IOWA STATE UNIVERSITY Global Resource Systems

GRS Alumni Newsletter 2018 - 2019



SOME STUDY ELEMENTS. OTHERS BRAVE THEM.



Dear Global Resource Systems Alumni and Friends,

Greetings from Iowa State University! We are pleased to share with you the Global Resource Systems (GRS) alumni newsletter for 2018-2019 academic year. Our goal is to keep connected with you and share the year's activities and achievements. It has been an exciting academic year of growth for the GRS program, and we continue to be proud of producing graduates who are globally ready with excellent skills and competencies. GRS just marked a milestone and the upcoming 2019-2020 academic year will include activities to celebrate GRS's 10year anniversary. When I think about the past, current, and future years of GRS, I have great pride and respect for our university and the potential of its alumni, students, and faculty. I know that GRS students and alumni - forever Cyclone "Globies", will continue to excel as they contribute to resource systems of our nation and world.

As of spring semester 2019, GRS has 140 majors, at least 12 faculty and staff members working directly with GRS students, and 161 alumni. We expect another 25 graduates in spring and summer 2019. Since 2010, over 198 students have completed their global internship on six continents in 47 countries. The GRS curriculum continues to provide a high-impact undergraduate program with a global internship, senior project, real-world global capstone project, and leadership and service learning opportunities.

GRS students continue to participate in opportunities of a world-class education. They complete global internships, participate in service learning in Uganda or the U.S. Virgin Islands, compete for top honors and scholarships, and study abroad in travel and semester-long programs. They are trained in cross-cultural and multidisciplinary understanding of global resource systems. They read co-currental check of the long-standing thanksgiving potluck and global jeopardy events) and create new memories and traditions for GRS.
The following pages showcase many of our GRS students and their activities. We are proud that GRS continue to prepare future professionals with an understanding of global resources to help create sustainable systems for our action and the world.
The past 10 years have been an incredible journey, and each of you has played a part. Our dream for GRS in the next 10 years is for the educational programs to continue to be of the highest caliber and provide extraordinar opportunities for GRS students. We are very grateful for your support, and please, always stay in touch!
Sincerely,
Dr. Gail Mounecke
Faculty Coordinator
a Global Professor in Global Resource Systems multidisciplinary understanding of global resource systems. They lead co-curricular clubs on campus and

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GRS students welcomed 2003 World Food Prize Laureate Catherine Bertini to campus in October 2018

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New programs,

Sustainable Rural Livelihoods (CSRL) Iowa State University, College of Agriculture and Life Sciences, and the Center for Sustainable Rural Livelihoods (CSRL) Iowa State University - Uganda Program have partnered with Makerere University to provide significant service learning and internship programming for ISU and Makerere University students in Kamuli District. Students have participated in short-term faculty led programs during spring break, fall break, and the summer semester. Now, a new opportunity is available for students interested in a longer experience.

Introducing the "Semester Along the Nile Program", started in 2018. In this study abroad, students spend four months living and learning in rural Kamuli District Uganda, experiencing a new culture while assisting in agriculture and food development initiatives through the Iowa State University - Uganda Program. Students enroll in full-time ISU coursework, including the potential for independent projects related to agroforestry, animal ecology and wildlife, animal science, crop production, environmental science, extension and community development, horticulture, nutrition education, soil science, and youth entrepreneurship. Students seeking to improve global food security will find this an incredible opportunity to gain hands on skills while advancing their education.

new faces,

In October of 2018, Iowa State University named **Daniel J. Robison** as the next Endowed Dean of the College of Agriculture and Life Sciences. Robison came to Iowa State from West Virginia University and is a forester and entomologist. Early in their careers, Dean Robison and his wife, Julie, spent two years in Ivory Coast, West Africa working for international development organizations. We are happy to have a new dean who is passionate about our students and their learning while at Iowa State and beyond. Welcome to Iowa State, Dean Robison!

and new ways to stay connected!

Follow our adventures on our new Global Resource Systems social media pages from wherever you are in the world! Connect with us on Facebook, Twitter, and Instagram to see what we're up to. Like and follow to keep up with GRS as we celebrate 10 years in 2019!



Dean Dan Robison, Endowed Dean of the College of Agriculture and Life Sciences

WHERE WILL YOU GO?

@globeiastate

Follow our students' adventures on Facebook, Twitter, and Instagram



The Global Resource Systems Learning Community continues to serve students to build community in the major. This past year, four peer mentors led several events, including traditional favorites along with new activities. Students continue to enjoy the annual Thanksgiving polluck in November.

During the spring 2019 semester, students organized and participated in several activities to get to know the GRS faculty and staff. Learning community peer mentors this year were: **Ellie Osterhaus**, **Katelyn Fritz**, **Emily Tonn**, and **Joselyn Carillo**. Peer mentors have already begun to plan for the fall 2019 semester. Stay tuned for photos from 2019-2020 academic year!

2018-2019 Globe Learning Community Events

- GRS Welcome Event
- Cookies and Conversations (multiple events)
- Fall Potluck
- Brunch and Tie Dye
- Pumpkin Decorating

- Unpacked: Refugee Baggage exhibit and discussion
- Jammies and Jenga with Jennifer
- Movie Night The Boy Who Harnessed the Wind
- Discovery with Dick
- Dead week snack bags (both semesters)





The Globe Ambassadors program is an initiative to educate the public and recruit new students while fostering student leadership, engagement, and professional development of members. Ambassadors participate in activities including speaking with high school students during campus visits, talking with academic advisors, and traveling to local and statewide recruitment events and conferences.

This year, ambassadors embarked on a variety of activities at a number of events through the program. Here is just a sampling of where we've been this year!

- World Food Prize
- Learning Community Presentations (multiple)
- ISU Majors Fair
- Administrative Professionals Day
- Iowa Youth Institute of the World Food Prize
- 4H Connect
- Experience Iowa State (multiple day)
- EARTH Day
- Forever True Week
 - State FFA
 - Program for Women in Science and Engineering -The Road Less Traveled Conference
 - Junior Visit Day
 - Sustainability Conference
 - ACES



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GLOBE Leadership Fellows Program

The GLOBE Leadership Fellows Program (GFLP) is offered to first- and second- year students who are majoring in Global Resource Systems. The program is specifically targeted to students who want to learn about leadership and develop skills that enable them to be agents of change at Iowa State University and beyond. Students have the opportunity to identify personal leadership styles and philosophies, explore leadership roles in their field of study, and interact with GRS faculty and other ISU staff.

Each semester, 5-12 students participate in GLFP. This year, fifteen students completed the program. One of the program outcomes is to inspire and develop leadership in students during their first half of college to enhance their experience within the GRS program and their professional careers. Each GLFP cohort is facilitated by student leaders in the upper-division GRS program. This year, the co-facilitators for GLFP were **Jace Hadish**, senior in GRS and Animal Ecology; **Sierra Becker**, senior in GRS and Animal Science; and **Jack Pieper**, junior in GRS and Agronomy.

During their semester, Leadership Fellows read *The Five Dysfunctions of a Team* by Patrick Lencioni to learn about the tenants of teamwork and conflict resolution. Students also completed Strengths Finder and Myers-Briggs to support their intrapersonal learning.

Students who complete GLFP are eligible and encouraged to apply to become GLOBE Ambassadors, a leadership opportunity for students to represent GRS at recruitment events like poster sessions, high school campus tours, and The World Food Prize. GLFP taught me how to be an effective leader and have more confidence to meet my goals. One of my biggest takeaways was that anyone has the ability to be a leader. Leadership rests on understanding my own strengths and weaknesses and how I can work with others to meet a goal.

Grace Jakes, Spring 2019 GLFP Program Participant

Topics covered in GLFP:

- Defining leadership
- Leadership and teamwork
- Leadership and personalities (MBTI)
- Identifying leadership styles with Strengths Finder
- Body language
- Professionalism
- Conflict resolution
- Reflection and goal setting



Cargill-GRS Leadership Academy



or 20 weeks during the 2019-2020 academic year, iunior- and senior-GRS students met for intensive, two hour seminars in the Cargill-GRS Leadership Academy, through which they learned about, examined and practiced key concepts in leadership.

The course was structured into four overarching sections of focus about leadership: Intrapersonal, Interpersonal, Team, and Organization. Topics and concepts included: self awareness assessments and analysis; emotional intelligence; building a personal brand as a leader; leadership legacy; communication skills for success; understanding and managing conflict; difficult conversations; giving and receiving feedback; and stages of team development.

Students read and reflected on the books Emotional Intelligence 2.0 by Travis Bradberry and Jean Graves; The Five Dysfunctions of a Team by Patrick Lencioni; and Leaders Eat Last by Simon Sinek. Cargill representatives Will Hale and Hillary Kletscher shared lessons in leadership. Leadership skills learned were put into practice as the class identified and developed a project to implement for other students to benefit the GRS program.

When I started the Academy in the fall, I thought I would learn some new tips about leadership. Reflecting on the year, I realized that goal barely scratched the surface for what I learned and how beneficial this experience has been to me and my future career. I learned a lot about myself and the importance of reflection. Because of the Cargill-GRS Leadership Academy, I know that I am capable and I have the desire to be a leader in my life every day. Alena Whitaker, 2018-2019 Leadership Academy Participant

Peace Corps Prep Program

owa State University and the United States Peace Corps formally announced the Iowa State Peace Corps Prep Program in 2016. The program prepares and equips ISU students for service in the Peace Corps or other global organizations upon graduating. With successful completion of the program, ISU graduates find themselves thoroughly equipped for the international workforce, demonstrating exceptional skills and invaluable global competence.

