

A woman is seen from behind, walking through a field of young trees. She is wearing a purple dress with a bright orange sash tied around her waist. She also wears a purple headscarf with a pink flower on top. A grey shoulder bag is slung over her right shoulder. The ground is reddish-brown soil, and the trees are small with green leaves. The sky is blue with some white clouds.

SMITH INTERNATIONAL CENTER

FIVE-YEAR IMPACT REPORT 2017-2022



This report provides insight into what fiscal year 22 looked like for the Smith Center for International Sustainable Agriculture, and it also serves as a reflection on the impact of the first five years of our efforts. While COVID-19 necessitated innovative methods for us to continue doing this work, this past year served as an opportunity for the Smith Center faculty and staff to become more flexible in our approach to travel as face-to-face visits with global partners became a reality again.

To commemorate our five-year anniversary, the Smith Center team is reflecting on the myriad ways we've worked to grow global engagement at the University of Tennessee Institute of Agriculture while also facilitating greater partnerships around the world. Whether this has looked like increasing the number of students who study abroad, assisting more faculty to conduct international research and extension, or increasing our collaborations with universities and agencies around the world, it's been an honor to support these endeavors. We plan to continue working to elevate the global engagement of UTIA so that, by partnering with others around the globe, we can develop and deploy sustainable solutions to the world's complex, agricultural-related challenges. **Thank you to those who continue to support our work.**

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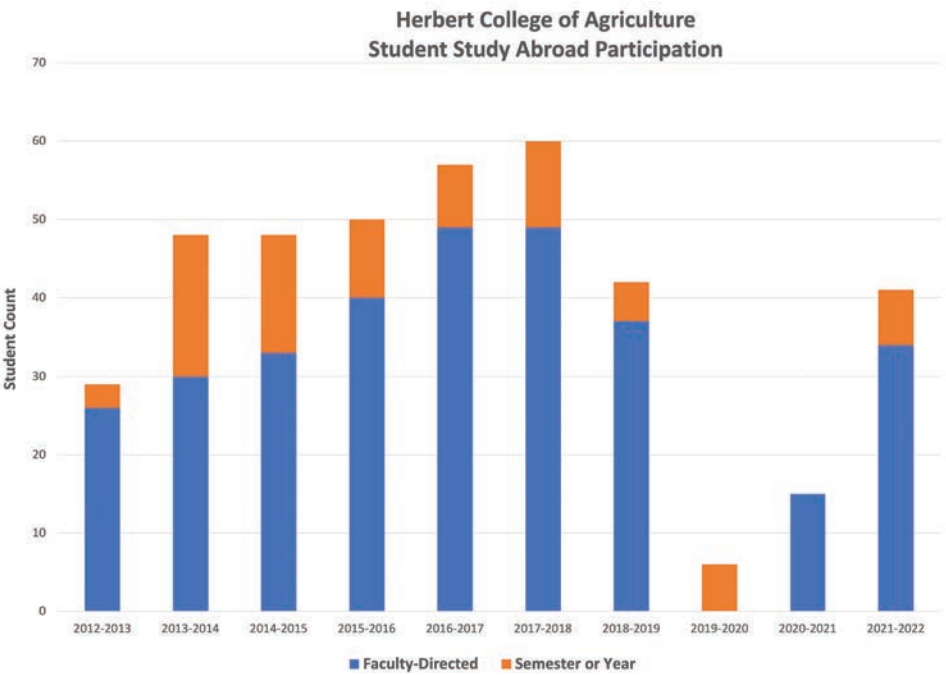


Student Engagement

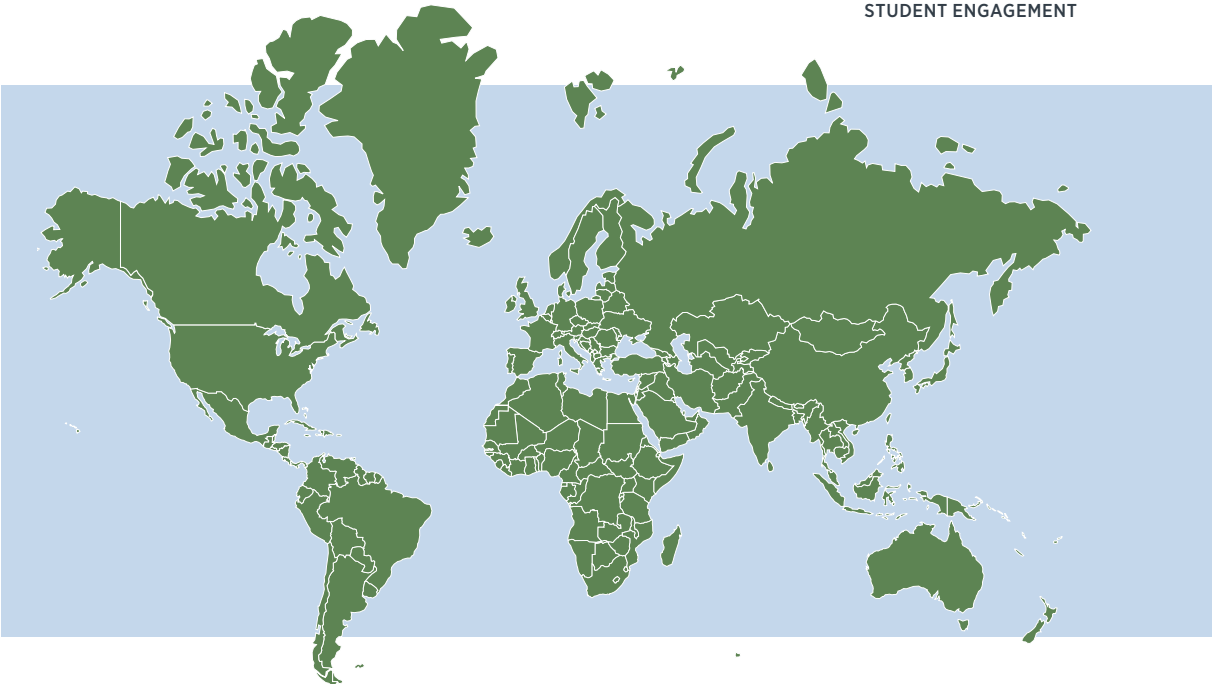
STUDY ABROAD

Since the Smith Center’s inception in 2017, 238 students in the Herbert College of Agriculture and the College of Veterinary Medicine have studied abroad. They traveled to twenty-seven different countries on faculty-directed or semester-long programs. UTIA study abroad program participation reached a high of sixty-five students during the 2017-2018 academic year. Due to COVID-19, we saw a sharp decrease in study abroad participation during the 2019-2020 and 2020-2021 academic years.

