

University of Dayton

eCommons

Hanley Sustainability Institute Documents,
Reports and Promotional Materials

Hanley Sustainability Institute

Fall 2021

2018-20 HSI Impact Report

University of Dayton, Hanley Sustainability Institute

Follow this and additional works at: https://ecommons.udayton.edu/hsi_rptspromo



2020

Campus Sustainability
Research Award

*"A lifecycle cost analysis of transitioning
to a fully-electrified, renewably powered,
and carbon-neutral campus at the
University of Dayton"*

Ryan P. Shea
Matthew O. Worsham
Andrew D. Chiasson
J. Kelly Kissock
Benjamin J. McCall

A growing role at UD



University of Dayton

**Hanley Sustainability
Institute**

Table of contents



- Introduction by Ben McCall, HSI executive director: [Pages 2-3](#)
- 2019-2020 HSI staff: [Page 4](#)
- 2019-2020 HSI student leaders: [Page 5](#)
- 2019-2020 sustainability majors/HSI GAs: [Page 6](#)

Developing Leaders for a Just Future: Page 7

- Growing the sustainability major: [Pages 8-9](#)
- Sustainability majors video: [Page 10](#)
- HSI student leaders program has grown: [Page 11](#)
- Sustainability students traveled abroad: [Page 12](#)
- Student spotlight on Darion Smith: [Page 13](#)
- Co-curricular learning starts early: [Page 14](#)
- Graduate certificate has expanded: [Page 15](#)
- HSI video for GCSHE: [Page 16](#)
- 3 Marianist universities team up: [Page 17](#)
- Students call for action in climate strike: [Page 18](#)
- Developing leaders, by the numbers: [Page 19](#)

Evolving the Institution: Page 20

- Curran Place a 'living lab': [Page 21](#)
- Carbon neutrality paper wins award: [Page 22](#)
- UD earned AASHE STARS gold: [Page 23](#)
- Flowers. Power: [Page 24](#)
- Temperature setbacks saved money: [Page 25](#)
- HSI student leader highlights: [Pages 26-28](#)
- GAs start office ecology project: [Page 29](#)
- Evolving, by the numbers: [Page 30](#)

Building Relationships with the Community: Page 31

- HSI affiliations: [Page 32](#)
- Affiliations, sustainability-related events: [Page 33](#)
- UD joins resilience commitment: [Page 34](#)
- GAs led Second Nature assessment: [Page 35](#)

Leaning into Research: Page 36

- Research includes energy, nutrition: [Page 37](#)
- Working with Climate Analytics: [Page 38](#)
- Research on sustainability in higher education: [Page 39](#)
- Building bridges between science and faith: [Page 40](#)
- Sustainability scholars: [Page 41](#)
- SURF will fund undergraduate research: [Page 42](#)
- HSI names faculty affiliates: [Page 43](#)

Media/Achievements: Page 44

- Select HSI media mentions: [Page 45](#)
- Select UD sustainability achievements: [Page 46](#)

McCall: 2018-2020 a time of exciting expansion for HSI



Ben McCall: HSI executive director; professor of sustainability

Several key positions were added to HSI's employee roster from 2018 to 2020.

The past three years have been a remarkable period of expansion for the Hanley Sustainability Institute, and I'm pleased to share this summary of HSI's impact during this period.

Our expansion has been partly physical: In 2019, we moved into a larger and newly renovated space on the fifth floor of Fitz Hall, with more offices and student collaboration space.

It's also been personal: In 2018, we hired our first executive director (yours truly) as well as a sustainability planning and evaluation manager (a position shared with Facilities Management, which in 2020 shifted fully to Facilities). In 2019, we hired a communications coordinator.

In 2020, we hired Felix Fernando as UD's first assistant professor of sustainability. He also is the first tenure-track faculty member at UD to be housed outside of a traditional academic department.

This was quickly followed by appointments of Bob Brecha and myself as professors of sustainability. In just a single year, we went from zero tenure-line faculty to three!

At the time (early 2021) of this writing, HSI was in the final stages of its first strategic planning process, which has engaged more than 200 people from UD and the surrounding community. We've organized this report around the themes emerging from that process: Developing Leaders for a Just Future, Evolving the Institution, Building Relationships with the Community and Leaning into Research.

We've been developing leaders for a just future inside and outside of the classroom. As the academic sustainability program (formerly known as the SEE Initiative) became integrated into HSI, we launched two new transdisciplinary majors (B.A. and B.S.) in sustainability, and already had 28 majors in the first full year of the program. We launched a graduate certificate in sustainability, which now draws 14 students per year into our foundations in sustainability course.