To successfully complete the Peace Corps Prep Program, students build competencies over the course of completing their undergraduate degree programs that prepare them for international development field work and Peace Corps service. To do so, students complete academic courses and 50 or more hours of experience in one of the following work sectors in which Peace Corps volunteers serve: agriculture, environment, education, health, community economic development, and youth development. Students are also required to develop foreign language skills, intercultural competence, leadership and professional experiences. Following completion of the requirements, graduates are strong applicants to the Peace Corps.

The 2018-2019 Peace Corps Prep Program at ISU enjoyed further growth and impressive success in its students being accepted to and place in Peace Corps Volunteer positions. During the academic year, the program convened meetings which involved 75 students from across the University and featured important information regarding how to develop an effective application to the Peace Corps. Over the course of the 2018-2019 academic year, 13 students earned Peace Corps Prep Certificates upon their graduation from Iowa State University and 5 students were selected for competitive Peace Corps volunteer positions.



Spring 2019 graduates receive their Peace Corps Prep certificates

When I was a freshman, I knew that I wanted to eventually serve in the Peace Corps. After I enrolled in the Peace Corps Prep program, I completed a curriculum tract of additional courses within my technical areas. I felt that my Peace Corps Prep experiences and requirements of the Peace Corps Prep program better prepared me for the international workforce. After a successful completion of the program and many other attributing factors, I was invited to serve in Peace Corps Paraguay as a Community Environment Promoter.

Hannah Baysinger, Peace Corps Prep Participant

Clubs: IAAS, Oxfam, Unicef, GHAC

Good and a students are involved in many clubs on campus. Joining student clubs and organizations on campus is a huge part of the college experience. At ISU, there are hundreds of clubs that offer students a chance to develop leadership skills while promoting causes they believe in, which is especially important to students with goals of tackling global issues. Here are just a few favorites among GRS students:

IAAS

International Agriculture of Students in Agricultural and Related Sciences (IAAS) is a student organization that desires to create interest in International Agriculture and support international events at opportunities at ISU. Many GRS students are active in IAAS and hold officer positions including President Shannon Rauter, Vice President Jack Pieper, and Secretary Amanda Gorzney. Natalie Bidner served as President of IAAS World. The club currently has over 70 members and has helped to sponsor GRS student participation in the World Food Prize events held annually in Des Moines. IA. This year IAAS is proud to have supported various students' travel to international agriculture conferences and hold the third annual international banquet at Iowa State University to create community for international and domestic students, faculty, and staff in CALS.

UNICEF

ISU UNICEF remains active on campus and at the national level. Events on campus have focused on several of UNICEF's key initiatives related to clean vater, human trafficking, and vaccinations. During the past year, two GRS students have held leadership positions on the team including Treasurer **Nicholas Battles** and Fundraising Chair **Roman Kiefer**.





Oxfam America

The Oxfam America Club at Iowa State University is dedicated to making a change, starting within the local community and stretching to national, and even global, scales. Their focus is to right the wrongs of poverty, hunger, and social justice through awareness, campaigns, and pulling for policy change. Their actions on campus such as fair trade chocolate sales, the ISU Hunger Banquet, documentary viewings and more, encourages students and faculty to use their voice to stand up for what they believe in. The overall goal is to create lasting partnerships within the community and build our army in this never-ending fight for a fair and just world. Students holding officer positions include President Alana Platte, Vice President Roman Kiefer, Treasurer Caryn Dawson, and Secretary Natalie Keller.

Global Health and AIDS Coalition (GHAC)

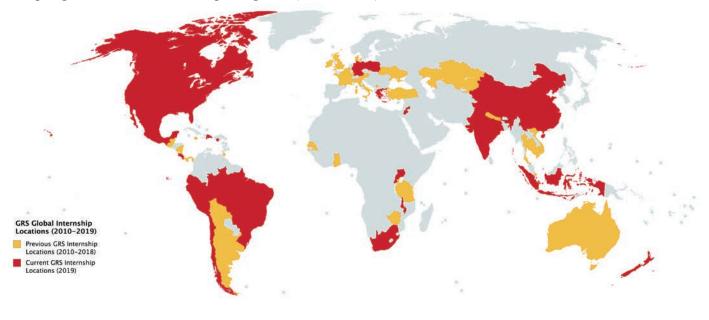
The Iowa State University GHAC is an organization that advocates for policies in the political arena that are favorable toward increased access to healthcare and medicines. While keeping politicians accountable to the promises they make, they also educate themselves and promote awareness on campus about the resource constraints and pervasive disparities in global health. Through GHAC, students have built connections with health advocacy organizations, attended conferences, and hosted events to advocate for GHAC priorities. Three GRS students served in officer positions including Treasurer **Elizabeth Atukunda** and Events Coordinators **Erin Huckins** and **Ashley Harvey**. Katarina Betz during her internship in Cambodia

Around the World Snort-Term GRS Silley Abroad, GRS Internship Highlights and EARTH Program

Getting kicked out of the classroom is a good thing. Each year, GRS students travel to dozens of countries completing their global internships, studying abroad for a week or a year, and attending international conferences. Our students have completed internships in over 40 countries on six continents. This upcoming summer 2019, we will have 30 students completing international internships as part of the Global Resource Systems curriculum, creating at total of over 200 GRS students who completed global internships.

2018-2019 Faculty-led Study Abroad Programs:

- Cargill Global Food and Agriculture: Brazil (May 2018)
- Exploring Peru through Natural Resources and Local Communities (May 2018)
- Creating a School Garden: Service Learning in Uganda (Summer 2018)
- Service Learning in the United States Virgin Islands (November 2018)
- Spring Break Service Learning to Uganda (March 2019)



Global Food and Agriculture: Brazil students and faculty at Iguazu Falla

Global Food and Agriculture: Brazil Program leaders: Kevin Duerfeldt, Catherine Swoboda

In May 2018, 13 first- and second-year Global Resource Systems students examined agricultural, food and natural resource systems in Brazil through the travel course *Global Food and Agriculture: Brazil*. This intensive course was comprised of a pre-departure class, in-country travel and learning, and a post-travel reflection course, co-taught by Kevin Duerfeldt and Catherine Swoboda.

In Brazil, the group began their understanding of Brazil's resource systems with two days of learning in the global megacity of São Paulo. Students visited the historic center of São Paulo and the point where the city was founded, from where colonization and European expansion emanated into the regions which constitute present-day Brazil. Students discussed the pre-Colombian population and ecosystem makeup of South America and how colonization ushered in an era which transformed the natural resource and agricultural systems of the region and learned about the history, economic and political climate of the country. While in São Paulo, the group met with the leadership of the Federation of Agriculture and Livestock of São Paulo State and visited Cargill's São Paulo headquarters, where they learned about global food and agricultural trade markets. Following this in-depth examination of Brazil's agriculture, livestock and agribusiness industries, the group visited the Biological Institute of Brazil, an applied research center that works to prevent zoonoses and foodborne animal pathogens, developing biological controls in coffee, sugarcane and other crops. 12

After two days in the big city, the group traveled to Campinas to the University of São Paulo, Luiz de Quieroz College of Agriculture where they spent a full day with a forestry research lab focused on conservation and reforestation in the Amazon. From Campinas, the group traveled to Curitiba, a city regarded globally as a paragon of sustainability. Starting off in Curitiba, the group traveled through the Atlantic Rainforest to reach the Port of Paranaguá, the largest bulk port in Latin America and one of the world's most important sea trade centers. An exclusive tour through the port itself offered an up-close look at Brazil's massive grain exports to world markets as well as fertilizer and vehicle imports from Europe and Asia. Time at the Port was followed by on-farm visits with an agricultural extension service to a cassava and banana farm in the Atlantic Rainforest biome.





The group departed Curitiba to travel to Ponta Grossa where they visited a Cargill facility which crushes soybeans and has an animal nutrition wing. The group was welcomed by Cargill with an informative presentation about the plant's operations and an extensive facility and operations tour led by Cargill employees. Following this, the group traveled to an experiment station with the Institute for Agronomy, IAPAR, to learn about environmental and production research being conducted for farmers in Brazil.

From Ponta Grossa, the group headed north to Londrina, stopping at the Guartela Canyon along the way. Guartela Canyon is the largest canyon in Brazil, nearly 1,500 feet deep and 20 miles long. The group was led on a hike of the canyon by a Brazilian expert in the flora, fauna and area history.

Upon arriving in Londrina for a three-day visit, the group visited the university Philadelphia Institute Londrina (UNIFIL). This provided for stimulating interaction and exchanges with students, professors and researchers, examining issues related to agronomy, sugar cane production, wildlife management and ecology, biological control, and animal science. Day two in Londrina was spent at a coffee farm where the group was involved in the production and harvesting of coffee produced on the farm itself. With Brazil being the largest supplier of coffee worldwide, supplying a third of coffee beans globally, this farm visit was a tremendous learning opportunity. Day three of the group's time in Londrina was spent at EMBRAPA, the Brazilian Agricultural Research Corporation, where research is focused on developing technologies to improve all aspects of agriculture and livestock. The EMBRAPA center in Londrina is focused on soybean research and development.

From Londrina, the group traveled to Santa Teresa Oeste where they visited an IAPAR center conducting research on the environment, specifically soil resources, and agroecology. That afternoon, the group visited a family-owned dairy farm. The final three days of the group's learning in Brazil were spent at Iguazu Falls, one of the largest waterfalls in the world. Iguazu Falls is comprised of approximately 275 waterfalls, spanning an area of 2.7 kilometers, and two countries: Brazil and Argentina. While at Iguazu Falls, the group took guided hikes through the national park, learning about the natural ecosystems, native fauna and flora. The group also spent a day at Itaipu Dam, once the largest hydroelectric dam in the world. Located at the border of Brazil and Paraguay, the dam provides electricity to both countries and was a fantastic opportunity to examine and understand energy issues in the region.

