the Winrock International Institute for Agricultural Development, a private non-profit organization devoted to global development and poverty alleviation. This partnership provides Purdue Agriculture with a permanent, credible presence in China that has enabled us to multiply the original gift several fold by leveraging funds to support numerous activities which are presented below.

- Animal Sciences/IPIA completed the third year of a swine nutrition-training program funded
Purdue is a founding member of the consortium of U.S. Universities and Institutes in Cooperation with China for Agriculture (UCCA). This group facilitates joint activities in science and education among a group of leading American and Chinese universities. The consortium met in Yangling, a city in western China, in November to work on the appropriate roles for higher education partnerships in the development of western China. UCCA delegates also participated in the 9th China Yangling Agricultural Hi-Tech Fair with poster presentations about the consortium partners. Consortium members will continue their discussions at a meeting in Houston in October 2003.

The director of IPIA joined Scott Abney, USDA-ARS Department of Botany and Plant Pathology, in Heilongjiang Province in late October 2002. They met with a local seed company, research plant pathologists at Heilongjiang Agricultural Institute, senior agricultural leaders in the province, and faculty at Northeast Agricultural University to explore common interests and pursue exchange opportunities principally focused on soybean germplasm.

Purdue, through the USDA National Soil Erosion Research Laboratory located on the West Lafayette campus, participated in the creation of a joint U.S. Chinese Center for Soil and Water Conservation and Environmental Protection which was inaugurated in May 2002 in Yangling. A second joint laboratory will focus on sustainable grassland management and is slated to open in November 2003.

**Afghanistan.** The School of Agriculture, working closely with Purdue’s schools of Engineering, Technology, and Education, is part of a campus-wide effort to contribute to the strengthening and redevelopment of higher education in Afghanistan. Purdue Agriculture’s role will focus on competency-based curriculum development efforts to assist the Faculty of Agriculture at Kabul University. In addition, we have been engaged in discussions with Kabul University to reconstruct the university’s research farm to contribute to its research, education, and outreach missions. Three Kabul University agricultural faculty members visited Purdue’s School of Agriculture in late spring as part of this effort, which also included training in the use of computers for educational purposes. About 400 lbs. of teaching materials, contributed by faculty in the School of Agriculture, were shipped to Kabul University during the spring. Partial support for this effort has come through a grant from USAID and a gift from Purdue alumna Martha Smith and her husband, Phil Smith.

**Middle East and North Africa Water Resources Activities.** Purdue Agriculture is increasingly recognized as an important leader in research and development activities related to water resource issues in the Middle East and North Africa. A USAID-funded project under the United States-Palestine Linkage (UPLINK) program is one of the more prominent activities. This project initially partnered Purdue Agriculture with three universities in the Palestinian Territories (Islamic University of Gaza, University of Bethlehem, and An-Najah University) to develop a master’s degree program in water resources management. A fourth institution, Al-Azhar University/Gaza, recently joined the effort. Formal classroom teaching of this program started in September 2002 with a class of 16 students. This unique master’s program is built on a competency-based model that begins by asking the question: What does a graduate working in the water resources sector in the region need to be able to do to contribute as a responsible professional? The Palestinian Water Authority (PWA) is a key UPLINK partner in answering this question. An additional component of the project is linked to efforts to build capacity in the PWA through outreach programs based in the partner universities. As this seed project draws to a close, our group is exploring opportunities to join with UNESCO, ICARDA, American University/Beirut, the government of Belgium, and other groups working in the region on parallel water resource issues to help sustain the activities.

Our UPLINK project was featured as a model for international collaboration in the water sector at the 3rd World Water Forum, a major international symposium organized by the United Nations and held in Kyoto, Japan, in March 2003. The theme of the session...
in which our project was presented was “Optimization of Human Development for the Water Sector in the Palestinian Territories and the Middle East.”

Purdue Agriculture continues to work with Washington State University on a capacity building activity for the Jordanian Ministry of Water and Irrigation. This project, Skills Enhancement and Support to Decision-Makers in Jordan’s Water Sector, includes training modules on domestic water supply and quality, wastewater treatment, water pollution abatement, advanced GIS applications for water resource management, and water pricing policy. Partners include the University of Jordan, the Jordan University of Science and Technology, and Hashemite University.

Additional water sector activities in the region include those led by the Department of Agricultural and Biological Engineering in Lebanon and Tunisia that focus on hydrology and water resource conservation and management, described in more detail under the News from the Departments section of this publication.

**Vietnam.** New funding has been received from USAID through the Association Liaison Office for University Cooperation in Development (ALO) for an 18-month project, Curriculum Development for Improved Environmental Management in Vietnam. This project partners Purdue Agriculture with two Vietnamese universities, Cantho University and Nong Lam University, to write case studies that enhance educational programs at these institutions. The case studies will focus on environmental and natural resource management issues in Vietnam. Gerald Shively, Department of Agricultural Economics, provides project leadership. The case studies will be piloted at the cooperating universities and incorporated into the existing curriculum.