Study abroad has slowly begun to rebound as barriers to international travel have been lifted. In the 2021-2022 academic year, fifty-three Herbert and CVM students were able to participate in study abroad programs. With the implementation of a new UT academic calendar, Herbert led one of the first ever UT winter mini-term courses to Mexico in January 2022.



Looking forward, we anticipate continued growth of study abroad participation and program offerings. Faculty plan to lead courses to Italy, Costa Rica, Guatemala, Argentina, Cambodia, Japan, Mexico, and Belize during the 2022-2023 academic year.



Over the past five years, the following Herbert faculty have led trips abroad:

- Mike Smith** (retired) (2017)
Department of Animal Science
CASNR Jamaica Study Tour

Garry Menendez (retired) and **Brad Collett** (2017, 2018, 2019)
Brad Collett and Andy Pulte (2022)
Department of Plant Sciences
Glorious Gardens of Spain and Portugal
Glorious Gardens of Japan
Glorious Gardens of Slovenia and Austria
Glorious Gardens of Holland, Germany and Denmark
Glorious Gardens of the UK

Joanne Logan (retired) (2017, 2018)
Department of Biosystems Engineering and Soil Science
Waters and Civilizations in the Dominican Republic

Emma Willcox and Adam Willcox (2017, 2018, 2019, 2021)
Department of Forestry, Wildlife and Fisheries
Tropical Ecology, Field Methods and Conservation in Belize

David Lockwood (2017, 2018, 2019, 2022)
Department of Plant Sciences
Viticulture and Enology in Cortona, Italy (Jointly with the University of Georgia)
- Cheryl Kojima and Freddie Kojima** (2018)
Department of Animal Science
Animal Agriculture and Culture in Japan

David Ader and Amanda Kaeser (2018)
David Ader and Sara Mulville (2019, 2022)
Smith Center for International Sustainable Agriculture
Food, Agriculture and Natural Resource Challenges in Guatemala

Carrie Stephens (2019)
Department of Agricultural Leadership, Education and Communication
Developing Global Leaders Down Under in Australia

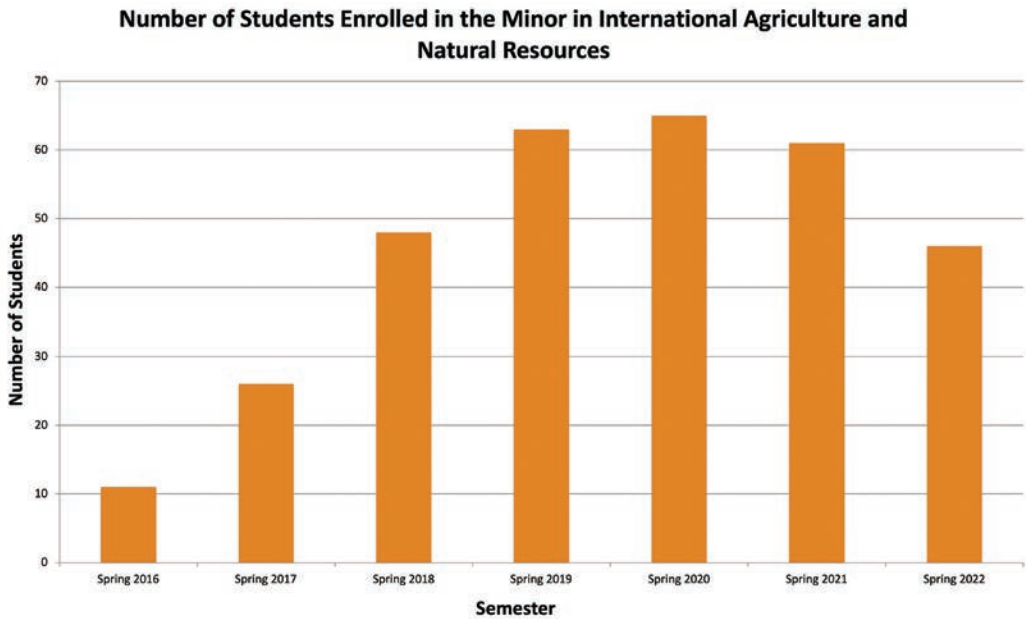
Andy Pulte and Adam Willcox (2018, 2019, 2021, 2022)
Departments of Plant Sciences and Department of Forestry, Wildlife and Fisheries
Plants, Parks and People: From the Smokies to San Jose

Adam Willcox (2021, 2022)
Department of Forestry, Wildlife and Fisheries
Small Animal Veterinary Experience in Belize

Carlos Trejo-Pech and Margarita Velandia (2022)
Department of Agricultural and Resource Economics
The Business of Coffee in Mexico

MINOR IN INTERNATIONAL AGRICULTURE AND NATURAL RESOURCES

In 2022, forty-six students were enrolled in the international agriculture and natural resources (IANR) minor. This number represents significant growth from the spring 2016 enrollment of twelve. We have witnessed a slight reduction in IANR minor enrollees since 2020 due to the lack of study abroad options as a result of travel restrictions during the global pandemic. The IANR minor includes an introductory course and three capstone course options. The introductory course Agriculture and Natural Resources 180 Global Dynamics: Food, Biodiversity, and the Environment is offered every Fall semester. Due to over-enrollment in the two existing minor capstone courses, the Smith Center developed a new capstone, Agricultural Leadership, Education and Communications 485: Global Sustainable Development Goals, which was offered for the first time in fall 2021.



