The UTIA Smith Center for International Sustainable Agriculture was officially launched on November 16, 2018, with an event on the University of Tennessee Institute of Agriculture campus. The Smith International Center has experienced continued growth this year by securing funding for new projects and growing faculty and student engagement in international activities.

IN THIS YEAR’S REPORT

Increased Student Engagement, page 4
Forty-seven Herbert College of Agriculture students studied abroad in the 2018-2019 academic year. Sixty-three students are enrolled in the International Agriculture and Natural Resources minor, representing another 33 percent growth in IANR minor enrollment in the past twelve months.

Enhanced Faculty Engagement, page 8
The Smith International Center led UTIA delegations to Ireland (December 2018), Guatemala (February 2019), and Central Europe (May 2019) and provided seed funding for four new UTIA projects in Guatemala and sub-Saharan Africa.

Expanded Project Funding, page 12
The Smith International Center received funding for a new youth empowerment project in peanut value chains in Uganda and a new study abroad development grant for Argentina. The poultry production project in Rwanda also received additional funding support and a nine-month extension.

Outreach and Engagement, page 25
The Smith International Center hosted a special fall 2018 seminar series that included not only the launch of the Center, but also the third annual UTIA International Showcase and the launch of the UT Knoxville Peace Corps Prep program.

LAUNCH OF SMITH INTERNATIONAL CENTER

At the official launch of the Smith Center for International Sustainable Agriculture, held in the Brehm Animal Science Arena. Donnie and Terry Smith were recognized for their transformative giving to establish the Center. Guest speakers included UTIA Senior Vice President and Senior Vice Chancellor Tim Cross, former UT President Joe DiPietro, former Tennessee Commissioner of Agriculture Jai Templeton, and Jane Jolley, senior field director for former Tennessee Senator Bob Corker. More than 200 faculty, staff, students, administrators, and members of the public were in attendance.
UTIA celebrated the official launch of the Smith Center for International Sustainable Agriculture with an overview of ongoing programs, distinguished speakers, live music, a global fair, and refreshments.
Student Engagement

STUDY ABROAD

Forty-seven Herbert College of Agriculture students studied abroad in the 2018-2019 academic year. They traveled to twenty different countries on faculty-led trips or semester-long opportunities. The Smith International Center awarded thirteen scholarships to students who studied in Belize, Costa Rica, Guatemala, Ireland, the Netherlands, New Zealand, Thailand, and the United Kingdom.

The following Herbert faculty led trips abroad:

Brad Collett and Garry Menendez
Department of Plant Sciences
Gardens and Landscapes of Europe in Holland, Germany, and Denmark

Dave Ader and Sara Mulville
Smith Center for International Sustainable Agriculture
Food, Agriculture, and Natural Resource Challenges in Guatemala

Emma Willcox and Adam Willcox
Department of Forestry, Wildlife and Fisheries
Tropical Ecology, Field Methods, and Conservation in Belize

David Lockwood
Department of Plant Sciences
Viticulture and Enology in Cortona, Italy (jointly with the University of Georgia)

Andy Pulte, Department of Plant Sciences and
Adam Willcox, Department of Forestry, Wildlife and Fisheries
Plants, Parks, and People: From the Smokies to San Jose
Three courses did not meet their minimum enrollment requirement and could not travel in the 2018-2019 academic year. Additionally, trips to Belize and Italy showed decreased enrollment. These factors likely resulted in reduced Herbert and UT College of Veterinary Medicine study abroad participation for 2018-2019. Twenty-nine students from other UT Knoxville colleges participated in study abroad courses led by Herbert faculty, which is an increase of seven students from the 2017-2018 academic year.

All the faculty-led programs listed above will be open for the 2019-2020 academic year. Additionally, Herbert faculty are developing four new trips to Ireland, China, Belize, and Botswana.

Adam Willcox and Emma Willcox of the Department of Forestry, Wildlife and Fisheries; John Stier, Herbert College of Agriculture; David Butler, Department of Plant Sciences; and Don Hodges, Department of Forestry, Wildlife and Fisheries took seven undergraduate students to Belize to work on their research and extension projects (see the Belize section later in this report).

The Smith International Center also worked with the UT VO Leaders program, a leadership development program for nominated student athletes, to design a service-learning opportunity for this year’s cohort of VO Leaders to engage with the Tworore Inkoko Project in Rwanda in July 2019.