**Honduras.** Our relationship with Zamorano College in Honduras continues to flourish. Under the leadership of Zamorano’s new director, Purdue Agriculture has been invited to teach seminars embedded in their new curriculum. These seminars will enrich the existing teaching program at Zamorano by introducing new material not currently part of the educational program. They will introduce Zamorano students to international experts who will discuss topics of importance to the region. We expect to launch this new program in the fall of 2003.

**Costa Rica.** The Department of Forestry and Natural Resources provided leadership that resulted in a formal exchange agreement with CATIE (Centro Agronomico Tropical de Investigacion y Enseñanza), a graduate research and education institution in Costa Rica. The emerging relationship is further described in the News from the Departments section of this publication.

**Collaborative Research Support Programs.** Purdue continues to be actively engaged in the USAID-supported Collaborative Research Support Program (CRSP) working with scientists in 22 countries around the world. At present, Purdue is a partner in five CRSPs: Bean/Cowpea CRSP; Integrated Pest Management CRSP; International Sorghum and Millet (INTSORMIL) CRSP; Peanut CRSP; and Sustainable Agriculture and Natural Resource Management (SANREM) CRSP. Eighteen faculty and staff from nine academic departments in two schools (Agriculture; Consumer and Family Sciences) are affiliated with one or more of the CRSPs. In addition, the InterCRSP is a natural resource management project that secondarily disseminates technologies generated by several of the CRSPs that are currently active in West Africa. Some CRSP highlights for the 2002-2003 year are described below.

**CRSP Highlights**

**Bean/Cowpea CRSP – Africa Network.** The Bean/Cowpea West Africa Regional Committee, chaired by Entomology department professor Larry Murdock, convened in Accra, Ghana, in March 2003. The Network for the Genetic Improvement of Cowpea for Africa (NGICA), co-chaired by Larry Murdock and Idah Sithole-Niang (a collaborating scientist from Zimbabwe), assists the international community in promoting research and development on cowpea — known in the United States as black-eyed pea. NGICA, in part an outgrowth of CRSP activities, is currently working with the new African Agricultural Research Foundation to explore avenues to introduce novel technology to increase cowpea productivity in Africa.

**Bean/Cowpea CRSP – Biotechnology.** Larry Murdock, principal investigator on the Bean/Cowpea CRSP, is leading a new five-year phase on molecular genetic improvement of cowpea for resistance to biotic stress. He plans to develop a genetic transformation system for cowpea; introduce a Bt gene into cowpea to protect against the legume pod borer, a devastating pest; reduce levels of flatulence-causing oligosaccharides; and develop a resistance management plan.

**Bean/Cowpea CRSP – Economics Team.** The Bean/Cowpea CRSP Africa economics team was enlarged to include researchers at Sokine University, Tanzania; Chancellor College, Malawi; the National Institute of Agricultural Research (INIA), Mozambique; and the University of the Free State, South Africa. Jess Lowenberg-DeBoer and Joan Fulton from the Department of Agricultural
Economics lead the Bean/Cowpea CRSP Africa economics team. The team held a workshop in Accra, Ghana, in March on estimating consumer demand for beans and cowpeas. The team published the first regional review of cowpea trade and consumer preferences in West Africa. They launched their data collection in Malawi and Mozambique with an intensive two-week effort to interview bean traders in southern Malawi and Zambezia Province of Mozambique.

Bean/Cowpea CRSP – Central America. Food scientists at Purdue University and the University of Costa Rica continue to focus on value-added bean-based products. They plan to obtain assistance from the Kellogg Company to develop a bean-based granola product. Their work on determining the mechanism for reversal of the hard-to-cook defect in dry beans continues.

Integrated Pest Management (IPM) CRSP – Bangladesh. Gerald Shively, Department of Agricultural Economics, has been a co-principal investigator on the IPM CRSP since 1998. His research examines the economic impacts of improved pest management practices among smallholder vegetable farmers in Bangladesh.

Integrated Pest Management (IPM) CRSP - Central America. The development of science-based production practices and pre-inspection policies that lead to reduced pesticide usage and increased export market acceptance of non-traditional agricultural export (NTAE) crops is the major focus of this project. An inauguration ceremony in November celebrated the first NTAE consolidation and distribution center in San Cristobal Totonicapan, Guatemala. The center will serve more than 1500 small producers of vegetables and small fruits and will be a major contributor to economic development opportunities for the region. The center will also have an educational outreach emphasis with IPM CRSP supported research related to production systems, technology transfers, research plot demonstrations, and agribusiness.

The IPM CRSP helped sponsor the 5th Seminar on Integrated Pest Management in Non-Traditional Agricultural Export Crops in Antigua, Guatemala, in conjunction with the 42nd Annual Meeting of the American Phytopathological Society-Caribbean Division. Over 400 participants from 13 countries attended. Thirteen presentations by IPM CRSP collaborators from the United States, Guatemala, and Honduras were included in the program.