Outside the classroom, we provide experiences for first-year students through an integrated learning-living community and a sustainability mini-course.

We've continued working with student organizations, we've supported our students'

efforts in the 2019 Global Climate Strike, and we've built on a collaboration with our sister Marianist universities.

We've also strengthened our signature Student Leaders program, which has enabled UD students to make a tangible impact on campus sustainability through efforts in energy efficiency, waste reduction, native plantings, local food production, peer education and impact on campus sustainability.

These critical student projects are part of our work on evolving the institution, but not all of it. HSI led an effort to determine the feasibility and economic impact of a near-term conversion to a carbon-neutral campus.

The academic paper that emerged from that work was recently recognized with the 2020 Campus Sustainability Research Award from the Association for the Advancement of Sustainability in Higher Education.

In 2018, AASHE recognized UD with a Gold rating in the Sustainability Tracking, Assessment and Rating System (STARS), an effort led by former HSI graduate assistant (*continues on next page*)

McCall: HSI poised for continued success in years ahead



Important initiatives in the near future include scholarship and internship opportunities, a strategic plan, undergraduate and graduate research.

Leah Ceperley. In partnership with Facilities Management, Leah also led an effort to install a 6.5-acre pollinator prairie beneath a massive solar array that was “planted” in 2018.

HSI also has been actively building relationships with the community. A signature element of this theme has been UD’s signing of Second Nature’s Resilience Commitment in 2019, which committed us to working with our local community to perform a climate resilience assessment and eventually a resilience plan.

HSI faculty and graduate students worked through the pandemic to complete the assessment due to be released in mid-2021.

In concert with the Resilience Commitment, UD established a high-level Climate Action, Resilience, and Environmental Sustainability (CARES) Council to oversee campus sustainability and climate resilience work.

HSI faculty, staff and students also have participated in many community initiatives, including the Montgomery County Food Equity Coalition, Dayton

Regional Green, the emerging Gem City Market co-op, and the City of Dayton’s sustainability plan. HSI has also partnered with both regional (e.g., Green Energy Ohio and Five Rivers MetroParks) and local (e.g., East End Community Services and Mission of Mary Cooperative) organizations.

HSI also has been leaning into research, as we build capability within HSI and across campus. We’ve launched a new community of practice called the sustainability scholars, which includes about 100 faculty and researchers from 30 different programs and departments.

This community facilitates new connections among its members and also advises HSI on research initiatives.

One such upcoming initiative is the Sustainability Undergraduate Research Fellowship (SURF) program, supported by a gift from UD alumnus John Alberici.

The SURF program will enable an annual cohort of outstanding UD undergrads to spend a full year (including a summer) working on a transdisciplinary research project with sustainability scholars.

Another key initiative being launched in 2021 is a graduate fellowship program to attract exceptional graduate students to UD to support the research of sustainability scholars in addition to HSI’s programmatic work.

Our faculty are leaning into research, from Felix Fernando’s work on the human dimensions of energy extraction, to Bob Brecha’s analysis of the intersection of energy and the United Nation’s sustainable development goals, to Rebecca Potter’s work on sustainability literature and curriculum, to Marianist Sister Leanne Jablonski’s work building bridges between scientific and faith communities.

The work of HSI and its sustainability partners at UD has been consistently gaining visibility, both in terms of media attention and campus sustainability recognitions. It seems clear HSI and UD are poised for continued success in the years to come.

Consider joining our twice-monthly Sustainability Spotlight newsletter at <https://mailchi.mp/0371cc92b784/udaytonhsi>.

2019-2020 HSI staff

Bob Brecha, professor; department of physics, University of Dayton School of Engineering renewable and clean energy program (on leave)

Leah Ceperley, sustainability planning and evaluation manager

Felix Fernando, lecturer in sustainability; sustainability graduate certificate coordinator

Mark Gokavi, communications coordinator

Sr. Leanne Jablonski FMI, HSI scholar for faith and the environment

Brooke Jones, senior administrative assistant

Ben McCall, HSI executive director

Rebecca Potter, HSI director of curriculum, sustainability program director, associate professor of English

Katie Schoenenberger, director of student engagement



Many University of Dayton students, staff and faculty members attended the 2018 AASHE conference in Pittsburgh.