As of February 2019, sixty-three students were enrolled in the International Agriculture and Natural Resources minor. This number represents exponential growth from the twelve students in spring 2016. Numbers before 2016 were negligible, indicating positive results from our recruitment and academic program management. The minor was heavily revised for the 2016-2017 Undergraduate Catalog and now includes an introductory course and a new capstone course. Adam Willcox, Tom Gill, and Dave Ader successfully piloted the introductory course AGNR 180 Global Dynamics: Food, Biodiversity, and the Environment with twenty-four students in fall 2016. This course has now been approved to fulfill social science general education requirements, and enrollment increased to seventy-five students for fall 2018. In fall 2016, John Stier launched his capstone course, AGNR 480 How to Feed the World, with eight students. This course grew to fifteen students for fall 2018. The other capstone course instructed by Adam Willcox, FWF 420/520 International Natural Resource Issues, enrolled twenty-five students in spring 2019.
The UTIA Student International Ambassadors group was formed in 2016 to link internationally engaged Herbert students with faculty and students across UTIA. This student-directed group shares their own international experiences and promotes study abroad opportunities, as well as the International Agriculture and Natural Resources minor.

Throughout 2018 and 2019, the International Ambassadors have met on a biweekly or monthly basis to plan activities such as first-year classroom visits, study abroad fairs, a photo contest, and other campus events. The ambassadors also took a large role in the planning, preparation, and implementation of the Smith International Center launch in fall 2018 as well as the 2018 International Showcase. 2019 saw the graduation of all but two ambassadors. New ambassadors have been nominated to start in fall 2019.

Just three years since relaunch, the UT Knoxville Chapter of the International Association of Students in Agriculture and Related Sciences (IAAS) has continued to grow through the support of the Smith International Center. The organization is open to students, faculty, and staff who share a common interest in topics related to international agriculture and natural resources. Activities included the recurring “Study Day Coffee House” at the end of each semester, which offers a space for globally focused conversation around a cup of coffee. In April 2019, three IAAS officers and the faculty advisor traveled to Oregon State University for the IAAS National Summit. UT IAAS will host the IAAS National Summit in spring 2020 in Knoxville.
In spring 2019, UTIA hosted the third annual cohort of interns from Zamorano Pan-American Agricultural School (Escuela Agrícola Panamericana El Zamorano), a leading agricultural university located in Honduras. These top undergraduate students were hosted by the departments of Animal Science (host faculty: Phillip Myer) and Food Science (host faculty: Jiajia Chen, Curtis Luckett, and Tao Wu), and the Smith International Center (host faculty: Dave Ader and Sara Mulville). This internship program contributes towards short- and long-term internationalization efforts in UTIA by connecting with top institutions in Central America and building relations in the region.

Adam Willcox led a team of faculty and staff across UT Knoxville to submit an application for UT to become a Peace Corps Prep Partner School. In February 2018, the US Peace Corps approved the application, making UT a PC Prep Partner School. More than ninety-five colleges and universities across the country are partner schools. PC Prep enhances students’ undergraduate experience by preparing them for international development fieldwork and potential Peace Corps service. The Peace Corps issues a certificate to students who complete the program, offered through a streamlined model focused on integrating relevant curricular and extracurricular offerings.

Peace Corps Prep students work with Adam Willcox to map out how they can develop four core competencies—sector-specific technical skills, foreign language proficiency, intercultural competence, and professional leadership. The competencies that students develop during the program give them a competitive edge when applying for Peace Corps service.

UT officially launched the Peace Corps Prep Program in October 2018 at the Howard J. Baker Center for Public Policy. The US Peace Corps director, Judy Olsen, was in attendance and delivered the keynote address. Approximately 100 faculty, staff, students, and members of the general public attended the launch event. As of March 2019, twenty students had applied and were accepted into the UT Peace Corps Prep Program, exceeding our goal of fifteen students in the first year. We awarded our first two Peace Corps Prep Certificates in spring 2019. One of those awardees has been accepted to start her Environment Sector Peace Corps volunteer service in Tanzania in January 2020.
Smith International Center seed grants offer UTIA faculty the opportunity to develop interdisciplinary faculty-led teams that can build international collaborations. The goal is for these seed grants to result in ongoing collaborative partnerships across teaching, research, and extension, which leverage external funding and further international opportunities for UTIA. Seed grants are capped at $8,000 per team, run for eighteen months, and are competitively evaluated and selected. Since 2016, nineteen seed grants have been funded, totaling more $120,000 and involving fifty-two different UTIA faculty members across all Herbert and UT College of Veterinary Medicine departments.