International Sorghum and Millet (INTSORMIL) CRSP. The INTSORMIL Horn of Africa Regional Program sponsored two major international conferences in Ethiopia this year. The 2002 INTSORMIL principal investigator’s conference held in Addis Ababa in November adopted the theme of “Increasing Profitability of Sorghum and Millets” which is also the new paradigm for international collaborative research at INTSORMIL. Profitability is central to implementation of sustainable agricultural production systems that are sensitive to effective management of natural resources. Conference sessions highlighted global CRSP activities, biotechnology, markets, and policy issues. During field trips participants visited major sorghum and millet research stations, the Ethiopian Biodiversity Research Institute, and farmer fields to observe the research-to-farm link in applying agricultural research in sorghum and millets in Ethiopia. More than 100 INTSORMIL collaborators from 23 countries participated in this conference.

A national workshop on sorghum and millet research and Extension was held with INTSORMIL support in Nazret, Ethiopia. The significance of the potential opportunities and challenges for sorghum and millet production in household food security and poverty reduction in Ethiopia was the main focus of the conference. More than 200 participants from Ethiopian research and educational institutions, nongovernmental organizations, the private sector, and INTSORMIL scientists attended the workshop. The workshop reaffirmed the importance of sorghum and millets in the Ethiopian agricultural economy and the commitment of Ethiopian scientists and their collaborators to work toward improved food security and natural resource management in Ethiopia and the region.

Peanut CRSP. An MOU was established with Brazil and a second was renewed with Ghana. The principal investigators for the three collaborating sites developed an initial plan of work. The first study to be undertaken will investigate the effects of peanut oil consumption on hunger, food choice, energy balance, and cardiovascular disease risk. In addition to the biomedical study, student researchers will receive training in human subject research techniques.

A separate activity, initiated in the United States to explore the energetics of peanut product consumption in order to better understand the less than predicted weight gain by peanut consumers, is in the early stages of research. A third research project under this CRSP will focus on the health effects of consuming peanuts in varying patterns (snacks or with meals). Protocol for this new initiative is in the early stages of development.
Entomology Maymester course at De Ommuurde Tuin (The Walled Garden) near Wageningen, The Netherlands, where Taco Ijzerman and his wife grow organic fruits and vegetables. Taco (right foreground) is explaining that the overhead netting is the only way to keep the birds from eating the currants, raspberries, and gooseberries.

Academic Programs

Once thought of as primarily an extracurricular activity, study abroad has gained new academic significance, particularly in our post-September 11 world. The mission is to help better prepare students for the global nature of our modern world by increasing undergraduate participation in study abroad, overseas internships, and international studies. Students and employers are placing greater importance on international experiences in response to increased globalization. As a result, study abroad is moving from the academic margins to the core of U.S. higher education. Student participants in these programs not only build their resumes, but also learn about the rest of the world while acquiring valuable cross-cultural skills.

Study Abroad and Internship Programs. Purdue agriculture students can choose from 28 study abroad and internship programs, involving 25 institutions in 21 countries. Agriculture has the highest percentage of its students studying abroad of any school at Purdue. During the past year, 148 students participated in study abroad programs or internship experiences in 14 countries—a record number, which represents nearly a 25 percent increase in participation over the previous year. During this same period, four students completed requirements for the International Studies Minor.

Maymester and Other Short-Term Study Abroad Programs. This year, four Maymester courses were offered overseas for the first time, in addition to the usual long-term summer, semester, and year-long study abroad opportunities. The Department of Animal Sciences taught a three-credit course to nine students in Poland. They focused on animal agriculture. An additional 18 students studied the transitioning economy of Russia in a course offered jointly by the School of Agriculture and School of Liberal Arts. The Department of Agricultural and Biological Engineering taught a course on tropical agricultural production in Brazil to 20 students. Another course, offered by the Department of Entomology, was taught in the United Kingdom and the Netherlands to 15 students who studied organic and sustainable agriculture. The Department of Forestry and Natural Resources taught their biennial course on land use in Sweden. In so doing, they sent an additional 12 students abroad. Agriculture piloted a 2003 Spring Break international travel course in Honduras in cooperation with Purdue’s partner institution, Escuela Agricola Panamericana (Zamorano). They enrolled 22 participants, each of whom earned one academic credit.

In 2004, Maymester courses will take students to Brazil, China, Cuba, Costa Rica, and the United Kingdom. A March 2004 spring break international travel course is planned for Ireland, in cooperation with University College Dublin. A winter break program will be piloted in New Zealand, thanks to Purdue’s relationship with Lincoln University at Christchurch.

Study Abroad Financial Support. Partial support for study abroad programs comes from $23,000 in scholarships provided by the Purdue Agricultural Alumni Association, the Purdue Agricultural Alumni Trust Fund, Elanco Animal Health, the Walter Pugsley Memorial Endowment, the T. Kenny Phan Study Abroad Scholarship, and an endowment established by former Dean of Agriculture Robert Thompson and his wife, Karin Thompson. In addition, the Departments of Agricultural and Biological Engineering, Forestry and Natural Resources, Food Science, and Horticulture and Landscape Architecture offer their own study abroad financial support for students studying overseas.