University of Dayton

**Hanley Sustainability
Institute**

2019-2020 student leaders

Claire Abele, civil and environmental engineering

John Barnard, environmental biology

Jenny Capka, marketing and communications

Ummiya Chaudhary, civil and environmental engineering;
business administration, sustainability minors

Marla Diaz, environmental biology

Hannah Gibson, human rights studies; sustainability minor

Sean Handel, mechanical engineering; sustainability minor

Maura Hohl, dietetics

Jared Marsh, human rights studies; sustainability minor

Elizabeth Miles, dietetics

Marigrace Moses, environmental biology; sustainability
minor

Sophia Palmer, mechanical engineering; sustainability
minor

Amanda Ratliff, environmental biology

Claire Roberts, environmental biology; sustainability minor

Emily Sandstrom, environmental biology; sustainability
minor

Emily Shanahan, international business management;
human rights, sustainability minors

Izzy Schutte, environmental biology; geology minor

Claire Sullivan, biology; sustainability,
political science minors

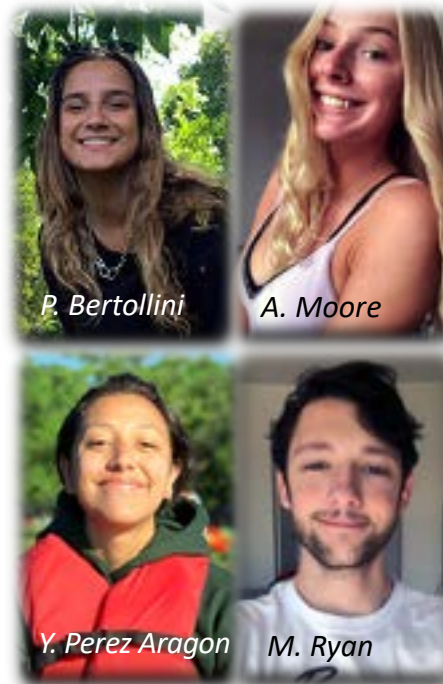
Vince Wilson, mechanical engineering



An HSI student leaders retreat featured Dr. Brian Raison, Ohio State University assistant professor and extension field specialist, to facilitate a strategic alignment workshop. Activities included determine shared values, customers, a SWOT analysis and brainstorming.

2019-2020 sustainability majors

Pilar Bertollini, BS-watershed
Carter Creviston, BS-watershed
Nicholas Clarke, BA-urban
Richard Danyko, BA-urban/English
Nichole Dunham, BS-watershed/environmental biology
Lindsey Elchert, BA-urban
Caroline Garvey, BS-energy
Dylan Grogan, BS-energy
Catherine Jensen, BA-urban
Mary Kauper, BA-urban
Molly Klimo, BS-undecided
Abigail Kropp, BA-undecided
Peyton Majerski, BS-undecided
Jackson Mescher, BA-urban
Abbey Moore, BS-watershed
Yamilet Perez Aragon, BA-food studies/graphic design
Mark Ryan, BS-undecided
Abigayle Smith, BS-watershed
Darion Smith, BA-urban



2019-2020 graduate assistants

Christopher Baldasare, engineering management
Tess Iseman, renewable and clean energy; graduate certificate in sustainability
Meg Maloney, biology; graduate certificate in sustainability
Jack Rees, renewable and clean energy
Lauren Wolford, public administration; nonprofit leadership and sustainability graduate certificates



University of Dayton
**Hanley Sustainability
Institute**



Professor John Clarke, Caitlin Marshall '19, Payton Oakes '19, University of Dayton President Eric Spina and Emily Gorenc '19 pose when the design students presented their project for signage at the solar prairie outside Daniel Curran Place.



Developing Leaders for a Just Future

Former HSI student leader Elise Erhart at the solar prairie.

Potter: Growing the sustainability major a group effort



*Rebecca Potter:
sustainability
program director;
HSI curriculum
director*

Potter, plus students, staff, faculty and administrators built the new UD major of sustainability.

At the beginning of 2018, Jessica “Jesse” Carbonaro was in my office talking about her last semester as a self-designed sustainability major and environmental biology major. Jesse had been active in the Hanley Sustainability Fund, and Sustainability Club, and knew she wanted to pursue environmental law.

She had come to my office the year before, days after the sustainability program was established, ready to create a self-designed major around sustainability, and her timing was good. The graduate certificate had launched, and a group of faculty, staff had been designing two new bachelor’s degrees in sustainability building on an already robust minor.

Two HSI student leaders, Grant Karda and Lauren Murray, had been collecting student feedback on the proposed design of the major. Even before the [BA and BS degrees in Sustainability](#) were launched, students who, like Jesse, wanted to make Sustainability their academic major were finding my office.