### 2018-19 Global Seed Grants (Open Call/No Theme)

<table>
<thead>
<tr>
<th>Country</th>
<th>Name of Lead Faculty (Department)</th>
<th>Project Synopsis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botswana</td>
<td>Jennifer Richards (ALEC)</td>
<td>Developing a 4-H youth development program</td>
</tr>
<tr>
<td>Botswana</td>
<td>Carrie Stephens (ALEC)</td>
<td>Sustaining women agriculturists in global contexts</td>
</tr>
<tr>
<td>China</td>
<td>Siqun Wang (FWF/Center for Renewable Carbon)</td>
<td>Partnership for developing biofuel and biomaterials from biomass</td>
</tr>
<tr>
<td>Mexico</td>
<td>Carlos Trejo-Pech (AREC)</td>
<td>Research and extension in certified coffee cooperatives</td>
</tr>
<tr>
<td>South Africa</td>
<td>Agricola Odoi (CVM/BDS)</td>
<td>Epidemiology of mastitis and antimicrobial resistance of mastitis pathogens</td>
</tr>
<tr>
<td>Uganda</td>
<td>Marcy Souza (CVM/BDS)</td>
<td>Master Teacher Workshop for faculty members of East African colleges of veterinary medicine</td>
</tr>
</tbody>
</table>

### 2019-20 Global Seed Grants (Guatemala and Africa)

<table>
<thead>
<tr>
<th>Country</th>
<th>Name of Lead Faculty (Department)</th>
<th>Project Synopsis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guatemala</td>
<td>Becky DeBolt (CVM/SACS)</td>
<td>Building a field veterinary rotation in rural Guatemala for DVM students</td>
</tr>
<tr>
<td>Guatemala</td>
<td>Forbes Walker (BESS)</td>
<td>Promoting the adoption of conservation agriculture in Guatemala</td>
</tr>
<tr>
<td>Guatemala</td>
<td>Joe Zhuang (BESS)</td>
<td>Assessing progress toward sustainable agricultural landscapes in the highlands of Guatemala</td>
</tr>
<tr>
<td>Kenya and Malawi</td>
<td>Juan Luis Jurat-Fuentes (EPP)</td>
<td>Research, teaching, and extension approaches to fall armyworm control and improved soil productivity for food safety in sub-Saharan Africa</td>
</tr>
</tbody>
</table>
Marcy Souza, India Lane, and Misty Baily of the College of Veterinary Medicine conducted a Master Teacher Workshop for veterinary medicine faculty at Makerere University, Kampala, Uganda, June 18-21, 2019. The workshop was a four-day train-the-trainer workshop focused on improving the teaching skills of faculty members of East African colleges of veterinary medicine. A total of twelve participants attended the workshop, including faculty members from Addis Ababa University College of Veterinary Medicine and Agriculture (Ethiopia), University of Nairobi Faculty of Veterinary Medicine (Kenya), Sokoine University of Agriculture (Tanzania), and Makerere University College of Veterinary Medicine, Animal Resources, and Biosecurity (Uganda). Participants received resources, materials, tools, and encouragement to host similar workshops at their home universities and will report the results after one year. At the end of the workshop, participants committed to form an East African Consortium of Veterinary Educators that will focus on disseminating topics covered in the workshop in order to improve teaching, student learning, and the veterinary capacity of participating countries.
An eight-person UTIA delegation visited the Republic of Ireland and Northern Ireland on December 9-14, 2018, to develop teaching and research collaborations with institutions in both countries. The UTIA delegation was composed of:

- **Caula Beyl**, Dean, Herbert College of Agriculture
- **Marc Caldwell**, Assistant Professor, College of Veterinary Medicine; Adjunct faculty in Animal Science
- **Tom Gill**, Smith Chair in International Sustainable Agriculture
- **Lisa Muller**, Interim Department Head, Forestry, Wildlife and Fisheries
- **Scott Senseman**, Department Head, Plant Sciences
- **Bob Trigiano**, Institute Professor, Entomology and Plant Pathology
- **David White**, Associate Dean, AgResearch, and Interim Department Head, Food Science
- **Adam Willcox**, Coordinator, Study Abroad and International Agriculture and Natural Resources minor

The team visited three cities (Dublin, Belfast, Galway) and four universities and met with the Republic of Ireland government’s Department of Agriculture, Food and the Marine, and the Northern Ireland Department of Environment, Agriculture and Rural Affairs.