Host Family Participation: A total of 14 Indiana families hosted international exchange students from Japan and Ireland. Host families provided room and board, an environment for cultural exchange, and an opportunity for non-English speaking students to strengthen their English language skills.

International Exchange Students. The School of Agriculture hosted 39 exchange students from nine different countries (Japan, Australia, Sweden, Denmark, France, Ireland, Germany, Greece, and Mexico) during the past year.
Extension and Outreach

The development and application of Extension in the international context is a focus of IPIA, the Purdue University Cooperative Extension Service, and partner countries around the world. IPIA has initiated efforts through the statewide Extension system to educate local citizenry about the important stake that Indiana has in the global economy, the international issues associated with the changing demographic mix in the state, and the opportunities that our system has to contribute to and learn from Extension systems in other parts of the world. Leadership for these efforts is provided by new IPIA staff members Kelli Cameron-Selby and Floyd Branson.

International Extension Activities. Efforts to strengthen the international dimension of the Extension mission in the School of Agriculture took a giant step forward this year with the award of a graduate assistantship to Kelli Cameron-Selby to work with the School of Agriculture on internationalization of Extension. Kelli is taking leadership through IPIA and Purdue Extension to provide a focal point for these efforts. A Multiculturalism and International Extension Coordinating Committee has been appointed by the director of Purdue Extension. Kelli serves as a staff liaison to that group. The new committee will coordinate, communicate, and plan multicultural and international Extension efforts. They will provide linkage efforts to related activities across the campus and will identify human resources, financial support, and expertise for this programmatic effort. The work of this committee picks up on the efforts that have been ongoing for several years with respect to international Extension. Extension leaders identified three principal components for an international Extension agenda for the state: improve Extension’s capacity to better serve a rapidly changing ethnic and multicultural population profile in the state, strengthen the contribution of Purdue Extension to Indiana’s success in the global marketplace, and provide opportunities for Purdue Extension educators to participate in international activities. Floyd Branson, who retired from the Purdue Extension system in June 2003, will work with IPIA on these efforts in a post-retirement assignment. He will provide leadership for the development of a statewide series of staff training activities in the fall of 2003 focused on international and multicultural issues.

National Workshop on Internationalization of Extension. Michigan State University hosted the March 2003 Global Perspectives: Internationalizing Extension Conference. Ten Extension educators and a poster describing Purdue Agriculture’s efforts to internationalize Extension represented Purdue University at the conference. The conference provided a forum for participants to exchange information on approaches to globalizing Extension activities and to discuss the rationale and goals for so doing.

News from IPIA

Euro League. Purdue is a member of a new consortium that links several North American Universities with six premier agricultural universities in Europe. The inaugural meeting of the Euro League was held at Wageningen University and Research Centre in The Netherlands in October 2002. Purdue sent a delegation of five faculty members. The purpose of the consortium is to facilitate student and faculty mobility across member institutions to further educational objectives of mutual importance. Prior to the Euro League meeting, the Purdue delegation divided into two groups to visit member universities in Denmark (KVL – The Royal Veterinary and Agricultural University) and Austria (BOKU – Universität für Bodenkultur) to strengthen bilateral relationships with those two institutions.

Interuniversity Consortium for Agricultural and Related Sciences in Europe (ICA). Purdue Agriculture is a member of this organization, of which the Euro League members are a subset. The group met in Beauvais, France, in April 2003 in a joint session with the National Association of State Universities and Land Grant Colleges (NASULGC). This was the fifth such joint meeting of the two associations. The principal outcome of the meeting was the identification of five major themes for transatlantic institutional partnership: agricultural research; student mobility; faculty mobility; the development of a Web-based virtual curriculum; and development assistance activities, specifically focused on Africa. The group meets next in Athens, Georgia, in April 2004.

Romania. A Purdue group consisting of representatives of the Schools of Agriculture and Veterinary Medicine traveled to Timișoara, a city in western Romania, in February 2003 to forge and strengthen linkages with the University of Agricultural Sciences and Veterinary Medicine of the Banat region. This visit reciprocated a September 2002 visit by a senior delegation from that university to Purdue. The intention of this linkage is to build a collaborative partnership focused particularly on graduate education, curriculum development, Extension, and student/faculty exchanges. Two Purdue faculty members traveled to Timișoara in May 2003 to participate in an academic conference, a direct outcome of the emerging relationship.

Faculty meeting at Banat’s University of Agricultural Sciences and Veterinary Medicine, Romania
Global Consortium of Higher Education and Research for Agriculture (GCHERA). The Global Consortium, previously led by Purdue President Martin Jischke, will meet for its third global conference in Kiev, Ukraine, in September 2003. David Sammons represented Purdue in Kiev in May 2003 for a joint planning meeting for the global conference. The theme selected for the 2003 global conference is Global Reforms in Higher Education and Research: Responding to Challenges to Quality and Safety of Food and Agricultural Products. President Jischke will be a featured keynote speaker at this conference, which is being organized by the National Agricultural University of Ukraine. The Rector of the university, Dmytro Melnychuk, is the current president of GCHERA.