Carter Creviston prepared the paperwork to declare the major weeks before the board of trustees approved it. Nicholas

Clarke, who discovered the major as a junior, took courses ahead of the major’s launch so that he would be able to complete requirements on time. Carter was the first sustainability major at UD, and this May (2021) “Nico” will be the first graduate with the degree.

When the BA and BS degrees appeared for the first time in the 2019-2020 University of Dayton course catalog, even more students noticed. At the start of the 2019 fall semester, other students quickly joined Carter as sustainability majors, about evenly divided between the bachelor of arts and bachelor of science.

Within short order, those 12 doubled in number, and then by fall 2020 had increased again. During the COVID-19 pandemic, my office was online but students still found it.

By December 2020, there were 28 UD students majoring in sustainability, and that number continues to grow rapidly.

Building the program has been a very expansive group effort that incorporated faculty, staff and administrators from across UD. It required an expansion of

faculty to teach sustainability-related courses, an expansion that the college and departments have embraced.

Since 2018, departments across the university have launched new faculty searches for positions that highlight sustainability in their job descriptions, and a new cadre of brilliant scholars from lecturer to associate professor have joined UD, developing new courses and revising existing ones, working with students and engaging in community-based research.

This has expanded sustainability-related education available to all students, not just those earning a major or minor. It has been an encouragement for many of those students to pursue further study.

Currently, 19 UD faculty or staff teach courses offered directly through the sustainability program (“SEE-numbered” courses), often in team-teaching arrangements that pair expertise across fields and even across academic units.

Many more teach sustainability content through their disciplines and contribute to sustainability education in myriad ways. *(continues on next page)*

Potter: Sustainability emphasizes experiential learning

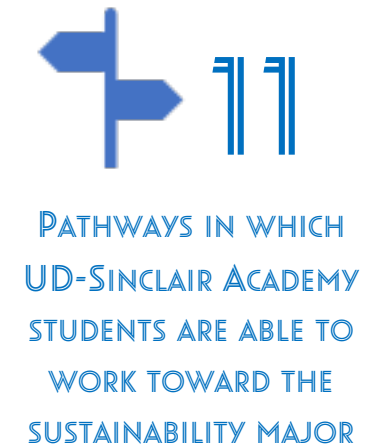
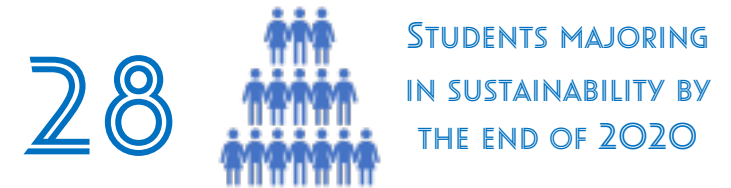


“Since 2018, departments across UD have launched new faculty searches for positions that highlight sustainability in their job descriptions.”

A program is not just an assemblage of courses, and a sustainability program has to be considerably more than that; it needs to be connected to the community through experiential learning. UD’s sustainability program needs to incorporate that fundamental principle of a Catholic, Marianist university, educating the whole person. Here are some of the [sustainability major](#)’s innovations and achievements from 2018-2020:

- **Constructions of Place**, taught by Hsuan Tsen and Glenna Jennings, presented [Dinner in the Desert Kitchen](#).
- **Sustainability Research I**, taught by Don Pair and Viorel Paslaru (2018) and Zach Piso (2019-20), led student teams to address sustainability education. Student leaders took up several of those projects under the skilled guidance of Katie Schoenenberger, illustrating how our campus can be a living lab for student learning.
- **Sustainability Research II**, taught by Kelly Bohrer with Paslaru (2018), Steve Bein (2019) and Piso (2020), had students work on a broad range of projects from solar power, waste reduction, watershed resiliency, soil health and community resiliency with a number of local community partners. Those partners included the Miami Conservancy District, Arthur Morgan Institute for Community Solutions, Mission of Mary Cooperative, The Dakota Center, Edgemont Solar Garden, Dayton Solar and the City of Dayton.
- **Introduction to Sustainability**, taught by Felix Fernando and Rebecca Potter, participated in the GEMnasium, joining students in courses across the University in a collaborative educational project led by ArtStreet. The Spring 2019 GEMnasium focused on food security in Dayton; students presented their ideas from a mobile market to local co-operative groceries and innovative urban food production.