INTERNATIONAL AMBASSADORS

The UTIA Student International Ambassadors group was formed in 2016 to link internationally engaged Herbert students with faculty and students across UTIA. Participants in this student-directed group share their own international experiences and promote study abroad opportunities and the international agriculture and natural resources minor.

The ambassadors meet regularly to plan activities such as first-year classroom visits, study abroad fairs, the annual international photo contest, and other campus events. The ambassadors also take a large role in the planning and implementation of the annual UTIA International Showcase.

PEACE CORPS PREP

The US Peace Corps Prep program enhances students’ undergraduate experiences by preparing them for international development fieldwork and potential Peace Corps service. The organization issues a certificate to students who complete the program, which is offered through a streamlined model focused on integrating relevant curricular and extracurricular offerings. Peace Corps Prep students 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 Knoxville has been a Peace Corps Prep program university since 2018. Our enrollment has remained steady at approximately thirty students. In 2022, five students were awarded Peace Corps Prep certificates. The UT Peace Corps Prep program has also been developed into a UT Knoxville academic minor program. The new global development minor was approved in spring 2022 and is currently enrolling students.



INTERNATIONAL ASSOCIATION OF STUDENTS IN AGRICULTURE AND RELATED SCIENCES

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 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 include 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. IAAS has also held highly successful events such as pumpkin carving and several themed dinners.



ZAMORANO UNIVERSITY PARTNERSHIP

The Smith Center has been partnering with Zamorano University in Honduras, a private agricultural university that offers a master's program in sustainable agriculture, since 2017. The Center has hosted fourteen students the last five years.

Working with the Smith Center, Juan Carlos Ramos Tanchez, a student of environment and development engineering from Guatemala, helped develop a new Herbert College of Agriculture study abroad course in sustainable agriculture to Guatemala during his internship. Following his time as an intern at UTIA, Ramos Tanchez completed a master's degree at the University of Nebraska and is now working at Cornell University.

Jean Pierre Enriquez Murcia, a student from Ecuador, was able to intern with former faculty member Curtis Luckett and get to know UTIA and the work being done here while completing his bachelor's degree in food science. Then, while pursuing his master's at Zamorano, Enriquez Murcia had the opportunity to return to UT to work with the Smith Center on research related to food security, contributing to projects both in Cambodia and on the UT Knoxville campus. He is now pursuing a PhD at Louisiana State University.



“The ag trips that I’ve been on through the Smith Center have been incredible. Just so enriching and really just make people more aware of how their role and their major fits into this story. None of us specifically studied coffee, but we all found ourselves really interested and fitting into this story about coffee in Mexico. That brought to light that we all have something to offer, **we all bring something to the table.”**

STUDENT STORY

Ashlyn Anderson, a '22 University of Tennessee alumna, first studied abroad in 2019 when she traveled to Guatemala for a weeklong immersive trip as a part of Agriculture and Natural Resources 491. On this trip students experienced agriculture across Guatemala, from salt bays to avocado farms. They learned about the challenges faced as well as the interconnections that exist between our own food system and the one they encountered there.

This trip convinced Anderson that she wanted to go back to Guatemala, and with the encouragement of Smith Center staff, she was able to participate in the Milam Scholars Program. She returned to Guatemala for two months the following summer, where she partnered with a local school and clinic to help expand their community garden.

Anderson was able to go on one last study abroad in January 2022. This trip to Mexico, led by Adam Willcox, associate professor in the Department of Forestry, Wildlife and Fisheries, and Carlos Trejo-Pech, an associate professor of agribusiness finance, focused on the business and marketing of coffee production in Mexico. The students that participated in this trip were able to learn about every aspect of the process of coffee production in Mexico as well as the challenges that exist.

As a result of the combination of the different international experiences that Anderson participated in through the Smith Center, she will be participating in the Fulbright Program where she will be teaching English in Mexico and engaging in a community-based project.

Faculty Engagement

GLOBAL SEED GRANTS FUNDED 2016-2022

The primary purpose of the Smith Center Global Seeds Grants is to assist interdisciplinary faculty teams to build strong international collaborations that will seek sustainable solutions and lead to future global programming, including the development of expanded proposals to be submitted to donor agencies for extramural funding. To date, **twenty-six seed grants** have been awarded, totaling **\$166,685**. Faculty teams have conducted work in **twenty-four countries**, and in total, **sixty-two faculty** have participated in these projects.