France. A grant from the Indiana Humanities Council and the French American Foundation-Paris supported the launch of an exchange of agricultural leaders between Indiana and France titled AGRIDAYS. The first exchange visit, which brought four French agriculturalists to Indiana in March 2002, will be reciprocated by a visit of Indiana agricultural leaders to France in November 2003. The purpose of this program is to exchange views on issues of agricultural importance to both sides and to strengthen mutual understanding. David Sammons and Chris Johannsen (Department of Agronomy) provide leadership to this program.

Cuba. Plans are underway to launch a spring 2004 interdisciplinary study abroad course in Cuba, drawing on recent Purdue faculty experience in Cuba and host universities in Cuba that specialize in agriculture, the social sciences, and humanities. A Purdue team of professors — Kamyar Haghighi (Agricultural and Biological Engineering), Bruce Hamaker (Food Science), Robert O’Neil (Entomology), and Harry Targ (Political Science) — visited Cuba in May 2003 to establish formal connections between Purdue and the Cuban universities. They made contacts with administrators and faculty at the University of Havana and the Agrarian University, as well as with representatives from institutes that specialize in agricultural research and teaching, United States/Cuban relations, the Cuban economy, and the international economy. IPIA expects to proceed with a study abroad course as a first step to establish research and teaching exchanges between the two countries. In addition to planning the course, the four professors will compile lists of faculty at Purdue and in Cuba who have interests in collaborative research.

International Seminar Series. Nobel Peace Prize recipient Norman Borlaug was a featured speaker in our international agriculture seminar series. While on campus in January 2003, Borlaug addressed an overflow audience of approximately 1500 people at the annual meeting of the Agricultural Alumni Association. Increasingly, seminars dealing with international issues are organized and conducted by the respective academic departments within the school, supported and encouraged by IPIA.

IPIA guest apartment in campus International Center. The IPIA guest apartment housed 17 guests from 10 countries over the past year. The apartment is a low-cost service provided by IPIA to help departments host their international visitors.

School of Agriculture Visitors. During 2002-2003 IPIA hosted 35 international visitors from 17 different countries.

IPIA Staff Award Recognition. IPIA was honored by the award of major prizes to several members of staff during the past year. These honors include the following:

Lowell Hardin was awarded the “Sagamore of the Wabash” citation from the office of Indiana Governor Frank O’Bannon. This is the highest recognition by the state of Indiana to citizens who contribute to the state’s prominence. Hardin was recognized for his many years of service to international agricultural research, global food security, and poverty alleviation. Now “retired,” he contributes his time to the university as Assistant Director of IPIA.

Katy Ibrahim was honored with the Eudoxia Girard Martin Memorial Staff Recognition Award. This award recognizes an individual who “…in service to the university community, demonstrates those qualities of heart, mind, and spirit that evince a love for and helpfulness to students, faculty, and staff.” Katy, known to all for these characteristics and more, was a perfect candidate for the award and recognition. Her award was presented at an all-campus staff recognition luncheon in front of an audience of more than 800 people.

The annual Dean’s Team Award goes to a group of individuals whose teamwork contributes to the School of Agriculture in ways that could not happen were the team not in place. The award this year went to the Study Abroad Team: Michael Stitsworth, Karl Brandt, Zinaida Breschinsky, Prudence Miller, and Linda Vallade for their contributions to internationalizing the School of Agriculture. The team has led the development of study abroad and student exchange programs over the past decade. Starting with an average participation rate of barely one student per year in the early 1990s, the IPIA-led study abroad programs this year sent nearly 150 students to overseas destinations as a part of their undergraduate education. In addition to this significant recognition, the award carries a $10,000 prize for use in furthering the goals of the team.

The national Malone Award goes each year to individuals who have made outstanding contributions to the internationalization of campuses in the land grant system. Named in honor of former Montana State University President Michael Malone, the award is presented by the Commission on International Programs of the National Association of State Universities and Land Grant Colleges. This year’s award was presented at the Commission’s summer meeting in Vancouver, British Columbia, Canada, and went to Michael Stitsworth and Linda Vallade for their decade-long leadership of Purdue Agriculture study abroad programs.

Congratulations to all these award winners for the visibility that their work has brought to IPIA, the School of Agriculture, and all of Purdue University.
News from the Departments

Much important international activity originates in departments within the School of Agriculture. Sometimes support comes from IPIA for these activities but often interested faculty, with help from their respective departments, will initiate and lead programs independently. Typically, these activities are integrated across the department’s missions in learning, discovery, and engagement. Each department has been invited to submit highlights of their recent international activity for inclusion in this publication. A sampling to illustrate the breadth and diversity of departmentally-based international activities follows. For more complete information, contact the departments directly.