**Initial Impacts:**

- **Student mobility from Ireland**: Two students from National University of Ireland, Galway (NUIG) conducted research in Knoxville in summer 2019. One MS student in the Climate Change and Agriculture Program at NUIG worked with Gina Pighetti (Animal Science), and one undergraduate student worked with Bob Trigiano (Entomology and Plant Pathology).

- **Student mobility to Ireland**: One Herbert student spent summer 2019 completing the NUIG Ecology Program. A new Herbert course in equine science will take students to study abroad in Ireland for the first time in summer 2020.

- **Joint course development**: Adam Willcox and Tom Gill are working with NUIG to develop a joint course offering in agroecology to be piloted in Galway in summer 2021.

- **Joint research**: The Smith International Center is continuing to work with faculty to apply for the trilateral US–Northern Ireland–Republic of Ireland program through AFRI for the FY 20 deadlines.
In May 2019, six UTIA faculty joined forces to further teaching and research collaborations with partners in Europe. Tom Gill (Smith International Center), Don Hodges (Forestry, Wildlife and Fisheries), Curtis Luckett (Food Science), Andrew Muhammad (Agricultural and Resource Economics), Becky Trout Fryxell (Entomology and Plant Pathology), and Tim Young (Center for Renewable Carbon) visited institutions in Austria, Germany, and Slovenia to expand UTIA's global engagement.

In Germany, ties were strengthened with Technische Universität München (TUM), one of the leading research universities in Europe. The TUM Freising-Weihenstephan campus hosts a state-of-the-art sensory lab and the world’s oldest brewery science program. In Slovenia, the delegation visited the University of Ljubljana’s biotechnical faculty from a range of agricultural and natural resource disciplines to investigate collaborative teaching and joint research opportunities.

In Austria, the UTIA team met with counterparts at the renowned University of Natural Resources and Life Sciences (also known as the BOKU) and concluded their European visit at the Kuchl campus of the Salzburg University of Applied Sciences. This Alpine campus is a global leader in forestry, wood science, and wood product development. The twelve-year connection between UTIA and Salzburg University continues to be a vital global partnership. More than thirty Austrian interns have completed research internships at UTIA...and three more Salzburg University interns are scheduled to arrive in Knoxville for fall 2019!

The group also met with the US State Department about Fulbright opportunities for faculty and students in both Slovenia and Austria. Recent Herbert graduate Andrew Franks (BS, forestry, ’19) begins a nine-month Fulbright experience at the University of Ljubljana in fall 2019.

EUROPEAN COLLABORATIONS

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Funded Programs

We are building strategic collaborative partnerships for UTIA at the Institute level that reflect the expertise of our team, UTIA faculty and staff, and our ongoing projects around the world. Our strategic focus countries and regions enable us to concentrate our efforts for long-term sustainable impact. These focus countries and regions were selected based on 1) current level of faculty and student interest and engagement, 2) availability of sustainable funding sources, and 3) strategic opportunity based on country or regional importance attributed to agriculture and natural resource system development.
FOCUS REGIONS & COUNTRIES

<table>
<thead>
<tr>
<th>Region</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central America and the Caribbean</td>
<td>Brazil, Argentina, Chile, Uruguay</td>
</tr>
<tr>
<td>Southern Cone</td>
<td></td>
</tr>
<tr>
<td>Central and Eastern Europe</td>
<td></td>
</tr>
<tr>
<td>East Africa</td>
<td></td>
</tr>
<tr>
<td>China</td>
<td></td>
</tr>
<tr>
<td>Southeast Asia</td>
<td></td>
</tr>
</tbody>
</table>
OVERVIEW
This three-year initiative gives fourteen undergraduate students the opportunity to engage in international research and extension activities around the Vaca Forest Reserve in Belize.

FUNDING
USDA National Institute for Food and Agriculture

PROJECT ACTIVITIES
Student fellows work with faculty mentors over two consecutive summers to develop and implement research and extension projects related to the interrelationship and coexistence of sustainable agriculture and rainforest conservation.

PROJECT DATES
January 2017–December 2019

KEY PARTNERS
» University of Florida
» Friends for Conservation and Development
» Friends of the Vaca Forest Reserve
» Cayo Women for Conservation
» Belize Zoo Tropical Education Center
» Belize Ministry of Agriculture, Fisheries, Forestry, the Environment and Sustainable Development
OVERVIEW
This project aims to empower women and improve nutrition by promoting women’s participation in the value chains for horticultural crops and rice produced through sustainable intensification practices.