Year	Name of Lead Faculty (Department)	Country	Project Synopsis
2022	Kristen Johnson (UT Extension Family and Consumer Sciences)	Guatemala	Strengthening UT Extension’s Nutrition Education Outreach Internationally and Among Diverse Audiences in Tennessee
2022	Sonia Moisa (Department of Animal Science)	Argentina	International Collaboration With Llama Producers of Argentina Seeking to Improve Fiber and Meat Quality Through Genetic Selection
2022	Renata Oakes (Department of Plant Sciences)	Ireland	Tripartite Collaboration on Native Grasslands—A sustainable solution for challenges in temperate grass systems
2022	Carlos Trejo-Pech (Department of Agricultural and Resource Economics)	Mexico and Costa Rica	Coffee Cooperatives Serving Small Farmers in Costa Rica and Mexico
2022	Sreedhar Upendram (Department of Agricultural and Resource Economics)	Nepal	The Economic Impacts of Labor Migration on Climate Change Adaptation, Technology Adoption, and Agricultural Productivity in Nepal during the COVID-19 Pandemic
2021	Sindhu Jagadamma (Department of Biosystems Engineering and Soil Science)	Ethiopia	Enhancing Sustainable Agricultural Production in Ethiopia and Overcoming Chronic Food Insecurity: Establishing Teaching, Research, and Extension Partnerships
2021	Toni Wang (Department of Food Science)	Ghana	Establishing Collaboration with University of Ghana and Local Communities to Improve Shea Nuts Postharvest Handling, Processing, and Shea Butter Quality
2019	Becky DeBolt (Department of Small Animal Clinical Sciences)	Guatemala	Building a Field Veterinary Rotation in Rural Guatemala for DVM students
2019	Forbes Walker (Department of Biosystems Engineering and Soil Science)	Guatemala	Promoting the Adoption of Conservation Agriculture in Guatemala
2019	Joe Zhuang (Department of Biosystems Engineering and Soil Science)	Guatemala	Assessing Progress Toward Sustainable Agricultural Landscapes in the Highlands of Guatemala
2019	Juan Luis Jurat-Fuentes (Department of Entomology and Plant Pathology)	Kenya and Malawi	Research, Teaching, and Extension Approaches to Fall Armyworm Control and Improved Soil Productivity for Food Safety in sub-Saharan Africa
2018	Marcy Souza (Department of Biomedical and Diagnostic Sciences)	Uganda	Master Teacher Workshop for Faculty Members of East African Colleges of Veterinary Medicine
2018	Carlos Trejo-Pech (Department of Agricultural and Resource Economics)	Mexico	An International Research and Extension Experience with Cooperatives in Developing Countries: The Case of Certified Coffee Cooperatives in Mexico

Year	Name of Lead Faculty (Department)	Country	Project Synopsis
2018	Agricola Odoi (Department of Biomedical and Diagnostic Sciences)	South Africa	Epidemiology of Mastitis and Antimicrobial Resistance of Mastitis Pathogens in South Africa
2018	Jennifer Richards (Department of Agricultural Leadership, Education and Communications)	Dominican Republic	Developing a 4-H Youth Development Program in the Dominican Republic
2018	Siqun Wang (Department of Forestry, Wildlife and Fisheries)	China	Establishment of International Partnership Between UTIA and Chinese Academy of Forestry for Developing Biofuel and Biomaterials from Biomass
2018	Carrie Stephens (Department of Agricultural Leadership, Education and Communications)	Botswana	Sustaining Women Agriculturists in Global Contexts: An Exploratory Journey of Women Trailblazers
2017	Neelam Poudyal (Department of Forestry, Wildlife and Fisheries)	Nepal	Adaptive Resource Management in a Landscape in Transition: Understanding Climate Change Vulnerability and Adaptation among Forest-Dependent Communities of the Eastern Himalayas
2017	Denita Hadziabdic-Guerry (Department of Entomology and Plant Pathology)	Ghana	Cultivation and Conservation of Native Crops in West Africa
2017	Emma Willcox (Department of Forestry, Wildlife and Fisheries)	Cambodia	Initial Exploration of the Pest Suppression, Organic Fertilizer, and Protein Benefits Provided by Cave-Roosting Bats in Cambodian Agroecosystems
2017	Joe Bozell (Department of Forestry, Wildlife and Fisheries)	Brazil	The UTIA/Brazilian Partnership for Conversion of Renewable Materials to Chemicals
2016	Oudessa Kerro Dego (Department of Animal Science)	Ethiopia	Improving Dairy Animals Productivity, Health and Hygienic Milk Production and Processing in Southern Ethiopia
2016	Joanne Logan (Department of Biosystems Engineering and Soil Science)	Dominican Republic	Biochar for Enhanced Ecosystem Services in the Coffee Plantations of Dominican Republic
2016	Jennifer DeBruyn (Department of Biosystems Engineering and Soil Science)	Italy and Spain	International Biodegradable Mulch Study Tour: Assessing Barriers and Bridges to Adoption in the EU
2016	Phil Myer (Department of Animal Science)	Honduras	Establishment of International Partnership Between the University of Tennessee Institute of Agriculture and Zamorano University in Honduras for the Promotion and Advancement of Academic and Research Opportunities for Sustainable Solutions to Global Food Security Challenges
2016	Adam Willcox (Department of Forestry, Wildlife and Fisheries)	Uganda	Bushmeat Roulette: Species Uncertainty and Disease Risk from Foodborne Pathogens in Uganda

SEED GRANT IMPACT STORY

Marcy J. Souza, associate professor of veterinary medicine, received a Seed Grant in 2019 for conducting a teacher training workshop focused on improving teaching skills for faculty members from colleges of veterinary medicine in East Africa. Twelve faculty members from Ethiopia, Kenya, Tanzania, and Uganda participated in the workshop and then presented the information they learned at their home institutions with the goal of further improving the delivery of veterinary medicine education across numerous East African countries. This seed grant led to additional funding from the US Department of Agriculture’s Foreign Agricultural Service to bring fourteen East African veterinary educators to UT for pedagogical fellowships. These fellows will be hosted by UTIA in the fall 2022 semester.