Following the in-country travel course in summer, the students met weekly for a post-travel reflection course in fall, in which they developed scientific posters examining a resource issue they learned about in Brazil. The travel course to Brazil was a tremendous learning and professional opportunity for the students as they were immersed in the food, agriculture, and natural resource systems of Brazil - a country which offers unparalleled and important insight for an examination of agricultural production, markets, sustainable development and natural resource management issues. Throughout this course, students were considering and discussing how the history, economy and political climate of the country and region shape and impact the resource systems issues examined.



Exploring Peru through Natural Resources and Local Communities

ogram leaders: Dick Schultz, Emily Zimmerman

Exploring Peru through Natural Resources and Local Communities faculty and staff at the Plaza de Armas, Cusco

mily Zimmerman, lecturer in Global Resource Systems, and Dr. Dick Schultz, university ✓ professor in Natural Resource Ecology and Management, led a 16-day study abroad program to Peru for students in the College of Agriculture and Life Sciences. In May 2018, 13 students learned about and experienced the rich natural resources and culture of Peru. Peru has several unique ecosystems, including highland grasslands, the Andes Mountains, cloud forests, and the Amazon rainforest. These Peruvian ecosystems boast some of the highest botanical and avian biodiversity in the world. Culturally, Peru is home to the famous 15th century Incan citadel, Machu Picchu, which is recognized as a UNESCO World Heritage site, and is well-known for its indigenous Andean cultures. On this trip, students participated in the Inca Trail Hike to Machu Picchu, volunteered and lived with a local community in the cloud forests of the Andes Mountains, and adventured into the Amazon rainforest.

After arriving in Cusco, Peru, the famous oncecapital of the Incan Empire, students spent the first afternoon acclimatizing to the high-elevation city (11,152 feet!). Students explored the Plaza de Armas, which has stood the test of time: the Incas constructed the foundation of the plaza, and the Spanish added stone architecture and cathedrals immediately 14 following their conquest. In the evening, students traveled to Ollantaytambo, located in the Sacred Valley of the Incas, in preparation for the start of the four-day, three-night Inca Trail Hike.

The Inca Trail Hike stretches 27 miles, winding through river valleys and mountain ranges. Portions of the trail correspond to the original Inca Trail system, which stretched over 18,500 miles across the Incan Empire through present-day Colombia, Ecuador, Peru, Bolivia, Chile, and Argentina. The first day, students hiked approximately 7.5 miles and gained approximately 1,000 feet in elevation. Guides shared information about two ruins: Patallacta and Willkarakay. These ruins served important administrative, economic, military, and religious functions during the Incan Empire and remain today. In addition, as students hiked through the lush river valley of Wayllambamba, they observed handmade, stone agricultural terraces - a bit different than the agricultural terraces of central Iowa.

The second and third days of the Inca Trail Hike were gorgeous and challenging. Our group hiked over 16 miles, at times reaching elevations of nearly 14,000 feet. Both days required early wake-ups. At 5 a.m., students crawled out of their tents into the chilly, thin air, sleepily ate breakfast, and donned their packs. On



the second day, the group reached the mountain pass of Wamihuanusca (Dead Woman's Pass), which is the highest point of the trek. They enjoyed beautiful panoramic views of the valleys below as we caught our breath. On the third day, the group explored the archaeological sites of Runkurakay and Sayacmarca, which were resting places for Incan travelers and strategic military outposts, respectively. In the evening, they camped near Winayhuayna, which is an important archaeological site and temple designated for offerings to the sacred mountain spirits of the area, as well as a large terraced area for agriculture.

The final day of the Inca Trail Hike, the group reached their destination: Machu Picchu! They rose at 3 a.m. to reach the Sun Gate at sunrise. On rare clear mornings, it is possible to see the citadel of Machu Picchu and the sunrise over the Andes Mountains. While the morning was foggy, the Sun Gate was still beautiful and the students enjoyed a snack. They continued to descend toward Machu Picchu, eventually arriving around 10 a.m.

At Machu Picchu, the students enjoyed a two-hour tour and learned about the various structures and livelihoods of the Incas. Machu Picchu is arguably the most famous icon of the Incan civilization, and was likely built in the 15th century as an estate for the Inca Emperor Pachacuti. The citadel was abandoned at the time of the Spanish conquest, and was largely unknown to the outside world until 1911. In 1981, Machu Picchu was declared a Peruvian Historic Sanctuary, and in 1983 it was declared a UNESCO World Heritage Site. Nearly 1.5 million tourists visit the historical site annually.

The group then traveled to a rural community in central Peru to work with our partners in Illampu. Illampu is a nonprofit organization that advocates for biodiversity conservation within the rainforest and Andes Mountains of Viracochasi, Peru. Illampu provides support to the local community by helping build an ethical economy based on educational ecotourism and sustainable agriculture. In Viracochasi, the group stayed on a local farm, and shared meals, conversation, and laughter with the local community members. During their stay in the community, they partnered in several community-organized activities, including: native tree seedling collection and propagation in a nursery; reforestation with native tree seedlings; coffee planting, harvesting, drying, roasting, and grinding; cocoa roasting, grinding, and pressing; banana and pineapple harvesting; and animal husbandry. Students prepared traditional meals alongside community members, and learned about different cultures, world views, and agricultural systems.

The group next traveled to Manu National Park, a 3.7 million acre national park located in souther Peru. The park is uniquely situated at the meeting point of the tropical Andes and the Amazon basin, and is marked by the Madre de Dios River. Manu National Park is immensely diverse, and its diversity is of global importance; between 2,000-5,000 plant species and over 1,000 species of vertebrates call the park home. There are more than 200 species of mammals and more than 800 species of birds. The National Park remains predominately road-less, so the group accessed the rustic lodge via a 3.5 hour boat-ride up the Madre de Dios River.

The group returned to Cusco to enjoy a day of siteseeing and exploring prior to departing for the United States. The students returned to Des Moines tired, but having learned about and experienced the rich natural resources, history, and culture of Peru.



Creating a School Garden: Service Learning in Uganda faculty and students in Uganda

Creating a School Garden: Service Learning in Uganda

Program Jeaders: Julie Blanchong, Tom Brumm, Kevin Duerfeldt, Gail Nonnecke, Dorothy Masinde, Dick Schultz

The Uganda service learning programs took major leaps forward in 2018. The new Mpirigiti Rural Training Center was opened to the Kamuli District community in March and dedicated on July 11, 2018. The new center will help Iowa State's Center for Sustainable Rural Livelihoods expand food and agricultural programs that serve local families. It also will provide more service learning opportunities for ISU and African students.

The Mpirigiti Rural Training Center provides accommodations for up to 48 students and 13 faculty, research and demonstration facilities, office space for Iowa State University - Uganda Program (ISU-UP) staff, and common spaces for learning and recreation. Due to the new facilities and increased capacity, the first semester-long program was offered Spring 2018, and the number of summer service learners was



increased to 14. The continued growth of this program would not be possible without support of many generous benefactors. We continue to be very grateful for those who have supported the student service learning, school garden program and for the students' valuable work, positive attitudes, passion to help others, and willingness to learn while serving.

The Creating a School Garden: Service Learning in Uganda program had another cohort of excellent students from Iowa State University (ISU) and Makerere University (MAK) participating in 2018. Thanks to donor support the number of ISU students increased from 6 in 2006 to 14 in 2018. They were joined by 12 MAK service learners, six additional MAK service learners from previous years who returned to Kamuli as student leaders, and four Global Resource Systems (GRS) interns completing their global internship with ISU-UP in Kamuli. Together they assisted teachers in four primary schools and one junior-senior high school, and completed ten binational team projects to benefit the schools.

The Mpirigiti Rural Training Center provides accomodations for up to 48 students and 13 faculty. Students are housed in the Miller Hall Dormitory shown at left.

Teaching

ISU and MAK students assisted in teaching 5th and 6th grade pupils at four primary schools in bi-national teams. Subjects included integrated science, which included subjects of agriculture, health (nutrition and sanitation), and mathematics. Specific agriculture topics covered included units on root crops, managing pest and diseases, soil fertility and erosion, and keeping farm animals. Topics are from the Ugandan national curriculum for primary schools and are included in the secondary school entrance exams completed at the end of 7th grade.

Students used song and dance, handmade posters, and demonstrations in school gardens as just a few of the strategies used to create an interactive and engaging learning environment for pupils. Students worked with primary school teachers to learn culturally appropriate teaching techniques and exchange classroom activities from the U.S. with Ugandan teachers. While in classrooms and the gardens, ISU and MAK students served as role models and inspired primary school children to continue their education and view agriculture as a positive livelihood and profession.

School gardens provide fruit and vegetable produce, eggs, and income to support school feeding (lunch) programs. They also create learning opportunities for pupils and university students, acting as outdoor learning laboratories and providing hands-on experiences. High-value crops such as grain and leafy amaranth, orange-flesh sweet potatoes, tomatoes, collards, eggplants, peppers, onions, and soybeans are grown and either added to the school lunch program or sold to purchase the lunch's ingredients.