FUNDING
USAID Feed the Future Innovation Lab for Collaborative Research on Sustainable Intensification; subaward through Pennsylvania State University

PROJECT DATES
October 2015–September 2019

PROJECT ACTIVITIES
The four-year project, using a mixed-methods research design, provides a scientifically rigorous and comprehensive understanding of the nexus of gender and sustainable intensification. The project pursues three major objectives: to identify and promote adoption of gender-sensitive sustainable intensification technologies and practices; to identify and foster enabling conditions for women to fully participate in sustainable intensification; and to build capacity in local agricultural institutions. UTIA personnel have made several trips to Cambodia in the past year to talk with farmers about sustainable intensification of their production practices. This includes improving soil health by including green manure cover cropping strategies, water-saving techniques, vegetable grafting, and a focus on underutilized species.
OVERVIEW
The United States Agency for International Development project examines the production of tree species as living fences for added nutrition and crop protection for Cambodian smallholder livestock systems. The Smith International Center and Animal Science faculty led this activity, part of the Feed the Future Innovation Lab for Livestock Systems, together with partners from the Royal University of Agriculture, Cambodia.

FUNDING
USAID Feed the Future Livestock Systems Innovation Lab

PROJECT DATES
March 2017–May 2019

PROJECT ACTIVITIES
This project looks at 1) the effectiveness of four tree species (Gliricidia sepium, Moringa oleifera, Leucaena leucocephala, and Acacia pennata) as living fences for control of livestock movement, and 2) the impact of these fences in the Cambodian dry season as both provision of supplementary forage for livestock and also as nutritional diversification for smallholder households. This project builds off ongoing work in Battambang and Siem Reap Provinces to sustainably intensify smallholder systems by diversifying cropping practices and increasing the production of small farms. The species used for the living fences can also be used to feed cattle. In May 2019, Andrea Lear, assistant professor in Large Animal Clinical Sciences in the UT College of Veterinary Medicine, traveled to Cambodia to provide training to farmers on cattle health and how they can improve cattle production.

KEY IN-COUNTRY PARTNER
» Royal University of Agriculture
Research continues in Cambodia on bats and their part in agriculture. Adam and Emma Willcox, professors in Forestry, Wildlife and Fisheries, a graduate student, Hannah Shapiro, and David Ader of the Smith International Center have continued to gather information about bats, including the human dimensions of bat conservation. Ader traveled to Cambodia in summer 2018 to collect data on the role of bats in agroecosystems and local farmers’ attitudes and perceptions about bats. Bats provide essential agro-ecological services to agriculture by helping to control pests and providing guano, which is used as a fertilizer. The group is examining how negative pressures on the bat population could result in negative impacts on the natural pest control of bats. Preliminary results were presented at the International Bat Research Conference in Thailand in summer 2019.
A group of four faculty and one staff member from UTIA visited Guatemala in February 2019 to visit local counterparts and explore research opportunities related to soil and watershed management. The team, consisting of Chris Clark (Agricultural and Resource Economics), Shawn Hawkins and Forbes Waker (Biosystems Engineering and Soil Science), and David Ader and Sara Mulville (Smith International Center), met with local universities, research centers, and stakeholders representing both small- and large-scale agricultural systems. A seed project is being implemented with the Private Institution in Climate Change in areas of soil conservation and infiltration.

They also visited the community of Nueva Concepción, Escuintla, and met with the community leader of Canoguitas village to discuss agricultural conservation practices, resource-use conflict, and disputes.
A group of ten students from agricultural-related majors traveled to Guatemala during the month of March 2019. The first stop involved a visit to the USAID project *Mas Riego* (More Irrigation) in the highlands. The project uses cost-effective techniques to show local communities how to adapt to fluctuating weather patterns while maintaining or increasing yield. It focuses primarily on increasing the use of drip irrigation, conservation agriculture, and rainwater harvesting practices in smallholder vegetable production.

Field observations and gathering local information allowed our own students to devise a plan for the implementation of a similar demonstration garden in HTI-Clinica Ezell. At Clinica Ezell, students cleared a plot of land (ten-by-forty feet) and evaluated options for future land use. Their recommendations were compiled in their final student report.