PARTNERSHIP WITH SALZBURG UNIVERSITY OF APPLIED SCIENCES

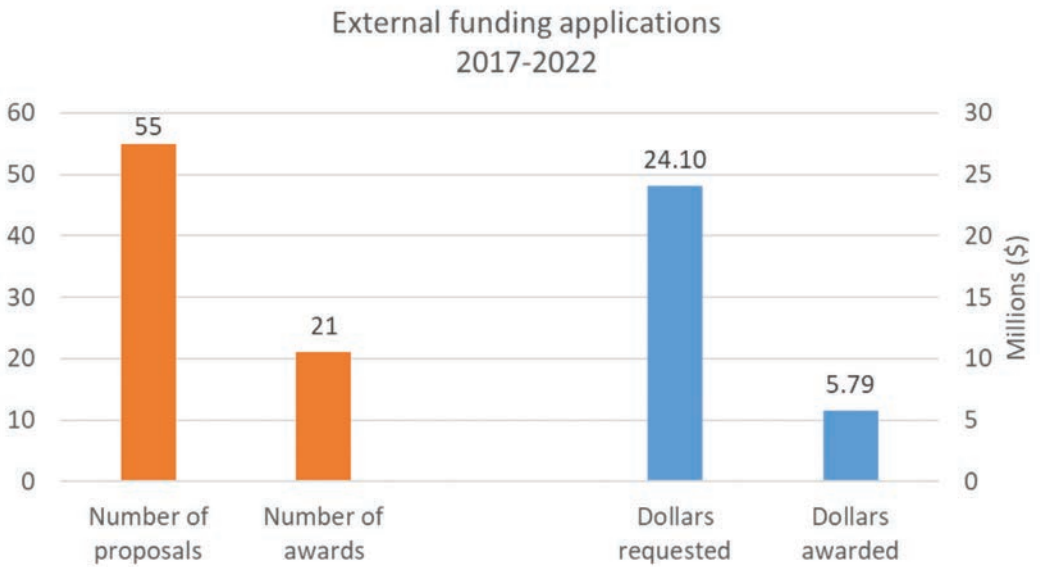
UTIA and the Salzburg University of Applied Sciences (SUAS), Austria, have been working together since 2007. The long-term partnership is stimulated by a double degree program for the master’s degree in wood technology and wood management at the Kuchl campus of SUAS. Faculty member Tim Young (Department of Forestry, Wildlife and Fisheries and Center for Renewable Carbon) has been instrumental to this partnership, which has seen thirty-seven Austrian students intern at UTIA over a span of fifteen years. Young completed a four-month Fulbright to Austria during the winter of 2013-2014, which further developed the collaborations. The Smith Center has cemented this partnership with the support of Young by providing resources and support to Austrian interns at UTIA. In addition, the Smith Center and Young led a UTIA delegation to Austria in the spring 2019, including time at SUAS.

The personal impact of this partnership is well demonstrated by Anton Astner. Astner first came to UT from Austria as an intern in summer 2008. Since then, he developed lignin-fractionation hardware with UT’s Center for Renewable Carbon, and he was the first to finish a joint master’s degree between UT and SUAS. He returned to Austria for work, but later came back to UT as an H1 research scientist. Astner went on to graduate from UT again in spring 2022 with his PhD. His impact has not only been realized in Knoxville, but also in Austria, where he has hosted UT faculty and students at his family farm while collaborations were further developed between SUAS and UT.

“It has been an amazing success story of highly successful international collaboration for over a decade between two universities,” says Young. He further notes that the impact on himself personally and professionally has been deep. “I have learned so much. The greatest discovery is that ‘as a people’ we are very similar. Even though we have different languages and governments, we all share so many commonalities in helping our families, communities, fostering environmental stewardship, being good hosts to visitors, and improving the lives of our citizens.”

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	Latin America	East Africa	Southeast Asia
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ARGENTINA

OVERVIEW

The Smith Center is building linkages with agricultural institutions in Argentina to develop a new interdisciplinary, faculty-led study abroad program for UT students. The UTIA team is composed of Adam Willcox (Department of Forestry, Wildlife and Fisheries), Agustin Rius (Department of Animal Science), Juan Luis Jurat-Fuentes (Department of Entomology and Plant Pathology), Christopher Boyer (Department of Agricultural and Resource Economics), and Sara Mulville (Smith Center). The UT team traveled to Argentina in winter 2019 and again in June 2022 to meet with partners in Argentina, including the Argentine National Institute of Agriculture and National Park Administration, local chapter for the Global Sustainable Beef Production, Private Consortium of Agricultural Producers (CREA), and multiple research institutions.

PROJECT DATES

October 2019–September 2022

PARTNERS

Various Argentinian institutions and organizations

FUNDING

US Department of State

IMPACT

- » A new study abroad program will run in May 2023 to Argentina, focusing on agricultural systems and natural resource management while exposing students to a variety of cultural activities.



BELIZE

OVERVIEW

This four-year initiative gave fourteen undergraduate students the opportunity to engage in international research and extension activities around the Vaca Forest Reserve in Belize.

PROJECT DATES

January 2017–December 2020

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

FUNDING

USDA National Institute for Food and Agriculture

IMPACT STORY

Andrew Cushing, veterinarian and assistant professor in zoological medicine at the College of Veterinary Medicine (UTCVM), was awarded Smith Center Ignite Funding in 2018 to identify potential sites for a clinical veterinary rotation in Central America. He chose to collaborate with the Belize Zoo because of its small veterinary clinic, supportive staff, and local wildlife rescue center. In addition, the ongoing US Department of Agriculture National Institute of Food and Agriculture Research and Extension Experiential Learning for Undergraduates program provided constant engagement with the Belize Zoo as a strategic partner organization for UTIA. In fall 2019, UTCVM faculty from zoological medicine, pathology, and anesthesiology traveled with eight veterinary students to Belize thanks to financial support from a UT Teaching and Learning Innovation grant and student study abroad funding from the Smith Center. While the students received firsthand experience in wildlife conservation, rescue, and rehabilitation, the Belize Zoo benefited by receiving training on protocols for necropsy, sampling, and using photography to aid in diagnostics. In addition, zoological medicine resident Peter Sojka taught Belize Zoo staff about emerging zoonotic diseases.



GUATEMALA

OVERVIEW

UTIA researchers and faculty are exploring opportunities and potential partnerships in Guatemala. The Smith Center holds the Milam Family Opportunity Endowment, which provides funding for student and faculty experiential international opportunities in Guatemala with a focus on world challenges related to clean water, food resources, and health and nutrition.

PROJECT DATES

Ongoing

PARTNERS

Various Guatemalan institutions and organizations

FUNDING

Milam Family Endowment

IMPACTS

- » Food, Agriculture and Natural Resources Challenges (Agriculture and Natural Resources 491) is an undergraduate course taught by the Smith Center each spring break. After a pause due to COVID-19 restrictions in 2020 and 2021, a dozen students traveled to Guatemala in March 2022 to visit local organizations working in food, energy, and water systems. Students were exposed to scenarios related to consumption and production challenges in urban and peri-urban centers.
- » The Smith Center has placed six undergraduate students as Milam Scholars in Guatemala for multiple weeks in the summer since 2017. One of these students, Ashlyn Anderson, has gone on to receive a Fulbright award to Mexico as a result of her time spent in Guatemala.
- » The Smith Center has built a strong partnership with the Institute for Climate Change in Guatemala, which has led to various opportunities for faculty with research and extension appointments to conduct climate-smart agriculture workshops at sugarcane companies and banana producers in the Pacific Coast region.