BY THE NUMBERS





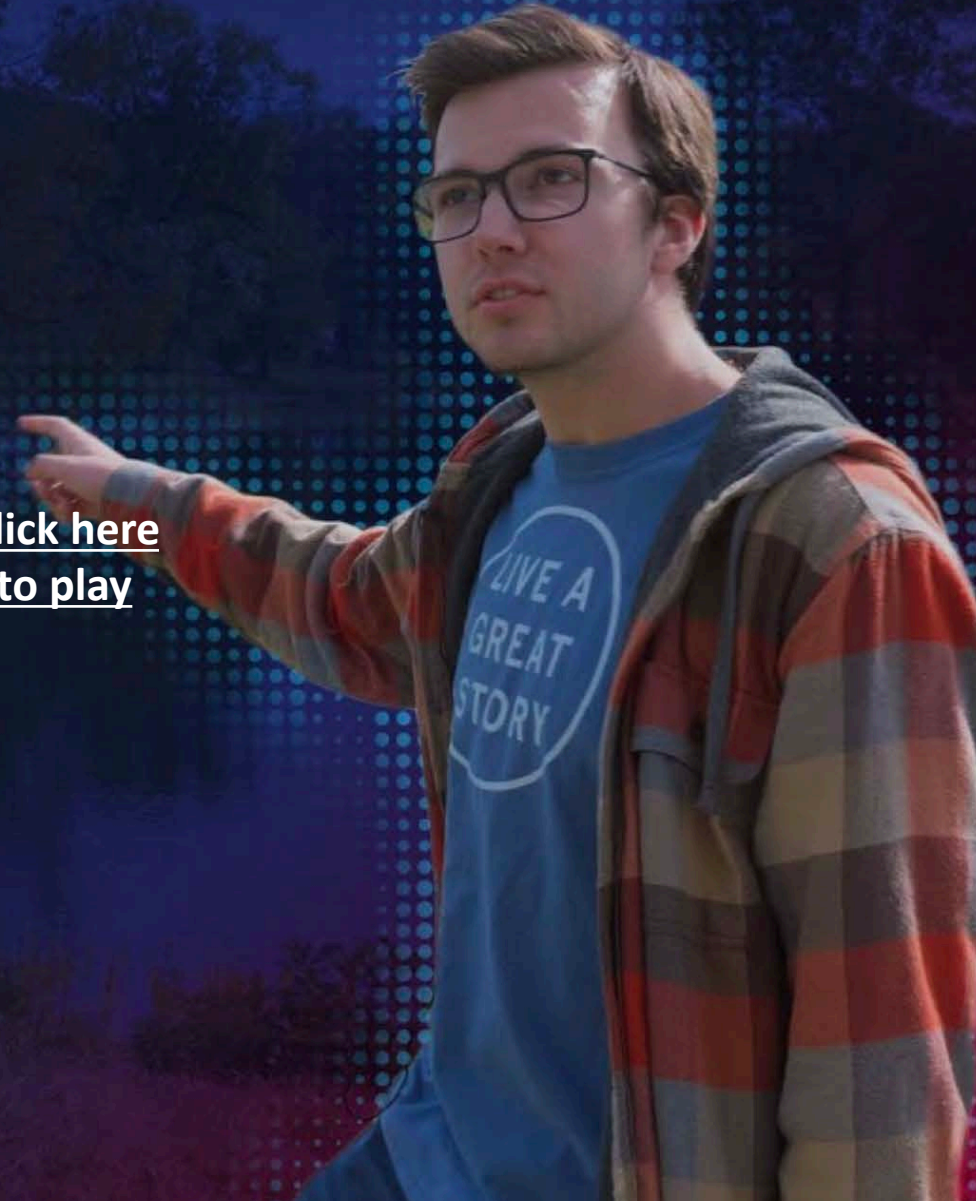
University of Dayton

SUSTAINABILITY PROGRAM

at the University of Dayton



[Click here
to play](#)



Schoenenberger facilitates HSI student leader projects



*Katie Schoenenberger:
HSI's director of
student
engagement*

"I could not be more excited for the future of the leaders program."

Over the past five years, I have had the pleasure of working with more than 50 undergraduate students, more than 10 graduate students, and many student, staff and faculty volunteers as part of our [sustainability leaders](#) program.

Our goal in establishing the program in 2016 was to create a platform so students could gain leadership and professional development skills while exploring their vocation. All of these students and partners brought to HSI their passion for sustainability, their expertise in a wide variety of disciplines, and an excitement and commitment to a team approach.