Agricultural Economics

France. Former department head, Wally Tyner, took an international sabbatical this past year with appointments at IAMM (Institute for Mediterranean Agriculture), INRA (National Agricultural Research Institute), and the University of Montpellier in Montpellier, France. During that time he worked on several activities including the following:

- Team leader for Review of the Regional Initiative for Dryland Management (Working Group on the Environment of the Middle East Peace Process) – a project designed to enhance the peace process through technical collaboration on dryland management issues.
- Presentation at the French Academy of Agriculture on the American Farm Bill of 2002 entitled Le Farm Bill Américain – Quel conséquence pour l’agriculture Américaine et du monde?
- Work in Morocco on analysis related to the possible Morocco/U.S. free trade agreement.

African Agricultural Technology and Innovation Policy. Will Masters continues his work with USAID on African farmers’ adoption of new technology and the economics of agricultural research and development. His principal contribution in 2002-03 has been to devise and propose a mechanism by which foreign-aid donors could reward researchers with cash prizes for successful innovations, in addition to the current system of research contracts and intellectual property rights. Cash prizes have a long and distinguished history in stimulating technical progress on difficult problems. The central obstacle in implementing prizes is computing their value and making a credible commitment to pay. Masters’ proposal provides an approach that is tailor-made to the needs of African agriculture.

Center for Global Trade Analysis. More than 400 global participants attended the Center for Global Trade Analysis annual advisory board meeting and conference in Taiwan this past year, hosted by the Center for Sustainable Development at National Tsing-Hua University. A letter from the President of Taiwan opened the meeting, which was attended by senior Taiwanese government and university officials, as well as more than 40 researchers from China, the largest Chinese delegation ever to attend an academic conference in Taiwan. For more details regarding the conference go to: [http://www.gtap.agecon.purdue.edu/events/default.asp](http://www.gtap.agecon.purdue.edu/events/default.asp)

Center for Food and Agricultural Business (CFAB). The Center for Food and Agricultural Business continues to be highly engaged in international activities. Among highlights during the past year are the following:

- **International Residency Programs** for Wageningen University, The Netherlands, and for ESSEC University, France. As part of their MBA programs, 18 students from the Wageningen School of Management and 10 students from ESSEC University completed international residencies on the campus of Purdue University.

- **Management Development Programs** for restaurateurs from Latin America and the Caribbean. This program, operated in cooperation with the Department of Hospitality and Tourism Management in the School of Consumer and Family Sciences, provided Latin American and Caribbean participants with a professional educational experience in restaurant management. Since 1999, more than 90 managers from Latin America and the Caribbean have participated in the course.

- **Inventory Control and Supply Chain Management** for Chinese supermarket managers. This project, funded by the Emerging Markets Program of USDA, is intended to increase exports of U.S. food products and services to China. The program is focused on the challenges and opportunities of logistics and supply chain management within supermarket chain stores. In all, more than 125 managers from several cities in China have been trained.

- **Agribusiness Management Institute** developed for the seed sector in Russia. This institute contributed to efforts to develop a privatized seed sector with a workable regulatory system that is beneficial to U.S. seed exporters. A one-week workshop at the Moscow Timiryazev Agricultural University Federal Training Center was designed to increase
the managerial expertise of personnel in the seed sector, thereby improving the sector’s competitiveness and viability. Twenty-seven seed company managers earned certificates of completion.

▶ Agricultural and Biological Engineering

**Ecuador.** Don Jones, Agricultural and Biological Engineering, and Larry Glickman and Michael Ward from the Department of Veterinary Pathobiology, Purdue School of Veterinary Medicine, are working on a rural sanitation and health project in Ecuador involving changing attitudes about handling human wastes. Seppo Rinne, a graduate student from Ecuador under their direction, is completing research on site in Ecuador to evaluate the proposed practices.

**Brazil Maymester Program.** Harry Gibson, Dan Ess, Mark Morgan, and Mack Strickland traveled to Brazil to teach a Maymester course on Tropical Agriculture in Brazil. More than 20 students participated in the program.

**International Water Resources Collaboration.** Under the leadership of Rabi Mohtar, the following activities contributed to water resource management in the Middle East and North Africa during the past year:
- **Optimal Siting of Test Wells for Contaminant Characterization in Groundwater with the American University of Beirut (AUB) is research related to the use of optimization algorithms for ground water contaminant characterization and remediation.**
- **Hydrologic Analysis of Dry Marginal Watersheds in Northeast Lebanon with AUB. The local development association has implemented research results.**
- **GIS-Based Watershed Management with Institut des Régions Arides (IRA) in southern Tunisia seeks to address issues of water allocation under arid land conditions.**

▶ Agronomy

**Earth Observation MS Program.** A joint MS program has been initiated between the Katholieke Universiteit Leuven, Belgium, and Purdue University that focuses on earth observation technology and its applications in terrestrial systems modeling. The first class of students started in fall 2002 with six students who completed five courses at Purdue. They completed the spring semester 2003 at Leuven, and nearly 50 pre-applications have been received for the fall 2004 enrollment; eight students from Belgium, United States, Cameroon, Ethiopia, and Germany will be enrolled for the next round. Agronomy serves as the home department for students accepted from Leuven.