Previously, schools served a light maize porridge which contained only about 50 kilocalories per serving, and only to some pupils on certain days of the week. The school lunch programs have moved from porridge to 'nyoyo', a mixture resembling a stew of corn, common beans, vegetables, iodized salt, and vegetable oil. 'Nyoyo' provides over 800 Kcals per serving and more vitamins and minerals than maize porridge alone. Once per week at schools, eggs from the poultry project at schools were included in the 'nyoyo' stew. Currently, 'nyoyo' is served five days a week to every child at Namasagali Primary School, and school feeding programs are growing at the other four schools to add additional weekdays. The school lunch programs improve children's attendance and ability to focus in the classroom, directly impacting children's education.

ISU and MAK students tended gardens across four primary schools, which are approximately 7.5 acres in area. In addition to vegetable crops, fruit crops grown in school gardens include bananas, papayas, oranges, avocados, and mangoes. Pupils and university students learned about sustainable production practices in a tropical climate, including using nitrogen-fixing cover crops as a rotation crop. As they constructed nursery beds and sweet potato mounds, cleared plots, and harvested grain and leafy amaranths, ISU students were surprised about the amount of work required to produce a crop - especially without access to the same garden equipment we have in Iowa and the U.S. Pupils worked in the primary school gardens with ISU and MAK students in their free time, and the university students made many new, young friends.



Bi-National Team Projects

Teams of ISU and MAK students developed and implemented projects in agroforestry; beekeeping; soil improvement and irrigation; post-harvest; school feeding, health, and sanitation; and poultry. These projects assist ISU-UP programs at primary schools by developing and maintaining infrastructure and programs to benefit the schools and pupils in Kamuli.

Poultry: The poultry team expanded and repaired poultry runs at Namasagali and Nakanyonyi Primary Schools. They prepared the poultry houses for a new batch of chicks and made sure the new chicks upon arrival were vaccinated by the ISU-UP veterinarian. Eggs from the chickens are incorporated into the school lunch program for animal-source protein. A new program allows pupils in the poultry club to receive ducks for their personal production and ISU and MAK students visited poultry club members homes to see their new ducks and offer encouragement.

Beekeeping: The beekeeping team expanded the bee forage garden surrounding the apiary by planting blooming pollinator plants in the apiary that will provide nectar for the bees. They also worked with the Namasagali College Entrepreneurship Club and the junior-senior high school club, to maintain the top bar and local bee hives, checking them for honey production.

Health, Sanitation, and School Feeding: At Namasagali and Nakanyonyi Primary Schools the health, the sanitation, and school feeding team painted murals on pit latrines and revitalized the health and sanitation school teams to improve tip-tap hand washing station maintenance. They created an incentive program for pupils to fill hand washing stations with water and made pupils excited about washing their hands. They also constructed dish racks to dry dishes after the school lunch and key hole gardens to increase vegetable production near the kitchens and serve as a demonstration area.

Post-Harvest Handling: Post-harvest losses can account for 20-40% of grains lost in Uganda, and an even higher loss of fresh fruits and vegetables. The post-harvest handling team cleaned and sorted grain at the primary schools, moved the grain storage rooms at Namasagali Primary School to inside the kitchen to help manage grain and reduce post-harvest loss. The post-harvest handling team also experimented with methods for drying leafy vegetables to increase shelf life for use in the 'nyoyo' at a later date. **Agroforestry:** The agroforestry team constructed live fences made of barbed wire fences planted with *Euphorbia* sp. to protect garden produce from roaming livestock and/or residents encroaching on school property. The agroforestry team also pruned woodlots providing the primary schools with firewood for cooking the schools' lunch meals.

Soil Improvement: The soil improvement, irrigation, and school gardens team refurbished compost pits at Namasagali, Naluwoli, and Nakanyonyi Primary Schools and created signage to sensitize pupils on how to use compost pits. They also cleaned irrigation cisterns to increase water storage capacity and improve water quality for irrigation of the garden plots.



Farm Visits

Students worked with small-landholder farmers to assist with harvesting and processing crops and observed what it is like to be a small-scale farmer in the Kamuli District. Farm visits have become an integral part of the service learning activities where students visit, work, and learn from farmers while sharing new innovations and technologies they have learned at their respective universities. This summer group of students cleaned and processed ground nuts (peanuts), made silage, planted bananas, threshed beans (dry common beans), planted tomatoes that were intercropped in maize, and visited two nutrition education centers.



Training Center

The Mpirigiti Rural Training Center was officially opened on March during a ceremony with the Kamuli community, including the King of Busoga, William Kadhumbula Gabula Nadiope IV. An estimated 500 people attended to learn about programs and resources offered by ISU-UP. The Mpirigiti Rural Training Center is on 13+ acres near the edge of Kamuli Town. The facilities were constructed with the latest in environmentally sustainable design practices, including use of local materials, passive ventilation, solar panels, rainwater harvesting, and constructed wetlands for waste-water treatment. The facilities provide housing for up to 48 students and 13 faculty/guests, housing and office space for ISU-UP staff, a dining facility for 65 people, a library and lounge with books and computers as educational resources, research and demonstration gardens and a gazebo for field trainings, livestock demonstration paddocks, an outdoor training pavilion, and a grain lab. There are recreational facilities including a soccer field, basketball court, and netball (volleyball) court. The center invites the community into the center and helps them to see it as a community resource. Students participating in service learning programs also have the opportunity to play sports with local children and young adults and feel like they are part of the community. The completion of the Mpirigiti Rural Training Center has allowed major program growth with the inclusion of the Semester Along the

Nile immersion study abroad program and increase in service learning students. It also represents a minimum of a 99-year commitment of ISU-UP to work in the Kamuli District, based on the land rental.

The Mpirigiti Rural Training Center was dedicated on July 11th, 2018 during a ceremony with student service learners. ISU and MAK faculty and staff. ISU-UP staff, and guests of honor as CSRL donors, President Wendy Wintersteen, and Robert Waggoner. The program included remarks from students. ISU-UP staff, donors, faculty, and President Wintersteen on the past 14 years of work and progress and the achievement of opening the Mpirigiti Rural Training Center. Students remarked on the significance of being able to live as a bi-national team of ISU and MAK students all together in one location for the first time since the program expanded to include more students. Traditionally many MAK students lived in field houses near the schools instead of at the former Kamuli compound where ISU students and some MAK students lived. Items for a time capsule were collected, to be opened in 2050 on the 32nd anniversary of the dedication. The evening concluded with a reception to celebrate all of the progress ISU-UP has accomplished and the beginning of a new chapter for continuation of the programs. We are looking forward to see what new opportunities and experiences the growth of ISU-UP and service learning will bring in the future.



While most students went home the week of fall break to spend Thanksgiving with their families, nine intrepid students decided to spend their break participating in a short-term service learning opportunity to the United States Virgin Islands (USVI) as part of ISU's EARTH Program. For 10 days, students participated in service learning to benefit local St. John communities and learned about the culture, history, ecosystems and natural resources of the USVI.

Students participated in service learning opportunities with EARTH Program partners, such as Gifft Hill School (GHS) and the National Park Service. At GHS, students trained tomatoes and sorted through hurricane debris to separate salvageable material for reuse, reclamation, and disposal. One major find was a metal garage door, which was moved to provide a "floor" at the GHS gardens storage area where recent rains made the ground extremely muddy. Students performed trail maintenance for the National Park Service to improve the safety and experience for island visitors. One of the students' favorite activities was working with the Feed the Hungry meal program by harvesting vegetables and setting up tents and chairs for the Thanksgiving meal. Students also cleared a site and trails for a cultural event that was attended later in the week.

Around the World



Students were able to learn about the ecosystems and natural resources of the Virgin Islands through visits to ecologically significant sites and hikes through native bush. At the salt flats, students were able to see a variety of creatures including brittle stars, crabs, sea urchins, sea turtles, and rays. Students also spent a day on St. Thomas attending an agricultural fair and touring a small farm, learning about the difference in food production in the USVI compared to Iowa.



While on island, students experienced the rich cultural history of the island. On the Reef Bay Hike, students were able to observe petroglyphs left by the Taíno people who occupied St. John until colonization in the 1500s. Our students created traditional crafts with a local artist by carving calabash. The local artist is also a specialist in local plants and took the students on a short walking tour to help students identify traditional medicines from the island. Students hiked to historical sites, including sugar mill ruins. Students were fortunate to be on St. John for the annual anniversary of the 1733 slave revolt and participated in a pilgrimage event to learn about the history of slavery on the island. The pilgrimage event included traditional music, dancing, singing, and talks by notable community members.

Students returned to chilly Iowa with mild sunburns, but with a broader understanding of resource use in a resource-limited area. Their final projects covered topics such as waste management, Taíno history, healthcare in the USVI, and marine biodiversity.

Service Learning in Uganda Program Laders: Dorothy Masinde, Dick Schultz

uring spring break of 2019, 14 students and 2 faculty traveled to the Kamuli district of Uganda to complete a short term service learning course. The team spent the first two days of the course at Queen Elizabeth National Park and traveled to the Kamuli District on the third day. Once in the Kamuli District, the students worked with Iowa-State University-Uganda Program (ISU-UP) staff to complete service activities that provided learning opportunities for the students.

Objectives while completing the course were to expose students to challenges of food and nutrition insecurity and sustainability in a subsistence farming community in Uganda; provide students with an understanding of how agroforestry can help meet the challenges of food security and sustainability in the Kamuli District by involving them in school garden and rural home garden activities; and expose students to biodiversity in Uganda including major plant and animal communities.