**MILAM SUMMER TERM SCHOLARSHIP**

This three-week fieldwork opportunity allows undergraduate students to conduct work related to their fields with counterparts in Guatemala. The recipient of the 2019 scholarship was Ashlyn Anderson. As a first-year student majoring in nutrition with a minor in international agriculture and Spanish, she geared her work towards community health and nutrition. Ashlyn utilized a community collaborative approach to identify nutrition needs and priorities. Working with two HTI-Clinica Ezell extension workers, she developed a community-owned demonstration garden (Milam garden) and facilitated culturally adapted health information to four local villages. She also worked with two local elementary schools in their vegetable school gardens and taught nutrition education to schoolchildren.
OVERVIEW
By providing expertise, training, and resources in chicken production, this project aims to improve both incomes and household nutrition for smallholder farmers in the Musanze District.

FUNDING
Public-private Global Development Alliance between USAID-Rwanda and Africa Sustainable Agriculture Project Foundation

PROJECT DATES
January 2017–December 2019

PROJECT ACTIVITIES
The project uses a private extension model to train, supply resources for, and support 750 smallholder farmers for successful broiler chicken production. Now in the third year of implementation, the pilot project has been ramping up farmer enrollment and expanding to new locations within the Musanze District. With increased broiler production (more than 3,000 birds per week), additional efforts have been made on both sides of the value chain, from chick and feed sourcing to the sales and marketing of mature broilers. Efforts have addressed both increasing incomes and improving nutrition outcomes of smallholder households. Many enrolled farmers have reported an increase in their overall household incomes since joining the program. Additional support comes from microfinance partner, Goshen Finance Ltd. The team has also partnered with Gardens for Health International to deliver more comprehensive nutrition programming to farmers, stressing the importance of animal-sourced protein and a diverse diet for households.
2018-2019 TIMELINE

» OCTOBER: Second All Farmer Meeting nearly doubled attendance of the first meeting.

» NOVEMBER: Marketing and sales team hired to meet sales targets of farmers’ birds.

» JANUARY: Ti-University of Rwanda Poultry Learning event expanded collaboration.

» MARCH: Zamura Feeds and Goshen Finance finalized MOU; twelfth cohort trained and project enters a fifth sector (Cyuze).

» MAY: Third All Farmer Meeting celebrated participants, with the top farmer receiving a prize.

» JUNE: UT team organized twelve nutrition trainings to almost 700 participants (TI farmers and their spouses).

» JULY: All 378 enrolled farmers have received chicks and more than 90 percent have raised their first flock.
Smith International Center Metrics and Targets for Success

### FACULTY ENGAGEMENT

<table>
<thead>
<tr>
<th>Measure</th>
<th>FY 19 Actual</th>
<th>Target</th>
<th>Target Attainment Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of funded seed grants</td>
<td>4</td>
<td>5 per year</td>
<td>2017</td>
</tr>
<tr>
<td>Number of first-time faculty recipients of seed grant funding</td>
<td>9</td>
<td>6 per year</td>
<td>2018</td>
</tr>
<tr>
<td>Number of seed grant applications from faculty teams</td>
<td>6</td>
<td>10 per year</td>
<td>2018</td>
</tr>
<tr>
<td>Number of different UTIA faculty and staff on seed grant applications</td>
<td>16</td>
<td>25 per year</td>
<td>2018</td>
</tr>
<tr>
<td>Direct financial support offered to faculty from the Smith International Center</td>
<td>$29,000</td>
<td>$60,000 per year</td>
<td>2018</td>
</tr>
<tr>
<td>Number of faculty provided with financial support from the Smith International Center</td>
<td>15</td>
<td>20 per year</td>
<td>2018</td>
</tr>
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### RAISING INTERNATIONAL PROFILE

<table>
<thead>
<tr>
<th>Measure</th>
<th>FY 19 Actual</th>
<th>Target</th>
<th>Target Attainment Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of peer-reviewed journal articles published or coauthored by the Smith International Center</td>
<td>3</td>
<td>10 per year</td>
<td>2020</td>
</tr>
<tr>
<td>Number of non-peer-reviewed outreach pieces published by the Smith International Center or about programs run by/through the Smith International Center</td>
<td>5</td>
<td>20 per year</td>
<td>2018</td>
</tr>
<tr>
<td>Number of presentations (oral and poster) made at conferences (domestic and international) by the Smith International Center faculty and staff</td>
<td>10</td>
<td>10 per year</td>
<td>2019</td>
</tr>
<tr>
<td>Number of individual website views</td>
<td>681</td>
<td>500 per month</td>
<td>2019</td>
</tr>
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### STUDENT ENGAGEMENT