HAITI

OVERVIEW

The Smith Center has partnered with the University of Jérémie (UJ) through the support of UT alumni Bill and Dianne Seeley. UJ is a private university located in the Grand’Anse in southwestern Haiti. It offers bachelor’s degrees in agriculture, business administration, nursing, and theology.

PROJECT DATES

Ongoing beginning in October 2021

PARTNER

Université de Jérémie

FUNDING

Bill and Dianne Seeley

IMPACTS

- » The Smith Center completed an organizational assessment to identify challenges and opportunities facing UJ.
- » The Smith Center has also supported UJ to develop and operationalize a strategic plan based on the results of the assessment.
- » The Smith Center continues to work with UJ leadership to strengthen their fundraising activities and explore other areas for collaboration, including virtual and in-person educational exchanges that would bring in other members of the UT community.



OVERVIEW

UTIA and Colegio de Postgraduados (ColPos) Campus Cordoba are developing an international exchange between students and faculty. 100,000 Strong is the signature program of the US Department of State Western Hemisphere Education Initiative. Co-sponsored by Mexican institutions Fundación Banorte and Fundación Gruma, it provides students with access to new models of academic exchange and training programs. Carlos Trejo-Pech and Margarita Velandia (Department of Agricultural and Resource Economics) traveled with seven UT students to Mexico in early 2022 as part of a new January term, faculty-led course. This study abroad program focuses on the economic performance and sustainability of small- and medium-sized agricultural enterprises in Mexico and is designed to further build collaborations between UTIA and ColPos.

PROJECT DATES

June 2021-present

PARTNER

Colegio de Posgrado, Córdoba

FUNDING

Partners of Americas and 100,000 Strong in the Americas Innovation Fund

IMPACTS

- » During the Agriculture and Natural Resources 491 study abroad course, students visited ColPos, where they participated in lectures and received field and lab training on aspects related to coffee production, processing, and sensory analysis. They also visited coffee enterprises around Cordoba to understand the opportunities and challenges faced by coffee supply chain participants.
- » This experiential learning included interactions with ColPos students and faculty who will visit UT in fall 2022 to initiate the international co-mentoring program.



OVERVIEW

In February 2020, Smith Center team members had the opportunity to meet an official delegation of Panamanian indigenous community leaders (Embera-Wounaan, Ngabe Bugle, Guna Yala-Madunagandi y Wargandi) in Nashville. Representative Mark White (Chair, Education Committee, Tennessee House) and Diane Edrington, a nurse practitioner, both with long standing engagements in Panama, hosted the meeting. In 2021, faculty members from the Tickle College of Engineering and the College of Nursing, together with Smith Center team members, joined White and Edrington on an exploratory trip to the Darien Region in Panama. During that trip they visited indigenous villages in the Darien Province and Chagres National Park and developed collaborations to implement UT student programming in Panama.

PROJECT DATES

July 2022–June 2023

PARTNERS

Various Panamanian academic institutions and international NGOs, including Prospera, Solea Clean Water and Panama Missions

FUNDING

UT One Health Initiative seed fund award

IMPACTS

- » Awarded with UT One Health Initiative seed funds to develop a pilot International One Health fieldwork training program directed at building students’ global One Health core competencies.
- » Students traveled to the Darien corridor in January 2022 with UT team members to conduct community assessments related to clean water in remote indigenous communities.



CAMBODIA

WOMEN IN AGRICULTURE NETWORK CAMBODIA: GENDER AND ECOLOGICALLY SENSITIVE AGRICULTURE

OVERVIEW

This project empowered women and improved nutrition by promoting women’s participation in the value chains for horticultural crops and rice produced through sustainable intensification practices.

PROJECT DATES

December 2015-March 2020

PARTNERS

Royal University of Agriculture and University of Battambang

FUNDING

USAID Feed the Future Innovation Lab for Collaborative Research on Sustainable Intensification (SIIL); subaward through Penn State University

IMPACTS

- » Identified and promoted adoption of gender-sensitive sustainable intensification technologies and practices.
- » Identified and fostered enabling conditions for women to fully participate in sustainable intensification practices.
- » Farmers have adopted gender and ecologically sensitive sustainable intensification production practices through green manure cover cropping strategies, water-saving techniques, vegetable grafting, and a focus on underutilized plant species.



SCALING SUITABLE SUSTAINABLE TECHNOLOGIES (S3 CAMBODIA)

OVERVIEW

Building on our prior research in Cambodia, this project seeks to bring three sustainable intensification technologies to scale: vegetable grafting, cover/relay crops, and wild gardens. S3-Cambodia project is scaling three suitable and sustainable technologies to farmers in Cambodia through the private sector and school communities.

PROJECT DATES

July 2020-July 2023

PARTNERS

Tennessee State University, Penn State University, University of Battambang, Center of Excellence on Sustainable Agricultural Intensification and Nutrition (CE SAIN), Swiss Foundation for Technical Cooperation (Swisscontact), *Centre de coopération internationale en recherche agronomique pour le développement* (CIRAD)

FUNDING

USAID Feed the Future Innovation Lab for Collaborative Research on Sustainable Intensification (SIIL)

IMPACTS

- » Identified private sector agricultural groups and the secondary school system as viable scaling pathways for uptake of these market-oriented technologies.
- » Promotes the diversification and resilience of smallholder systems by introducing new sources of income and nutrition during seasonal “food gaps,” across different agricultural spaces.
- » Supported the establishment of six plant nursery businesses and nine school gardens.