As a team we worked to contribute to and achieve ambitious goals while also supporting each other's personal and professional goals. We worked to help UD earn an AASHE gold rating and earn national notice for our leaders program as well as individual projects such as Energy GPA. We worked to engage students, staff, faculty and our community in connecting their everyday life and work to sustainability. And we worked to stay connected with each other, even after graduation, warmly welcoming back our

sustainability leader alumni and GAs to inspire us for what comes next and to help us reflect on our current UD experience.

I could not be more excited for the future of the leaders program and for all the areas in which the student leaders are learning and working on sustainability projects on campus and in our community. Some of our very first projects, such as the Sustainable Activation Program (SAP), Energy GPA, and the Student Neighborhood Composting Program, are now established, successful programs with strong demand. Our team is still motivated and excited by these projects, driven by how much their fellow students value the programs.

As you read through the highlights (*Pages 26-28*) of the last few years, you'll also get a glimpse of some of the new projects we are excited about, including work on native planting areas, a vegetable garden and collaborations with dining services, and deeper outreach to offices, student organizations, and departments on campus. Whatever is next for our student leaders, I know they have made a difference here at UD and will no doubt continue to make a difference in all of their endeavors.

STUDENT VOICES



"(Katie) is the glue that connects us to HSI staff, Facilities Management, and all other parts of campus. ... Her approach makes my HSI experience more than a professional experience or an on-campus job. Katie makes the student leaders program feel as if we are a part of something bigger and pushes us to achieve our potential." – Sophia Palmer, HSI student leader and sustainability minor

Sustainability students have traveled abroad to learn



Students have opportunities to learn abroad with campus partners.

HSI student leaders and sustainability students have benefitted from University of Dayton programs that include overseas travel and education.

UD's Human Rights Center, ETHOS, the Center for International Programs and other initiatives have offered study abroad opportunities that intersect with sustainability education. Pre-pandemic, these programs enabled UD students to study agriculture in India, human rights in Malawi, Africa and other efforts in other locations. Study abroad programs were also held in places like Berlin, Prague and Peru.

Emily Shanahan (center column) graduated with a major in international business management and minors in human rights studies and sustainability.

Shanahan, who grew up on a family farm in Hillsboro, Ohio, served on HSI's food and growing team.

In India, Shanahan stayed with a host farm family in Sikkim in the Himalayan mountain range. The India experience "was another way to look at food and farming that was so vastly different to what I know. It provided that new perspective and its



own challenges with the green revolution; there was a lot of pressure for farmers to enter these predatory contracts with seed companies."

Marigrace Moses (right), graduated with a major in environmental biology with minors in human rights and sustainability.



She was on HSI's education team. In 2019, she did research in Malawi, "My research focused on women's roles in sustainable fish farming. I learned so much from the people I would interview including all aspects of life such as environmental, social and economical. I would definitely go back."

From F-16 mechanic to sustainability, local grad returns



Student Spotlight:
Darion Smith

Darion Smith grew up pretending to be the Crocodile Hunter, hiking in Glen Helen Nature Preserve and credits (Clayton, Ohio) Northmont High School with helping “encourage my love for nature and wildlife with cool field trips.”

“I have always lived in suburban areas, and the outdoors was my refuge, especially from family issues and stress,” she said. “I loved going on hikes, splashing in the streams, listening to the birds.

“As I grew older, however, I became aware of the real issues facing society. Nature went from something I loved to play in, to something I needed to protect and felt concerned for.”

It’s no surprise Smith became a sustainability major at the University of Dayton. But the journey she took to get there included several other schools, working full-time and a stint as an F-16 mechanic in the U.S. Air Force.

Smith attended Sinclair Community College while working full-time before leaving school. “After a while of lacking motivation and direction, I decided to join the military so I could get the GI Bill,”

Smith said. “I became an F-16 aircraft mechanic and was first stationed in Aviano, Italy.”

She completed two part-time semesters at the online American Military University, and later was stationed at Holloman AFB in New Mexico while finishing her service and getting an associate’s degree in aviation maintenance technology with the Community College of the Air Force.

Smith enrolled at New Mexico State University to major in civil engineering. When the pandemic hit in March 2020, she and her husband decided to relocate closer to her home in Ohio. She said financial aid and scholarships made it possible for her to enroll at UD with or without the GI Bill.

“I chose UD’s sustainability major because I was hard pressed to find another like it,” Smith said. “What’s more, I have never before seen things like (the) urban sustainability (track), which exactly describes the kind of work I am passionate about doing.”

Smith said she’s been passionate about nature, the planet and the environment her whole life and that she wants to be



part of the change for a cleaner, safer, more sustainable world. “I think sustainability concepts should be infused into every single major or degree offered at this point, as it should be considered integral to any and all disciplines,” Smith said. “If you live on this planet, sustainability relates to you and everything around you.”