Students participated and accomplished the following during their service learning experience:

- Planted bananas and grain amaranth at a school garden and farmers' fields
- Established sack gardens at a school
- Established key hole garden at a home of a Nutrition Education Center (NEC) client
- Mixed poultry feed and fed the laying birds at one of the schools
- Established a park by planting multipurpose trees
- Learned about post-harvest losses in Africa and assisted in cleaning various ingredients (millet, soy beans, and silver fish) used in preparing porridge for the NECs
- Learned about craft production and how production and sales records are kept by the program
- Assisted in building a pig pen and preparing silage for cattle



ganda students at the

Gallery & Kaliganda Equator

n the 2018-2019 academic year, 34 Global Resource Systems students completed internships in 19 different countries, working in a variety of disciplines, industries, and cultures. The following pages demonstrate just a sample of what our global interns accomplished this past year.

Veterinary Medicine and Livestock Management in Uganda

To me, traveling is the opportunity to experience contrast, to learn and grow from excitement and discomfort, and to connect with people and places that can teach you what you could not have learned anywhere else. Having had one incredible experience in Uganda with the Iowa State University-Uganda Program (ISU-UP), I decided to pursue an internship with this program that would merge my passions into a purposeful, hands-on learning experience.

The focus of my internship was veterinary medicine and livestock management. In Uganda, it is a common practice for veterinarians and animal health workers to be mobile. For me, this meant traveling to numerous small-scale farms on a weekly basis to assist in and perform various tasks. Some farmers needed antibiotics for an individual pig or dehorning of several cows, while others needed



vaccinations for their entire flock of 100 laying hens. Along with my assistance to ISU-UP, I visited the District Veterinary Office of Kamuli, Makerere University research farm, and several mediumto-large scale government operated and commercial livestock farms. The visits played a big role in painting a fuller picture of the livestock industry in Uganda and the implications that animal medicine and husbandry have on livelihoods and human health in the developing world.

One of my favorite aspects of the ISU-UP is its emphasis on leveraging both indigenous and scientific-based knowledge to identify community needs and to create sustainable solutions to meet these needs. I experienced this first-hand in my interactions with farmers, university personnel, local veterinarians, and the staff of ISU-UP. This experience has significantly shaped my perspective on the presence and value of local knowledge, along with the crucial role that infrastructure and collective priority can play in mobilizing this knowledge. This has inspired me to take more time to interact with people from all walks of life and trust that a more wholesome base of knowledge can exist through documentation and sharing of stories and information between entities that would not typically cross paths.

Interning in field veterinary medicine and livestock management with the ISU-UP has left me with many takeaways. Though I benefited greatly from the discipline and hands-on experience gained from the field work I participated in, I realized that my personal and professional interests expand beyond field veterinary medicine and livestock management. With a new appreciation for the collaborative potential between indigenous and scientificbased knowledge, I am eager to continue refining my personal and professional focus. My hope is to see a shift towards a more economically and environmentally sustainable food and agriculture sector. My goal is to help spark connections and spread ideas that inspire innovative change.





spent this past summer as a Nutrition Education intern with Self-Help International in the Ashanti Region of Ghana. The majority of my time was with the programs of Self-Help International, joining the team and working toward their mission of sustainable rural development. While in the office, I spent my time writing yearlong curriculum for two of their programs: the Teen Girls Club and the Nutrition Education program. Three days of the week, we were in the villages leading programs and bettering the communities.

For a portion of my internship, I was able to spend time at a local elementary-junior high academy. The Head Mistress, Mrs. Ado, invited me into their school where I assisted in any way possible. This included in-classroom and general housekeeping assistance, as well as



simply bonding with the children by spending time with them.

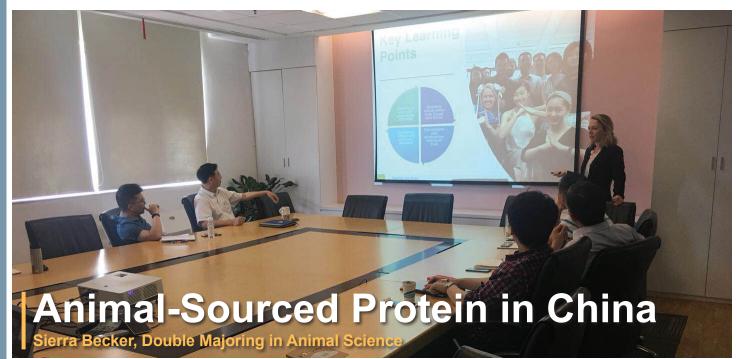
Each day I spent working in Ghana. I gained knowledge and found something new to be grateful for. One of the most memorable days embodies this gracious feeling and accurately tells what a typical day was like. We had traveled to the rural village of Beposo to lead Teen Girls Club and the Women's Nutrition Program. After teaching 50 girls about self-esteem and being a respectful and contributing woman of society, we walked to the other end of the village to take anthropometric measurements of mothers and their babies. One of the mothers was bed ridden, so we made the trek to her home in order to get the information. The woman had just had twin girls and her older daughter was sick with malaria. Not only is it rare to have twins in these areas, but for them both to be alive and healthy was something even better. She welcomed us into her 10 square foot home and let me hold her babies. This encounter made me feel empowered and I can not help but think back to this day often.

Everyone likes to believe that they have made some sort of impact wherever they go, but I know the impact this summer made on me was far greater than any idea or time I have given. Not only did I gain great knowledge in the areas of nutrition, education, and agriculture across the globe, but also impacts on my personal life. I can feel an increase in comfort and confidence with myself and the way I interact with those around me. I now have a deeper appreciation for feeling welcomed and comfortable in a space that I am unfamiliar with. Because of my time in Ghana, I now take the time to reach out and welcome those in an unfamiliar place that is already familiar to me.

There is not a doubt in my mind that my couple of months spent in Ghana will be some of the most impactful months of my college career. I have a better sense of the direction I am taking in my professional life and now have people I consider family on the other side of the globe. I am incredibly grateful for the knowledge I have gained, relationships I have made, and the abundant amount of memories I now hold.



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am currently pursuing dual degrees in Animal Science and Global Resource Systems. I chose these majors because I grew up raising and showing livestock animal agriculture has always been a big part of my life. Global Resource Systems has allowed me to reach others globally while working and improving the animal industry. This summer, I spent nine weeks in Shanghai, China completing my global internship with Cargill - a global agricultural leader in "nourishing the world".

I worked in Cargill's Animal Protein China (CAPC) focused on new product development and e-commerce. My official project was to facilitate pork product selection in hopes to diversify Cargill's protein portfolio in China. I did this by choosing five specific pork products from Hormel. The products would potentially be launched on the market after performing an economic analysis, consumer research, and taste preference data. I also supported CAPC retail entry into major e-commerce websites. These two components of my internship provided a bigger picture of China's livestock industry and e-commerce. Working with CAPC also allowed me opportunities to see the poultry supply chain-from egg hatching to product taste testing and everything in between. This experience was eye opening and informative, especially since I had the opportunity to work

with poultry, an animal-sourced protein I'm unfamiliar with.

This experience taught me to be adaptable and have a deeper understanding for how the working world works. I was able to see incredible aspects of the Chinese culture. One of my favorite parts of the internship was getting to know the people I worked with. Each coworker had a unique story on how they got to where they are now. They taught me the importance of being a 'life-long learner' and gave me the unforgettable opportunity to work with a diverse team to gain different perspectives on issues and ideas within a company. My coworkers took me under their wing made me realize how valuable

personal connections within the workplace are. Building these personal connections, I even got to meet some of my coworker's families which was truly an enriching experience.

Given the opportunity to work with a global company that is in the process of using sustainable and more efficient techniques to raise animal protein sources has influenced my future career endeavors. This internship taught me how to live and work in another country using the knowledge I attained from the classroom and past experiences. It pushed me both personally and professionally, making a lasting impact on my future.



Promoting Sustainable Agriculture in Costa Rica

Chris Shepard, Double Majoring in Agriculture & Societ

his past summer, I spent seven weeks interning at EARTH University in the Limón Province of Costa Rica. EARTH is an acronym that translates to the Agricultural School of the Humid Tropical Region. It is an international, nonprofit university located in the city of Guácimo. I chose to complete my internship at EARTH University because I have a passion for international development that involves stakeholders at all levels. The methods EARTH University used to promote sustainable agricultural methods to neighboring communities and the rest of the country were in line with my

own views of development and community outreach.

During my internship, I worked on the peri-urban farm planting and harvesting crops from different systems such as hydroponics, aquaponics, and vertical farm systems. Additionally, I worked and harvested from the university's organic farm, fruit tree plantations and sold fresh produce at the university's farmers market. Towards the end of my internship, I assisted in graduate projects, led a tour of the peri-urban farm to students from the United States and worked on a family-owned farm in the community of La Argentina located 15 miles from the university.



My internship was important to my goals as it allowed me to explore different methods of small scale agriculture and solutions to food insecurity in an impoverished region. I learned that resilience is something built through the relationships one another has with their community.

Finally, I was fortunate enough to experience and analyze the social dynamics of promoting agricultural innovations in the neighboring communities of EARTH University. A memorable moment of my internship would be when I worked at a farm in La Argentina harvesting sugar cane with machetes, then going on to process the sugarcane into a liquid and drinking the juice right then and there. Costa Rica is a beautiful country, full of some of the kindest people I have ever met. Connecting my internship to my future, I believe it was a great experience to get a taste of what international work and development entail. It also showed me that I am capable of adapting to situations I never would have thought possible. This is a skill I will continue to use and build upon throughout the rest of my academic and professional career.



Tam currently a senior majoring in Global Resource Systems with minors in Sustainability and Horticulture. I completed my internship at the University of Hohenheim in Stuttgart, Germany. I chose to complete my global internship in Germany because I was interested in European agricultural practices. I was



specifically interested in vegetable production systems because of my views on sustainable and ethical eating. I feel that zucchini is a very valuable vegetable to consider in the future of sustainable agriculture.