**International Center for Sustainable Development.** This newly developed center in Panama, based at the former headquarters of the Panama Canal Zone, is leading an effort to apply science education, outreach, and research to the sustainable development of tropical agroecosystems. James Vorst serves on the advisory board for the center with a distinguished group of international scientists.

**Israel.** Cliff Weil, lead principal investigator, is collaborating with colleagues at the Hebrew University of Jerusalem on a project studying DNA damage, repair, and recombination in plants.

**Hungary.** A joint workshop organized by Szent Istvan University in Gödöllő, Hungary, and Purdue’s Department of Agronomy was held in Hungary in June. The United States-Hungarian Science and Technology Fund supported the workshop. Six professors from Purdue, one from Texas A&M, and two scientists from USDA/NRCS participated in the workshop. They discussed carbon sequestration and the influence of tillage systems and fertility management during their meetings and in the field at several locations in Hungary.

▶ Animal Sciences

**Bangladesh.** Todd Applegate led a training effort on manure management in Bangladesh through a jointly funded USAID/Winrock International sponsored project. The training included topics on the benefits of poultry manure as an organic fertilizer; effective storage of poultry manure to optimize its use for grain and vegetable production; passive aerated static composting of broiler litter and hatchery waste; testing of a technology for manufacturing dried broiler litter briquettes; and the design of manure and litter pelleting operations for the production of fish feed.
Norway. Peter Alestrom, professor of biochemistry and molecular biology in the Department of Biochemistry, Norwegian School of Veterinary Medicine, Oslo, Norway, joined the laboratory of Paul Collodi as a sabbatical scientist. Collodi visited Alestrom’s laboratory in June 2003 and presented a seminar at the University in Oslo.

Mexico. Mike Spurlock traveled to Mexico City to present an invited talk at the National Autonomous University of Mexico (UNAM) and the National Institute of Nutrition and Medicine. He also established research collaboration with Rogelio Alonso Morales that involves characterization of the Cuino and Yucatan lines of pigs as potential models for studying adipocyte metabolism and insulin resistance. Spurlock will be a committee member and co-advisor for two graduate students at UNAM and the National Institute of Nutrition as a part of this collaborative effort.

Visiting Scholars. Bud Harmon hosted Camei Shao from Well Hope Feed Company in Shenyang, China for 10 months working on feed science and swine nutrition. Tim Johnson served as the departmental sponsor for Jamal Rekhis, professor of animal nutrition from the Veterinary School of Tunisia, Manouba University. Rekhis, a Fulbright Research and Teaching Fellow, worked on ruminant animal utilization of soybean by-products. Mike Schutz and Ed Pajor hosted two Irish students interested in animal well-being and behavior through the agricultural exchange program with the University College Dublin.

Biochemistry


United Kingdom. A collaboration among Victor Rodwell, Cynthia Stauffacher (Department of Biological Sciences, Purdue University), and Lydia Tabenero (University of Manchester, United Kingdom) has successfully solved the three dimensional structure of a bacterial HMG-CoA reductase bound to a statin drug that is used to treat high cholesterol in humans. A paper describing this work was published in the Journal of Biological Chemistry. This research may help develop drugs that specifically inhibit pathogenic bacteria without harm to humans.

International Exchange Students. Clint Chapple and Joe Ogas hosted students from the International Association for the Exchange of Students for Technical Experience (IAESTE) program in the summer of 2003. Two students from Switzerland will participate in laboratory research projects during their visits that will occur between June and September.

Botany and Plant Pathology

Denmark. Ralph Nicholson traveled to Copenhagen to work with Kirsten Nielsen on confocal microscopy of phytoalexin inclusions in living sorghum cells.

Italy, Switzerland, Norway. Steve Goodwin presented a poster at the Sixth European Conference on Fungal Genetics in Pisa and then visited the lab of Bruce McDonald in Zurich. He presented a seminar in Zurich and discussed research of mutual interest. Goodwin also presented two posters at the Seventh International Mycological Congress in Oslo, Norway, and went on a mycological foray to western Norway after the meetings.

Entomology

Western Corn Rootworm in Europe. C. Richard Edwards continues to provide assistance to Europe in the fight against the invasive species western corn rootworm (WCR). Through a Fulbright Research Fellowship, February through August 2003, he studied the movement of WCR among various crops to determine if crop rotation is a viable tool to manage this pest under Croatian cropping patterns.