[Full story on HSI news blog](#)

Co-curricular learning begins in students' first year



Sr. Leanne Jablonski, FMI: HSI scholar for faith and the environment

“UDI 262 is a great way to explore your interest in the Sustainability Program.”

Sr. Leanne Jablonski coordinates the first-year experience of sustainability at UD by designing and facilitating experiential learning events and engagement opportunities for students to connect with peers, student organizations, faculty/staff and professionals engaged in sustainability. These all complement the residence life and academic experience for students interested in exploring how sustainability connects with their major and career plans.

The [sustainability integrated learning-living communities program](#) is open to all first-year students regardless of major. Students in the SEE ILLC live together in dorms and take humanities courses, and are invited to participate with their friends and others interested in sustainability in any of the broad event menu. The spring semester one-hour mini-course UDI 262 - Exploring SEE is open to any UD first-year student.

Students learn about urban sustainability through visiting downtown Dayton sites or volunteering at [Misison of Mary](#)

urban farm. They can visit Marianist Environmental Education Center (MEEC) for service, interpretive hikes, and retreats. Field trips to the Cincinnati Zoo (photo at right) and Yellow Springs feature enjoyable tours of green initiatives.

Dinner and virtual dialogue events with guest speakers, panels and sustainability-themed movies invite students to join with staff, faculty and off-campus community members to mutually share perspectives on how we can address climate change, environmental justice and food security. Participants explore connections between peace and the environment using the United Nation's Sustainable Development Goals and mark “ecological feasts” of Earth Day and St. Francis/the Season of Creation, and our Marianist Founders integrating faith-based resources.

First years are also encouraged to connect with student groups such as Sustainability Club, HSI student leaders and to participate or attend events such as the [Stander Symposium](#) and Sustainability Week.



BY THE NUMBERS

51

EVENTS WHERE JABLONSKI WAS INVITED TO SPEAK; 14 PROFESSIONAL MEETINGS; 37 CLASSES OR OTHERS

78

MAJOR EVENTS AT UD/DAYTON FROM '18-'20 ORGANIZED BY JABLONSKI DRAWING 2,969 PARTICIPANTS

39

LOCAL, UD AND STUDENT GROUPS WITH WHICH JABLONSKI PARTNERS FOR EVENTS AND PROJECTS

Fernando: Graduate certificate has expanded since 2018



*Felix Fernando:
assistant professor
of sustainability;
graduate
certificate
coordinator*

The graduate certificate in sustainability was launched in 2018. The certificate provides an interdisciplinary perspective on what it takes to address the world's toughest challenges—from poverty and climate change to renewable energy and urban development.

The program was designed as a complementary qualification for graduate students interested in adding a certificate that could greatly enhance their employability or for professionals interested in gaining a qualification that can help them take the next step in their career.

Students must complete two core courses (for six credits) and two electives (totaling at least six credits) for a minimum of 12 credits total in order to obtain the graduate certificate in sustainability.

The two core courses are SSP 500: foundations in sustainability (offered every Fall) and SSP 580: applied sustainability (offered every spring). Approved elective courses from other graduate programs constitute the two elective courses.

Over the last two years, the certificate has grown rapidly attracting a diverse group of students from graduate programs such as renewable and clean energy, public administration, engineering, biology, communication and business administration as well as professionals pursuing the certificate.

The SSP 500 course has increased from three students in fall 2018 to 11 in 2019 to 20 in 2020. The SSP 580 course has increased from six in spring 2019 to 14 in 2020.



“Sustainability is probably going to be that one skill set that no matter what field you go into, is going to be critical, especially with addressing all the challenges humanity is facing right now.” – Felix Fernando



STUDENT VOICES

“I could say experiential learning was almost a core to my education at the University of Dayton and that’s what makes it unique.” – HSI graduate assistant Meg Maloney, who was a student leader and River Steward and who will earn the graduate certificate.



go.udayton.edu/sustainability



[Click here
to play](#)

3 Marianist universities team up for watershed learning



UD is part of the [Association of Marianist Universities \(AMU\)](#) that includes Chaminade and St. Mary's (Texas).

As part of the sustainability curriculum, UD piloted curricular partnerships built upon five years of faculty and staff collaboration at our three Marianist universities: UD, Chaminade University in Honolulu and St. Mary's University in San Antonio, Texas, to respond to Pope Francis' encyclical, [Laudato si'](#) in dialogue with the [Characteristics of Marianist Universities](#). Called *AMNIS* (American Marianist Universities Networking In Sustainability), from the Latin for river or waterway, the collaboration was initiated and coordinated by Sr. Leanne Jablonski, FMI.