During my internship I was given my own small research project. My project involved collecting flowering data on male and female flowers, as well as the dates they emerged to compare between cultivars. In addition to my project, I also helped with general maintenance of the field. This included harvesting zucchini, fruit data collection, and general assistance to graduate student, Elisabeth Abele, who was my dayto-day supervisor for the duration of my eight-week internship. My internship was extremely valuable as I learned technical skills regarding zucchini production. I learned about the kind of research being done on vegetable and zucchini cultivars and gained cultural knowledge throughout the

experience. I learned about a crop I had never worked with before and am now familiar enough that I am certain I could grow zucchini in the United States in my future career.

Another reason why this internship was so valuable to me was because it was my first-ever experience abroad. I learned a lot about myself and the experience of being a solo traveler in a foreign country. My favorite part of the internship was getting to build relationships with my supervisor and co-workers and getting to learn from them.

This internship has me considering moving my career path towards horticultural production. And I am considering operating a diversified farm that grows sustainable crops and teaches people how to cook and eat sustainably. I will always value my first global experience and I cannot wait to put what I learned into action.

Community and Environmental Extension in Hawai'i

This summer I had the opportunity to intern with Ulu Mau Puanui on the Big Island of Hawai'i. I was connected with them through Dr. Lincoln, a soil scientist at the University of Hawai'i. I choose this internship, because I wanted to experience a new culture and language. After doing some research, I realized Hawai'i, specifically Big Island, would be the place with the most international aspects.

I expressed interest in being a part of a rotation system with six other interns and helping each of them with their projects. This allowed me to personalize my internship and offered me the opportunity to learn about the diverse agricultural systems in Hawai'i. The projects varied from coastal erosion control to cloud forest canopy research. Each project was located in a different place on the island, which exposed me to different ecosystems. Ulu Mau Puanui provided me with the opportunity to interact with students of various ages while learning about the Kohala Field System, a traditional rain-fed agricultural system, through community extension days. An additional

responsibility was to set up a community workshop day in the community garden and work with the extension agent in the region. Working with the agent for the community workshop taught me a lot about the local perspective on agriculture and supporting local farmers and extension.

My internship was very important and meaningful to me because it allowed me to learn and grow as a student, a professional, and a person. I valued my time



on Big Island and appreciate everything it taught me. It was my first time traveling this far away from home, so there were definitely adjustments to make, but I now see what I am capable of doing. The people and the 'Aina (land) of Hawai'i have taught me the significance our actions have on the community and environment. I became more environmentally conscious, by not taking our natural resources for granted and reflecting on the impacts of simple choices. My favorite part of my internship was working with the community and learning about the land. The significance and value the land and mo'oelo (story) has on the culture, and taught me to value my own story and experiences in order to prepare myself for the future.

I felt time move very slowly in Hawai'i, which allowed me to have a deeper appreciation of my time there. This internship was a very immersive experience for me; I have confirmed my love and interest for a career in extension and outreach. Before my internship, I was concerned with what my future would look like after graduation, now I have a hopeful goal for my future career.



Through the EARTH Program, Iowa State University students spend a semester or summer in St. John, U.S. Virgin Islands as service learning students. Working with one partner, Gifft Hill School (GHS), university students assist with school gardens and help to sustainably grow local fruits and vegetables. The service learners also have the chance to teach horticulture, environmental science, and culinary arts to K-12 classes. In addition, EARTH Program students assist in the St. John and U.S. Virgin Islands communities, working with additional local partners.

The EARTH Program is an excellent opportunity for students to learn while serving and to complete ISU course credits while off-campus. The implementation of the new cultural and U.S. diversity in the U.S. Virgin Islands course has demonstrated the EARTH Program's commitment to honoring local culture, which also enriches the students' experiences. We partner with the St. John Historical Society and local U.S. Virgin Islanders to develop course content and continue to refine the course and related projects. These partnerships allow the local people of St. John to share their story and help our students learn about the cultural diversity of the islands. Some of the course highlights include focused interviews from local U.S. Virgin Islanders that reflect the diversity and history of 28

the island, student reports on previously recorded oral history archives of U.S. Virgin Islanders, and personal reflections from field trips to ruins, estates, and historic settlements on St. John and other islands.

Over the past year, the EARTH Program has hosted seven service learners who were actively involved in youth, horticulture, agriculture, food, environmental, senior, and service projects in the greater community. Last academic year was very different because of the hurricane damage in September 2017. Hurricanes Irma and Maria, both with category 5 hurricane strength, hit the U.S. Virgin Islands (USVI) causing significant damage to the EARTH gardens, local communities, and island ecosystems.

The program was able to host four summer 2018 interns, who continued to rebuild the EARTH Program gardens and contribute to the communities of St. John. In November, the EARTH Program was able to host a short-term faculty-led study abroad program for nine students to learn about the natural and cultural resources of St. John and the U.S. Virgin Islands. In spring 2019, we were able to host our first full-semester program since the hurricanes with three students participating in the semester-long service learning program.



In addition to their individual projects, EARTH Program students are involved in a variety of activities to benefit St. John's communities. New this year, the EARTH Program partnered with University of the Virgin Islands (UVI) Extension and Niskey Moravian School to develop a first-ever gardening program at this school. The ISU spring 2019 interns worked with a UVI intern to screen soil, add compost and construct raised beds.

The EARTH Program interns volunteer with several partners on St. John, including faith-based organizations to "feed the hungry", National Park Service (including Earth Day), Beach to Beach Swim, 8 Tuff Miles, St. John Historic Society, and the GHS Auction Scholarship Fundraiser.

The following agricultural fairs and events were attended with ISU and UVI students and/or GHS teachers and students for their learning of the USVI agriculture and food systems:

- Bordeaux Agriculture Fair on St. Thomas
- St. Thomas Agriculture Fair on St. Thomas
- St. Croix Agriculture Fair on St. Croix
- UVI Bordeaux Creek Farm Tour on St. Thomas
- UVI St. Croix Farm Tour on St. Croix
- Ridge to Reef Farm Tour on St. Croix





Spring 2019 EARTH Intern - Gabriella Ferguson

"I chose this service learning program because I felt if I was going to choose agriculture as my career, I needed to at least go somewhere else to visit and learn about agricultural practices that are different than the ones in Iowa.

While I was on St. John, one of my projects was teaching elementary-aged students about vermicomposting at GHS. The students were interested in how you are able to feed worms leftover food and they will turn it into compost. You are then able to use the worm castings in your garden and it is very rich in nutrients. My other main project was irrigation. I was interested in this because on my family farm, we do not have irrigation in our fields. I designed and put together a drip irrigation system in one of the EARTH gardens on St. John and my hope is that another intern will take on a similar project for the other gardens.

These opportunities brought a different perspective to my life. I was able to learn the culture and get to know the local people more than I ever thought that I would. I got to interact with them on a daily basis. I also learned the importance of helping others within the service that we did. I have always thought about teaching and I am very grateful to have worked with the students at GHS. I have only strengthened my love for agriculture and learning what agriculture is like in different parts of the world. I am able to take away a different view on the term "farmer". I will take this into my future career and share with people all that I have learned about agriculture in the USVI."

Spring 2019 EARTH Intern - Brianna Williams

"The EARTH Program provided many opportunities to be fully immersed in the community of St. John and the opportunity to grow with and learn from the local community members. This semester taught me a lot about living on an island with limited resources. Over the course of the semester, my projects have helped me develop critical thinking, collaboration, and problemsolving skills.

My favorite part was being able to work with the students at GHS on my zero-waste challenge. In the four weeks of doing this challenge, the students gained important knowledge about environmental issues on the island and how to be more conscious of what they are putting into the landfill. When I went to check up with the students each week, I would get a lot of enthused students who wanted to share their new knowledge and how they have put it to use in the classroom and at home. They were so excited to show me their data sheets and how they plan to do better the following week. Children are a vital component of the islands' future and shining light on this issue was a very impactful experience for not only the students, but also myself.

St. John is filled with a diverse group of people who bring very different perspectives to the table. Being able to take those ideas into account fully was very beneficial because people often had ideas that I would never have thought about. Overall, this experience helped me in so many ways that I am truly grateful for."





Spring 2019 EARTH Intern - Emily Howell

"Over the course of the spring semester, we participated in numerous community events and program activities. Our group went on cultural diversity hikes to learn about St. John's unique history and ecosystems. On these hikes, we learned about the flora and fauna of the island, worked with local culture bearers, and the GHS students. We also worked a lot with local restaurants to develop a program where we picked up their compost to improve soil quality in our gardens. Most of the produce from this garden was sent to the school or donated to a local meal program where we spent a lot of time volunteering each week.

My individual project consisted of working with a local expert and botanist on shore restoration following Hurricanes Irma and Maria in September 2017. We worked together, in a partnership with the National Park Service, to collect native plant seeds and seedlings to propagate and install in September. These plants will serve to strengthen the island's shores, provide habitats for marine life, and increase overall biodiversity. This was my favorite part of my internship experience because she taught me invaluable knowledge about St. John's history, insider cultural perspectives, and I finally understood the importance of habitat protection and conservation.

After living on an island in the Caribbean, I have a new understanding for waste management and responsible living practices. Living in the Midwest, it can be challenging to see these immediate impacts on our environment, but on a small island the impact is immediately visible. This internship really taught me about how large my environmental footprint is and easy ways that I can reduce it. I will definitely take these perspectives with me in my everyday life and hopefully in my future career by working with community planners, large companies/organizations on waste management, and promote sustainable agricultural practices."