Maymester Programs. Alan York led the development of a Maymester study abroad course that involved students from six majors in agriculture as well as faculty from three departments. Fifteen students enrolled in the course which was taught in the United Kingdom and The Netherlands. Students studied organic and sustainable agriculture in the two countries. Kevin Gibson (Department of Botany and Plant Pathology) and Chris Oseto (Department of Entomology) visited Purdue graduate Tamara Benjamin (Forestry and Natural Resources, Purdue University) at CATIE in Costa Rica in preparation for a future Maymester course on tropical agricultural production in Costa Rica, focused on production-limiting tropical pests.
Central America, South America, and the Caribbean. Robert O’Neil’s lab has deep links to Latin America. His PhD student, Kris Wychkuys, is continuing in-country research on pest management adoption by subsistence farmers in Honduras. O’Neil recently traveled to Zamorano College (Honduras) to discuss continued and new thrusts in Purdue’s long-standing relationship with that institution. He also traveled to Cuba with three other Purdue professors to initiate a multi-dimensional program with several Cuban educational and research institutions. Pablo Benavides, an Entomology graduate student at Purdue working with Jeff Stuart, has used DNA fingerprinting to identify 26 highly inbred lines of the coffee berry borer, *Hypothenemus hampei*, distributed in most of the major coffee producing areas of the world. The study showed that this important coffee pest is highly inbreeding. It also helped to partially reconstruct the pest’s introduction into previously non-infested coffee growing regions.

### Food Science

**Pacific Rim.** James BeMiller led an effort to strengthen departmental ties in the Pacific Rim during the past year. He was an invited speaker at the International Plant Polysaccharide Workshop in Australia. He also attended the International Carbohydrate Symposium in Australia as the official representative of the United States to the International Carbohydrate Organization. In addition, BeMiller was an invited speaker at the Korean Institute of Food Science and Technology and at two Korean food companies. He represented Purdue in forging an agreement on academic exchange between Purdue University and the Graduate School of Biotechnology, Korea University. He also lectured in Taiwan at National Taiwan University and at Providence University. Finally, in China he visited the Food Industry Research and Development Institute, the China Grain Products Research and Development Institute, and the Institute of Chemistry, *Academia Sinica*.

**India.** Arun Bhunia initiated a collaborative research activity with a professor at the Central Food Technological Research Institute (CFTRI), Mysore, on distribution patterns of genotypes of *Listeria Monocytogenes*. He also presented a seminar at the Indian Institute of Technology (IIT), Kharagpur, on nanotechnology in food borne pathogen detection. In addition, Bhunia presented a seminar at West Bengal University, Calcutta, on animal and food borne pathogens and their impact on human health.

**Food Molds.** Maribeth Cousin worked with the International Commission on Food Mycology to harmonize global methods for detecting and identifying molds in foods.

### Forestry and Natural Resources

**Campus International Programs.** Andrew R. Gillespie was appointed Associate Dean of International Programs (half time) with significant new responsibilities in advancing the international agenda at the campus level.

**Costa Rica.** A student exchange agreement was established between the School of Agriculture, Purdue University, and *Centro Agronomico Tropical de Investigacion y Enseñanza* (CATIE), headquartered in Turrialba, Costa Rica. Under the agreement, students will pay the tuition and fees of their home institution while attending the host institution for periods of up to one academic year. Course work completed will count toward graduation requirements at the home institution.

**Sweden.** The joint Purdue University-Swedish University of Agricultural Sciences (SLU)-North Carolina State University Natural Resources Summer Education Program is being conducted for the ninth consecutive year. This year the program was conducted in Sweden. North Carolina State University became a partner in the program in 2001.
4-H and Youth

**FLEX Program.** Indiana 4-H hosted the midterm gathering of participants in the Future Leaders Exchange (FLEX) program in Indianapolis. Countries represented include Russia, Kyrgyzstan, Ukraine, Uzbekistan, Azerbaijan, and Tajikistan. Gulnoza Vakkasova, a FLEX Exchange student from Uzbekistan living with the McKing family in North Vernon, was selected as one of 110 FLEX students from across the United States to participate in the Close Up Foundation Civic Education Workshop in Washington, D.C. in February 2003.

**Horticulture and Landscape Architecture**

**Departmental Exchange and Study Abroad Programs.** An active exchange program exists between the department and landscape architecture programs at Leeds Metropolitan University in the United Kingdom, Heriot-Watt University at the Edinburgh College of Art, and the Swedish University of Agricultural Sciences. Allen Hammer has established an exchange program with a group of four European and three U.S. universities through a federal grant received. This program, known as HORTECUS, places Purdue students abroad and brings European students to the Purdue campus. The department organized an interdisciplinary Maymester course called In the English Landscape that emphasizes international understanding and comparative landscape design.

**Poland.** Professor P. Wolski, a visiting scholar from Warsaw Agricultural University, spent the fall semester teaching in the Landscape Architecture Program. Wolski incorporated a Warsaw design project into his class.

**European Research Partnerships.** Departmental faculty and staff have established research collaborations with scientists around the world. One such example is the effort of Angus Murphy and Wendy Peer to organize a P-glycoprotein research consortium. Participating scientists include individuals from the University of Freiburg and University of Tuebingen in Germany and the University of Zurich, Switzerland. The first meeting was held in Freiburg, Germany in November 2002.