<table>
<thead>
<tr>
<th>Measure</th>
<th>FY 19 Actual</th>
<th>Target</th>
<th>Target Attainment Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Herbert students studying abroad</td>
<td>14%</td>
<td>30% of graduating class</td>
<td>2019</td>
</tr>
<tr>
<td>Number of students graduating with IANR minor</td>
<td>16</td>
<td>30 per year</td>
<td>2022</td>
</tr>
<tr>
<td>Number of students receiving Smith International Center funding support for international activities</td>
<td>13</td>
<td>20 per year</td>
<td>2019</td>
</tr>
<tr>
<td>Number of faculty-led study abroad opportunities</td>
<td>4</td>
<td>8 per year</td>
<td>2020</td>
</tr>
<tr>
<td>Number of students graduating with Peace Corps Prep certificate</td>
<td>2</td>
<td>20 per year</td>
<td>2022</td>
</tr>
<tr>
<td>Value of financial support provided by the Smith International Center to Herbert and UTCVM students to study abroad or have other international experiences</td>
<td>$8,800</td>
<td>$15,000 per year</td>
<td>2022</td>
</tr>
<tr>
<td>Number of students supported to attend national and international conferences on international agriculture and natural resources</td>
<td>6</td>
<td>10 per year</td>
<td>2022</td>
</tr>
<tr>
<td>Number of international fellows and interns hosted as a direct result of Smith International Center activities</td>
<td>9</td>
<td>10 per year</td>
<td>2019</td>
</tr>
</tbody>
</table>

### PROJECT FUNDING

<table>
<thead>
<tr>
<th>Measure</th>
<th>FY 19 Actual</th>
<th>Target</th>
<th>Target Attainment Year</th>
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</thead>
<tbody>
<tr>
<td>Value of external funding secured (three-year average)</td>
<td>$584,000</td>
<td>$800,000 per year</td>
<td>2019</td>
</tr>
<tr>
<td>Number of externally funded international projects in implementation phase</td>
<td>10</td>
<td>5 in progress per year</td>
<td>2018</td>
</tr>
</tbody>
</table>
Since the launch of the Office of International Programs at UTIA in 2015, UTIA has hosted eight USDA Borlaug fellows in a variety of disciplines. Borlaug scholars are top-level scientists from foreign countries who have applied for and been selected by USDA’s Foreign Agricultural Service for training in the US for three months on topics beneficial to US trade relations. These fellows work on UTIA’s campus with a faculty mentor, followed by a reciprocal seven- to ten-day visit by the UTIA faculty mentor to the fellow’s home country.

In fall 2018, UTIA hosted two USDA Borlaug fellows, both from sub-Saharan Africa, in the Departments of Agricultural and Resource Economics and Plant Sciences. In fall 2019, another fellow from sub-Saharan Africa will be hosted in the Department of Entomology and Plant Pathology.

### Fellows Hosted in 2018 and Upcoming in 2019

<table>
<thead>
<tr>
<th>Home Institution</th>
<th>Country</th>
<th>Year</th>
<th>Topic</th>
<th>Mentor(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lilongwe University of Agriculture and Natural Resources</td>
<td>Malawi</td>
<td>Fall 2018</td>
<td>Soy genetics</td>
<td>Tarek Hewezi and Vince Pantalone</td>
</tr>
<tr>
<td>Rwanda Agriculture Board</td>
<td>Rwanda</td>
<td>Fall 2018</td>
<td>Livestock policy</td>
<td>Andrew Muhammad</td>
</tr>
<tr>
<td>Zambian Agricultural Research Institute</td>
<td>Zambia</td>
<td>Fall 2019</td>
<td>Fall armyworm</td>
<td>Juan Luis Jurat-Fuentes</td>
</tr>
</tbody>
</table>
Outreach and Engagement

INTERNATIONAL SHOWCASE

The third annual International Programs Showcase was held on September 27, 2018. The event, held in Hollingsworth Auditorium, included an interview with Roger Thurow, former correspondent for The Wall Street Journal and currently a Senior Fellow at the Chicago Council on Global Affairs. The event also included the first ever UTIA international photo contest, an ice cream social, and the Herbert Study Abroad Fair.