FARMER-TO-FARMER (F2F) CAMBODIA

OVERVIEW

Our Farmer-to-Farmer project provides technical assistance from highly-skilled US volunteers to Cambodian farmers and agricultural groups to promote sustainable improvements in both food security and agricultural production, processing, and marketing in Cambodia. This initiative draws on a toolkit of interventions, including improving soil health, managing water resources, improving access to germplasm, promoting integrated pest management, and strengthening crop rotations through new livestock grazing regimes

PROJECT DATES

January 2020–January 2023

PARTNER

Center of Excellence on Sustainable Agricultural Intensification and Nutrition (CE SAIN)

FUNDING

United States Agency for International Development (USAID) and Partners of the Americas Farmer-to-Farmer Agriculture Volunteer Opportunity Project (AVOP) Small Grants Program

IMPACTS

- » Cultivated relationships with Cambodian host-organizations to support both Cambodian and American F2F volunteers to provide hands-on training to agricultural communities around these intervention areas.
- » Twenty-two F2F volunteers to-date have been able to exchange technical assistance with Cambodian host communities based on identified needs.



TWORORE INKOKO, TWUNGUKE

OVERVIEW

By providing expertise, training, and resources in chicken production, this project improved both incomes and household nutrition for smallholder farmers in the Musanze District. The project used a private extension model to train, supply resources for, and support 500 smallholder farmers for successful broiler chicken production. Over the course of the project, the sale of more than 350,000 birds bolstered the Rwandan economy by \$1.67 million US.

PROJECT DATES

January 2017–September 2020

PARTNER

Zamura Feeds Ltd.

FUNDING

Public-private Global Development Alliance (GDA) between USAID-Rwanda and Africa Sustainable Agriculture Project (ASAP) Foundation

IMPACT STORY

Mukagaju Leocadie lives with her husband and three children in Kinigi sector. Leocadie is very grateful to be a Tworore Inkoko farmer and for the positive impact the project has had on her family, particularly related to their diets. The profits from her poultry business have enabled her to pay for school fees and buy food for the household, including eggs, rice, and some sugar—all items she was not able to buy previously. In addition to increasing the incomes of beneficiaries, TI also aims to improve household nutrition outcomes. Farmers are encouraged to keep a few of their chickens for household consumption at harvest time. Leocadie remarked, “The children really enjoy eating chicken and always look forward to the harvest.” With a smile, she added, “I also enjoy eating chicken, too.” Animal-sourced protein is a complete protein, meaning it contains all nine essential amino acids required for growth and development. Tworore Inkoko particularly encourages women of reproductive age and children under five years old to consume the chickens.



RWANDA BROILER SALES AND TRADE

OVERVIEW

This project explored opportunities to build and expand the commercial broiler chicken sector in Rwanda. The Smith Center worked with Andrew Muhammad and Karen DeLong from the Department of Agricultural and Resource Economics to study demand and consumer attitudes toward chicken relative to other meat sources through a survey of 100 businesses in Rwanda.

PROJECT DATES

August 2019–July 2022

PARTNER

Rwanda Agriculture and Animal Resources Development Board (RAB)

FUNDING

USDA Scientific Cooperation Research Program (SCRP)

IMPACTS

- » Contributed strategies for developing Rwandan “branded” chicken products for Rwandan businesses and built on the smallholder model for broiler chicken production piloted under the Rwanda TI project.
- » The research findings are being written up for publication in a peer reviewed journal article and are also the focus of a graduate student thesis.



OVERVIEW

This project uses a novel visual research methodology, photovoice, to address engagement of Ugandan youth in the peanut value chain. Photovoice empowers participants to identify, document, reflect upon, and communicate issues of concern using photography and follow-up discussions. Peanuts are the second most important legume in Uganda and are increasingly important as a protein source for households. Because peanuts generally require few inputs, it is an advantageous crop for many smallholder subsistence farmers in Uganda.

PROJECT DATES

March 2019–September 2022

PARTNERS

Makerere University (Uganda), National Agricultural Research Organization (NARO) (Uganda)

FUNDING

USAID Feed the Future Peanut Innovation Lab

IMPACT STORY

Participants have stated that working with the photovoice methodology enabled greater self-empowerment and helped to deepen their connection to their communities. One participant enjoys visiting other groundnut plots and speaking with fellow farmers. “I like discussing with the farmers in the community. We share. They tell the problem, and we tell the solution,” said one photovoice participant from the district of Nwoya. Participants learn about groundnut varieties, diseases, and efficient planting methods from each other and from professors who visit the communities from Makerere University, in Kampala, Uganda. “By this time, I know them [groundnuts] all well. We also get to know varieties and a variety of seeds; the good ones and the bad ones.” said one Photovoice participant. The project has encouraged youth to begin starting their own groundnut plots and expand their product range when selling at the local markets.



FEWSUS

OVERVIEW

International Research Coordination Network for Creating Transdisciplinary Nodes of Food-Energy-Water to Support Sustainable Urban Systems (FEWSUS) creates a robust international Research Coordination Network (IRC�) for charting a new path forward in developing urban sustainability and resiliency within the framework of the nexus of food, energy, and water (FEW) systems. This project seeks to form research networks among countries of different urbanization and income levels, to create effective strategies and approaches to promoting transdisciplinary collaboration and stakeholder engagement, and to establish a workforce training network.

PROJECT DATES

July 2020-June 2023

PARTNERS

Global institutions and organizations

FUNDING

National Science Foundation (NSF)

IMPACTS

- » “Toward Urban Sustainability,” the first annual FEWSUS symposium, took place in 2021 and included sixty-five talks with forty-seven institutions from seventeen countries.
- » “The 2022 International Student Workshop of Food-Energy-Water Nexus for Urban Sustainability,” the second international student workshop, took place in May 2022 and included twenty-one students from seven countries.
- » The FEWSUS student network includes fifty-five active members from ten countries.
- » Hosted several binational and multi-national meetings to provide training opportunities for faculty to understand the challenges that urban systems face under the impacts of FEW crises, climate change, and demographic change.