GRS Recognition

E ach year, GRS students, faculty, and staff attend conferences, give presentations, and network with professionals in the field. Many have been active this year and we would like to highlight a few here. And, of course, we want to highlight our 2018-2019 graduates who are moving into new opportunities all over the world - graduate school, NGOs, industry, the Peace Corps, and more!

David Lambert 'Hunger Fighter' Memorial Scholarship

Alyssa Dougherty, a Global Resource Systems and Dietetics student, was awarded the endowed 2018 David Lambert 'Hunger Fighter' Memorial Scholarship at The World Food Prize 2018 Borlaug Dialogue in October 2018. The scholarship honoring global food security advocate David Lambert is awarded to one sophomore or junior each year who exhibits a demonstrated interest in seed science, global food security, and/or childhood nutrition. Recipients are selected based on academic excellence, leadership skills, and interpersonal skills. Dougherty was a participant at both the Iowa Youth Institute and Global Youth Institute and went on to serve as a Borlaug-Ruan International Intern in Guatemala. She has since been engaged in a variety of courses and activities through GRS, CALS, and ISU.

Inspiring the Next Generation Award

The World Food Prize presented the inaugural "Inspiring the Next Generation" award to Associate Dean of Academic and Global Programs, **David Acker** in October 2018. This award recognizes the tireless dedication Acker has shown in encouraging students, through the World Food Prize youth programs, to follow in the footsteps of Iowa hero Norman Borlaug.



Anne Dinges receives a first place award in the American Society of Agronomy poster contest, crops and genetics category



Professional Agricultural Worker's Conference

Theresa Brehm, senior in GRS and Environmental Science, spent last summer looking at soil health in Kamuli, Uganda as part of her service learning experience with the Iowa State University-Uganda Program. In December 2018, Brehm presented her research at the Professional Agricultural Worker's Conference hosted by Tuskegee University in Alabama. The presentation received first place in the undergraduate student oral presentation competition at the conference.

American Society of Agronomy Annual Meeting

Anne Dinges, senior in Agronomy and Global Resource Systems, spent the past summer completing her global internship in Uruguay, assisting in research at Universidad de la República in Montevideo. While in Uruguay, Dinges looked into the genetics of a wild relative of the cultivated potato. In early November, Dinges traveled to the American Society of Agronomy's annual meeting to present her undergraduate research and compete in the 2018 Research Symposium Poster Contest. She was awarded first place in the Crops and Genetics category.

CELT Presentation

With 30 years of experience inspiring learners of all ages and cultural backgrounds, **Dorothy Masinde** was an excellent choice to present on the Award-Winning Faculty Series hosted by the Center for Excellence in Learning and Teaching. Masinde presented on "A Day in the Life of a Rural African Woman: Bringing global experiences into the classroom".

CALS Senior Council Awards

Each semester, the CALS Council recognizes graduating seniors who have gone above and beyond while attending Iowa State. This year, three GRS students won senior awards including: **Joi Latson** (December 2018, Commitment to Diversity and Inclusion Award), **Stephanie McMillan** (December 2018, Distinguished Service Award), and **Megan Kemp** (May 2019, Commitment to Diversity and Inclusion Award).

CALS Student Marshals

In both semesters of the 2018-2019 academic year, GRS students were named Student Marshals for the undergraduate commencement ceremonies. This honor recognizes outstanding seniors including high academic achievement. **Joi Latson** was named the Fall 2018 College of Agriculture and Life Sciences Student Marshal. **Elizabeth Garzón** was named the Spring 2019 College of Agriculture and Life Sciences Student Marshal.

George Washington Carver Spirit of Innovation and Service Award

The George Washington Carver Spirit of Innovation and Service Award is presented to students who are high-achieving, first-generation college students pursuing a scientific degree and who are involved in research and engaged in arts and the humanities. **Megan Kemp** received this award, along with six other recipients in the country, for her determination and perseverance in pursuing her educational and life goals.





Community Coordinator Award

CALS Faculty and Staff Award

The College of Agriculture and Life Sciences honors faculty and staff with awards for teaching, advising, research, and extension. **Maggie Sprecher**, an academic adviser in Global Resource Systems, received the CALS Faculty and Staff Learning Community Coordinator Award, which recognizes outstanding coordination of a learning community in CALS. Sprecher coordinates the Globe Learning Community. She works to ensure each student's success and is an advocate for personal, academic, and professional growth.

Warren E. Barron All-University Senior Award

Two GRS students - Joi Latson and Rachael Barnes - were selected to receive the 2019 Wallace E. Barron All-University Senior Award. Established by the Alumni Association 51 years ago, the Wallace E. Barron Award recognizes outstanding seniors who display high character, outstanding achievement in academics and university/community activities, and promise for continuing these exemplary qualities as alumni.

National Conference on Undergraduate Research

Four GRS students shared their research at the 33rd annual National Conference on Undergraduate Research (NCUR) in April 2019. NCUR creates a space for undergraduate students to present and celebrate exemplary research, scholarship, and creative activity. It is also a great networking opportunity. The GRS students who attended and presented are **Hannah Baysinger**, **Theresa Brehm**, **Anne Dinges**, and **Kylee Joiner**.

8 Tuff Miles

While participating in the EARTH Program in the U.S. Virgin Islands during the spring 2019 semester, **Brianna Williams** completed the annual 8 Tuff Miles event on St. John, a grueling marathon up and down the hills of island. Williams finished the race in the top 100 and second in her age group.

Graduate College Student Marshal

This year, **Emily Zimmerman**, lecturer in Global Resource Systems, completed her Ph.D. in Sustainable Agriculture and Environmental Science at Iowa State University. She was selected as the Graduate College Student Marshal during the graduate commencements ceremonies. Student Marshals have demonstrated superior academic performance and have a distinguished record of conspicuous achievements. Zimmerman has published and co-authored numerous journal articles and delivered 20 oral and poster presentations at academic conferences and meetings. In addition to her scholarly contributions, Zimmerman served in many leadership positions and received the Teaching Excellence Award from the Graduate College and the Natural Resource Ecology and Management Graduate Student Organization Outstanding Teaching Award.

Learning Community Collaborator Award

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In spring 2019, the Globe Learning Community was the recipient of the Learning Communities Institute's Learning Community Collaborator Award. This award honors those in the Iowa State community who have demonstrated the spirit of learning communities through collaboration. The Globe Learning Community collaborated with University Museums and community partners in Des Moines to provide a private viewing of the "Unpacked: Refugee Baggage" exhibit at the Christian Petersen Art Museum. The exhibit was open especially for GRS students and the learning community guests - three refugees from Des Moines and Ms. **Moriah Morgan** from EMBARC (Ethnic Minorities of Burma Advocacy and Resource Center). After walking through this moving exhibition, GRS students engaged in a panel discussion with the three refugee guests and Ms. Moriah Morgan.

This collaboration provided GRS students with the opportunity to learn about the experiences of refugees, and to consider the global resource systems that drive people from their homes and the global resource systems and capitals that may help refugees rebuild their lives.



GRS student Katelyn Fritz participates in the Unpacked: Refugee Baggage learning community event



Graduation and Scholarships

Summer 2019

Aryaa Regmi Urbandale, Iowa **Katherine Clare Stewart** Oelwein, Iowa **Abigail Marie Von Handorf** Guttenberg, Iowa

Spring 2019

Hannah Jo Baysinger* West Des Moines, Iowa Nicole O. Bowden Norwalk, Iowa Skyler R. Brazel** Tiskilwa, Illinois John Fisher Burns* Minnetonka, Minnesota Valeria Cano Camacho Des Moines, Iowa Anne Elizabeth Dinges** Byron, Illinois **Thomata Moncontee Doe** Des Moines, Iowa Chelsea Louis Ferrie**** Heyworth, Illinois Katelyn Renee Fritz* Pleasant Hill, Iowa Elizabeth Lee Garzón Elizabeth Lee Garzón**** O'Fallon, Missouri Anne Marie Vi Greenwood** Farley, Iowa Jace Michael Hadish* Cedar Rapids, Iowa **Shana Marie Hilgerson** Elkader, Iowa Natasha M. Hill* Minneapolis, Minnesota

Spring 2019 Cont'd

Taylor D. Hintch Fort Dodge, Iowa Natalie Elizabeth Keller Council Bluffs, Iowa Megan Anne Kemp* Durango, Iowa **Nicole Jeanne Kraft** Walcott, Iowa **Madison Kay Lapke** La Motte, Iowa Phaedra Jane Lipsey**† Ames, Iowa **Thomas Christopher Shepard** Des Moines, Iowa

Fall 2018

Rachael Bryanne Barnes Bettendorf, Iowa Katarina Marie Betz Huxley, Iowa Natalie Elizabeth Bidner Champaign, Illinois **Maureen Katherine Booth**** Loretto, Minnesota Heidi Lynn Kalb Aurora, Iowa **Timothy James Kerkhove*****† Omaha, Nebraska Joi Antoinette Latson*† Florissant, Missouri Stephanie A. McMillan** Independence, Iowa **Erin E. Mickey** West Burlington, Iowa

Summer 2018

Amanda C. De Carvalho Bayamon, Puerto Rico Jenna Elizabeth Sandquist* Osceaola, Iowa

Scholarships to Global Resource Systems majors were funded from the following gifts:

- Newell W. and Dorothy E. Boughton Agriculture and Life Sciences Scholarship
- Cargill Global Resource Systems Scholarship
- **Global Resource Systems** General Scholarship
- **Global Resource Systems Global Professorship**
- Todd and Lori Hall Scholarship
- Manatt Global Scholarship
- Kolschowsky Global Scholarships
- Jerry and Karen Kolschowsky and the Kolschowsky Foundation Global Resource Systems Major Scholarship

We extend our sincerest thanks for the generous support!