SUSTAINABLE AGRICULTURE 3.0

On February 28, 2019, a workshop on Sustainable Agriculture 3.0: Nutrition, National Security and Nature Conservation was held on the UT campus, led by the Smith International Center, AgResearch, the Department of Biosystems Engineering and Soil Science, the Herbert College of Agriculture, and the Howard H. Baker Jr. Center for Public Policy. The goal of the workshop was to discuss ways forward for sustainable agriculture that integrate multiple interdisciplinary dimensions. The morning session attracted about 100 attendees and included a keynote from Bram Govaerts, global director of Innovative Business Strategies at the International Maize and Wheat Improvement Center. The morning concluded with a panel chaired by UT alumnus Donnie Smith and included Hon. Sharon Burke, senior advisor on international security (New America), Sarah Colby, associate professor of nutrition (UT), and Pipa Elias, soil health strategy manager (The Nature Conservancy). The afternoon workshop included thirty-five participants from UT and other institutions and organizations, who discussed ways to move forward on sustainable agriculture around the themes of nutrition, national security, and nature conservation.
**UTIA TRAVEL STATISTICS, FY 2019**

<table>
<thead>
<tr>
<th>Trips Taken</th>
<th>Countries Visited</th>
</tr>
</thead>
<tbody>
<tr>
<td>283</td>
<td>52</td>
</tr>
</tbody>
</table>

**COUNTRIES VISITED BY UTIA PERSONNEL, FY 2019**

- **North and Central America**
  - Belize
  - Canada
  - Costa Rica
  - Cuba
  - Guatemala
  - Mexico

- **South America**
  - Argentina
  - Brazil
  - Chile
  - Colombia
  - Ecuador

- **Europe**
  - Austria
  - Belgium
  - Croatia
  - Czech Republic
  - Denmark
  - France
  - Germany
  - Hungary
  - Ireland
  - Italy
  - Netherlands
  - Norway
  - Poland
  - Slovenia
  - Spain
  - Sweden
  - Switzerland
  - United Kingdom

- **Africa**
  - Botswana
  - Ghana
  - Namibia
  - Nigeria
  - Rwanda
  - South Africa
  - Uganda
  - Zimbabwe

- **Asia**
  - Bangladesh
  - Cambodia
  - China
  - India
  - Indonesia
  - Iraq
  - Israel
  - Japan
  - Malaysia
  - Nepal
  - Thailand
  - Turkey
  - United Arab Emirates

- **Oceania**
  - Australia
  - New Zealand

**UTIA faculty, staff, and graduate and professional students travelled internationally**

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Argentina Study Abroad Grant
Agustin Rius in the Department of Animal Science and Adam Willcox were awarded a US Department of State grant to develop a study abroad course on food security in Argentina. Rius, Chris Boyer in the Department of Agricultural and Resource Economics, Juan Luis Jurat-Fuentes in the Department of Entomology and Plant Pathology, and Sara Mulville from the Smith International Center will lead this course starting in 2021. The team will travel to Argentina in December 2019. The course will focus on emerging market economies, sustainable agriculture, and global food security. Students in this upcoming program will be able to learn firsthand how landscape and agricultural technologies related to livestock production are affected by different policies and socioeconomic conditions, and the threat posed by insect resistance to GM crops. This multidisciplinary team will realize this goal with the following objectives:

1. Create programming for students in underrepresented majors. Create a new faculty-led agricultural course with a focus on climate and economic resilience, food security, and sustainable agriculture in Argentina.

2. Strengthen and create new partnerships and collaborations with Argentine universities, research centers, farmer cooperatives, small- and medium-scale producers, agroindustry, community organizations, and government agencies working in areas of focus.

UTCVM Expands Global Offerings
Andrew Cushing in the College of Veterinary Medicine will oversee a veterinary clinical rotation to the Belize Zoo in fall 2019. Also, Ricardo Videla in the College of Veterinary Medicine will pilot a clinical rotation to Argentina.

Uganda Peanut Value Chain Project
Carrie Stephens, Jennifer Richards (both from the Department of Agricultural Leadership, Education and Communications), and Tom Gill were awarded a three-year project using photovoice for youth empowerment in the peanut value chain in Uganda. This project began in May 2019 and is funded by the USAID Peanut Innovation Lab.

Israel Exploratory Trip
The Smith International Center will join UTIA, UT Knoxville, and UT System administrators and faculty as part of a delegation to Israel in November 2019. One of the main purposes of this trip is to explore collaborative opportunities with Israeli public and private sector organizations, including institutions of higher education.