Fulbright Program at UTIA

Led by the United States government in partnership with more than 160 countries worldwide, the Fulbright Program offers international educational and cultural exchange programs for passionate and accomplished students, scholars, artists, teachers, and professionals of all backgrounds to study, teach, or pursue important research and professional projects.

2017–2022 faculty recipients include:

- **Adam Taylor**, professor in the Department of Forestry, Wildlife and Fisheries, Center for Renewable Carbon, received a Fulbright-Saastamoinen Foundation Grant to study connections between forests, forest products, and climate change in 2023.
- **Neelam Chandra Poudyal**, associate professor in the Department of Forestry, Wildlife and Fisheries, to conduct research on sustaining human-wildlife coexistence in Nepal, fall 2022.
- **Denita Hadziabdic-Guerry**, associate professor in the Department of Entomology and Plant Pathology, studied the frafra potato as an alternative food source in west Africa as part of the African Regional Research Program, late 2018–early 2019.
- **Seong-Hoon Cho**, professor in the Department of Agricultural and Resource Economics, lecturer and researcher on his project Payments for Forest Carbon Storage that Optimize Risk-Reward Trade-Offs under Climate Uncertainty in South Korea, July–December 2018.

The **Fulbright U.S. Student Program** expands perspectives through academic and professional advancement and cross-cultural dialogue. Fulbright creates connections in a complex and changing world. In partnership with more than 140 countries worldwide, the Fulbright US Student Program offers unparalleled opportunities in all academic disciplines to passionate and accomplished graduating college seniors, graduate students, and young professionals from all backgrounds. Program participants pursue graduate study, conduct research, or teach English abroad.

2017–2022 student recipients include:

- **Ashlyn Anderson**, fall 2022. Anderson will go to Mexico through the US–Mexico Commission for Educational and Cultural Exchange as an English teaching assistant.
- **Niamh Schumacher**, fall 2022. Schumacher received a Fulbright English teaching assistantship in Rwanda.
- **Jaime Ragos**, fall 2020. Ragos went to Taiwan on a Fulbright English Teaching Assistantship.
- **Andrew Franks**, fall 2019. Franks went to the University of Ljubljana in Slovenia on a Fulbright Research Grant to study the impact of small-scale logging operations on forest soils.



Sustainable Development Goals

In 2020, the Smith Center and the UT Knoxville Center for Global Engagement (CGE) worked with campus partners to begin reporting university progress toward achieving the United Nations Sustainable Development Goals (SDGs) to the Times Higher Education new university rankings system. The SDGs were adopted in 2015 to provide a framework for all countries around the world to work towards seventeen common global goals. They outline high-level targets in all spheres of human interaction with each other and the planet.

The Smith Center has helped UT Knoxville raise its SDG ranking to 101-200 in 2022 out of 1,406 universities around the world that reported on their SDG impact, as well as rising to seventh in the United States for overall SDG engagement. Smith Center faculty teach Agricultural Leadership, Education and Communications 485/585: Global Sustainable Development Goals, which provides a primer to undergraduate and graduate students on the SDGs. The Smith Center and the CGE also have joined the Global Challenges University Alliance (GCUA), a global consortium of universities working together towards the SDGs. GCUA provides opportunities for UT students to take SDG courses across the consortium, as well as professional development opportunities for graduate students and postdocs.





Launch Event and International Showcases

On November 16, 2018, UTIA celebrated the launch of the Smith Center for International Sustainable Agriculture. The program involved an overview of ongoing Smith Center activities, distinguished speakers, live music, and refreshments. The event welcomed nearly 200 UT students, faculty, staff, and guests. Distinguished speakers included UT System President Dr. Joe DiPietro, UTIA Chancellor Dr. Tim Cross, TN Agriculture Commissioner Jai Templeton, and Senior Field Director for Senator Bob Corker, Ms. Jane Jolley.

The Smith Center has also hosted an annual International Showcase every Fall, to honor the support of Donnie and Terry Smith and highlight how our programs have progressed. The International Showcase provides a time to create greater awareness about UTIA global engagement and creates an opportunity to raise awareness about our mission on campus and in the local community.

Smith Center Team



Tom Gill, associate professor and Smith Chair



Dave Ader, assistant professor and Smith Center assistant director



Adam Willcox, research associate professor



Sara Mulville, program administrator



Hans Goertz, project development specialist



Carrera Romanini, postdoctoral program manager



Mary Shelley-Snell, global communications leader



Gracie Pekarcik, study abroad coordinator



Annie Carter, graduate research assistant



Looking to the Future

- » A new Smith Center strategic plan will be launched for 2022-2027.
- » The Smith Global Leadership Faculty Fellows Program will be launched in fall 2022, designed to develop faculty champions for global engagement across UTIA.
- » Beginning fall 2022, the Smith Center will lead UT Knoxville’s Academy for Global Scholars, a first-year, first-generation cohort program with study abroad for incoming students across the university.
- » In fall 2022, the Smith Center will work with faculty across UTIA to host twenty-eight USDA Foreign Agricultural Service fellows, funded under five different federal programs.
- » The Smith Center’s physical location will move to new quarters in the upcoming UTIA Energy and Environmental Science Research Building in winter 2023-24.



Statement of Gratitude

The Smith Center was born out of Donnie and Terry Smith’s passion for solving world hunger. Because of their generosity and drive to foster solutions, the Smith Center is able to meet the challenge of nourishing the world’s population with science-based, sustainable ideas while restoring the planet on which we depend. We are grateful to have the opportunity to do this work and so appreciative that it’s possible to move towards our goals through the transformational giving of alumni and donors. The Smith Center has also been able to cultivate partnerships around the world with a range of collaborators, including universities, government institutions, non-profits, private sector organizations, and research agencies. It is through these collaborations that we can grow greater global engagement and continue to work towards our goals. Thank you for your support and partnership!

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