Gifts for student scholarships may be directed to Ray Klein, ISU Foundation, 310 Curtiss Hall, Iowa State University, Ames, IA 50011 (rklein@foundation.iastate. edu). If you wish to contribute to a Global Resource Systems general scholarship fund, please mention the following account name: Global Resource Systems General Scholarship.

* Cum Laude ** Magna Cum Laude *** Summa Cum Laude † Honors Program

Congratulations, Emily and Sharon!



Dr. Emily Zimmerman

This year, **Emily Zimmerman**, lecturer in Global Resource Systems, completed her Ph.D. in Sustainable Agriculture and Environmental Science at Iowa State University. She served as the Graduate College Student Marshal during the graduate commencements ceremonies. After graduation, Zimmerman plans to continue her role as Lecturer in the Global Resource Systems program, a position she has held since 2017. Congratulations, Emily!

Dr. Sharon Tusiime

Sharon Tusiime, Graduate Assistant in Global Resource Systems, completed her Ph.D. in Horticulture at Iowa State University. Her Ph.D. work is aimed at improving tomato seed systems in Uganda. Sharon has been a teaching assistant for the GLOBE 201, GLOBE 495, and GLOBE 494A courses and has provided leadership to service learning students (Iowa State and Makerere Universities) before, during, and after service learning trips to Uganda. Congratulations, Sharon!

This upcoming 2019-2020 academic year, Global Resource Systems will celebrate it's 10th year anniversary. See the final page in the newsletter to see how alumni can get involved in the celebrations!

10 Years by the Numbers

- 185 GRS graduates
- 53 countries have hosted GRS interns
- 28 GLOBE and affiliate faculty/staff
- Over \$100,000 given towards in GRS scholarships in the 2018-2019 academic year
- In the spring 2019 semester, over 100 students were double majoring in 30 different disciplines in addition to their Global Resource Systems major!



IOWA STATE UNIVERSITY Global Resource Systems

Program Partners

Generating and support for students. These partners provide many services such as hosting interns, speaking in GRS courses, supporting scholarships, and providing professional development opportunities for students.

Cargill Partnership with GRS

Cargill Inc., a multinational corporation in food, agriculture, and financial and industrial products and services, continues to support developing future global leaders in the Global Resource Systems (GRS) program. Cargill's program engagement and financial support allowed the GRS program to extend new opportunities for the growing major.

GRS and Cargill develop engagement plans and numerous Cargill employees have shared their expertise with GRS and ISU students as guest speakers in classrooms and career advice panels. This engagement presents a unique opportunity for both parties to learn.

A shared goal between GRS and Cargill is for students interested in the many facets of agribusinesses to complete a food and agricultural internship. In summer 2018, many GRS students completed domestic and international internships with Cargill. Ten students were selected to complete their GRS international



Dr. Dick Schultz and Dean Dan Robison

Global Resource Systems Alumni		
Year	Number of	
	Graduates	
2010-2011	2	
2011-2012	8	
2012-2013	19	
2013-2014	21	
2014-2015	21	
2015-2016	25	
2016-2017	25	
2017-2018	31	
2018-2019	33	
Total	185	

internships in Belgium, Canada, China, Costa Rica, France, Indonesia, Singapore, Thailand, and the United Kingdom. These incredible opportunities would not be possible without Cargill's generous donation of funds and commitment to the GRS major.

In 2018, a group of 31 GRS students took part in the Cargill Professional and Leadership Development Seminar hosted at Cargill's headquarters in Wayzata, Minnesota, September 19–20, 2018. Kicked off by **Todd Hall**, the two-day seminar provided an opportunity for students to explore topics related to professionalism and leadership in a global business setting.

Numerous Cargill employees have shared their expertise with GRS and ISU students as guest speakers in classrooms and career advice panels. This engagement presents a unique opportunity for both parties to learn. New to the program is the Cargill-GRS Leadership Academy for junior and senior students. For more information on the Cargill-GRS Leadership Academy, see page 8.

Cargill's support of the GRS program also enables the offering of the Global Food and Agriculture Seminar for first- and second-year students to explore resource systems abroad. In its third year, 13 students participated in the seminar, and the centerpiece, a twoweek trip to Brazil, occurred in May 2018. For more information on the Brazil trip, see page 12.



GRS Advisory Council

The College of Agriculture and Life Sciences (CALS) established an Advisory Council for the Global Resource Systems (GRS) major in 2015. The Advisory Council enables the college to build a collaborative network of global companies and organizations, ensuring access to corporate, government, and nongovernmental organization leaders who can provide input on trends that my influence the success of the major. Among other things, the Advisory Council assists the college in aligning the GRS curriculum with the skills and knowledge that employers value. Input from the representatives of the various food, agriculture, natural resources, and human resources sectors will be invaluable as GRS evolves and responds to a variety of student interests and changes in resources worldwide.



The role of the GRS Advisory Council is to provide counsel and advice on: programmatic content elements including, but not limited to, curricula, disciplinary expertise needed, career opportunities, topics for senior projects, and internship opportunities; increasing student recruitment and retention; enhancing the program's collaborative relationships with companies, governments, and nonprofits worldwide; and funding sources appropriate to the major.

GRS student Kencra Spier receives Leadership Academy certificate from Julian Chase and Sri Kantamnen Cargill representatives

The 2018 Advisory Committee was comprised of representatives of the following groups and sectors: **Todd Hall**, (Co-Chair) Agribusiness; **Nora Tobin**, Self-Help International; **Keegan Kautzky**, The World Food Prize; **Dr. Helen Jensen**, Professor of Economics; **Dylan Clark**, GRS Alumnus; and **Caleb Floss**, Undergraduate GRS Senior. In 2019 several new members were announced due to retirements and term rotations. **Dr. Dan Robison**, Dean, College of Agriculture and Life Sciences, and **Julian Chase**, Agribusiness, serve as co-chairs. **Dr. Jeff Iles**, Professor and Chair of Horticulture, is the faculty representative and **Caleb Floss** is serving as the GRS alumnus. **Sierra Becker**, senior, is the GRS undergraduate member. Remember when...

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ppajohn Center for Entrepreneurship

Dealer of KINOSOL

Gung Ho Globies receive check for Kinosol (March 2015)

> As we celebrate ten years of Global Resource Systems, we decided to dig through the archives to find some photos from the past decade. See any familiar faces?



16648

March 10, 2013

\$ 300.00

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Alumni Connection









Learning Community Tie Dye event (Fall 2014)







GRS students, Deepak Prenkumar and Dylan Clark auction off a lunchet the GRS Silent Auction (April 2014)



Alumni Connection

2018-2019 Faculty and Staff in Global Resource Systems



David Acker Associate Dean



Kevin Duerfeldt Lecturer



Gail Nonnecke Global Professor



Catherine Swoboda Lecturer

Carmen Bain Associate Professor Barb Clawson Program Coordinator Joe Colletti Senior Associate Dean

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Julie Blanchong Associate Professor



Jennifer Lillo Program Assistant



Max Rothschild Distinguished Professor



Shelley Taylor Director, CALS Study Abroad Office

Arne Hallam Associate Dean Helen Jensen Professor Sergio Lence Professor



Tom Brumm Associate Professor



Dorothy Masinde Lecturer



Richard Schultz University Professor



Sharon Tusiime Graduate Assistant

Steven Lonergan Professor Ebby Luvaga Senior Lecturer Ted McDonald Adjunct Assistant Professor



Lee Burras Professor



Betsy Matos Lecturer



Maggie Sprecher Academic Advisor



Emily Zimmerman Lecturer

Ruth McDonald Professor Manju Reddy Professor Donna Winham Assistant Professor



ur alumni take lessons from their global education in their next steps across the United States and the world. The skills and experiences gained through the Global Resource Systems major make our students competitive candidates in their desired fields.

As you are on your post-Iowa State adventures, we hope that you will stay connected with us! Please send us your updates (jobs, graduations, marriages, births, etc.), updated permanent email addresses, and ideas for our major. You can send your information to GRS at globe@iastate.edu.

Globe's Birthday Celebration

As we're gearing up for our 10th anniversary celebrations this upcoming fall, we will have a host of activities on campus for current students, but there are multiple ways that alumni can be involved too! Events will be announced on our social media pages and via email. Here are just a few ways you could get involved in the celebration:

- Volunteer "10 Hours for 10 Years" (details to be announced in August) - Help us log hours!
- Participate in an alumni panel (expected January 2020)
- Attend on-campus lecture with students (date TBD)
- Share your GRS journey and beyond with us to be included in a 50 year time capsule

Since 2009, GRS has allowed students to explore how to efficiently use the world's resources on a global scale. Ten years and 185 graduates later, GRS is still helping to overcome challenges and to make a difference in the quality of life for people around the world!

Newsletter designed and edited by Jennifer Lillo





Global Resource Systems - Iowa State University Stav connected

Front Cover Photos: 2018 Global Resource Systems Interns

Row 1: Garret Onstot (Uganda), Phaedra Lipsey (Ghana), Taylor Hintch (Germany)

Row 2: Madison Lapke (Ghana), Anne Dinges (Uruguay), Megan Kemp (Uganda)

Row 3: Jesse Matt (Uganda), Hannah Baysinger (Uganda), Interns (Fall Poster Session), Nicole Kraft (Kazakhstan)

IOWA STATE UNIVERSITY Global Resource Systems

105 Horticulture Hall, 2206 Osborn Dr. Ames, IA 50011 phone 515.294.0037 fax 515.294.0730

www.globe.iastate.edu

globe@iastate.edu