The AMNIS goal was to develop exchange and joint field experiences building on the cultural and ecological diversity of each location along with the common Marianist values and mission, to educate about the "connection between the common good, the poor and care for the earth, our common home"... "instilling in our students a respect for the integrity of creation and a commitment to environmental justice."

Ecologists, other natural and social scientists, humanists, engineers and others from each institution met by regular conference calls, and site visits and designed a curriculum where cohorts of students



Participants at the beach in Hawaii.

from each institution could engage together virtually during the spring semester and then participate together in a field experience at each university during the summer on a three-year rotation. An AMU seed grant of \$5,000 catalyzed support from each institution to fully fund three week-long site visits at each campus.

A pilot curriculum launched in spring 2019. At UD, HSI's Rebecca Potter and Jablonski co-taught with Leslie King from the Rivers Institute and Fitz Center and Jeff Kavanaugh from UD's biology department.

Utilizing elements of the three-credit river leadership course that had been developed by the Rivers Institute of the Fitz Center for Leadership in Community with the Miami Conservancy District, the City of Dayton and other partners, many students also joined a pilot shared experiential lab course held virtually once weekly in "real-time" with students from the AMU partners.

This water culture and society course focused on the socio-ecological characteristics, cultural history, assets and social justice challenges within each watershed, featuring the ways each university engaged and applied Marianist values of service and leadership. Faculty and students from each institution shared in delivering the content of the course, which was completed with a two-week field experience in Honolulu in May.

Zelalem Bedaso in UD's geology department led UD's 2020 effort in a collaborative major grant proposal submitted to National Science Foundation to fund a full three years of experiential learning focusing on environmental justice and climate change.

Students call for personal action during climate strike



After the campus rally, there was a march to Dayton's Federal Building.

A grassroots effort from the Sinclair Peace Club, the UD Sustainability Student Leadership Council, Dayton Sunrise Movement, HSI, the Human Rights Center, River Stewards, the Center for Social Concern and others led to the 2019 UD climate strike.

Organizers of the on-campus event to observe the global climate strike on Sept. 20, 2019, wanted their chants and written messages to turn into personal and transformative action. "We aren't just here holding up signs. We aren't here just telling stories," said organizer Jared Marsh, who graduated with a bachelor's degree in human rights studies. "We're here to start taking pledges, commitments, start making the change."

Dozens of students, staff and faculty members joined millions around the world in striking ahead of the 2019 U.N. Climate Action Summit. A checklist sign at UD's event was entitled, "What Can I Do?"

After attending the strike, other items on the list involved taking a sustainability pledge, registering to vote, writing or signing a letter to government officials, listening to why speakers were striking, learning and supporting local businesses and turning a "personal narrative into a crafted message for climate justice."

Behind the scenes, HSI faculty such as Sr. Leanne Jablonski and Rebecca Potter helped give students direction about how to organize the event, get the administration on

board with the strike and provide support.

Speakers shared stories of plastic from the Midwest ending up in California ocean waters and said that everyone can take small or big steps to reduce their personal carbon footprint.

Executive directors Ben McCall of the Hanley Sustainability Institute and Shelley Inglis of the Human Rights Center issued a letter of support that included the strategic vision calling for UD to become The University for the Common Good.

"Climate change and environmental devastation pose an existential threat to human rights for all," said the letter from McCall and Inglis. "The responsibility for the climate crisis lies primarily with the most developed countries, like the United States. But the impacts of climate change are felt most by the poorest and most vulnerable around the globe. Governments and other stakeholders have an affirmative obligation to take effective measures to prevent and redress climate impacts, and mitigate climate change, for the full realization of human rights."

[Full story on HSI's news blog](#)



Jared Marsh (with microphone) was a sustainability minor and an HSI student leader as well as a human rights major.
[Flyer News story.](#)

Developing Leaders for a Just Future: By The Numbers



6

COURSES TO FINISH
A SUSTAINABILITY
MINOR



12

SUSTAINABILITY
MAJORS AT THE START
OF 2019-2020



THE GRADUATE CERTIFICATE'S SSP 500 COURSE INCREASED FROM THREE STUDENTS IN FALL 2018 TO 11 IN 2019 TO 14 IN 2020. THE GRADUATE CERTIFICATES' SSP 580 COURSE INCREASED FROM SIX IN SPRING 2019 TO 14 IN 2020.



15

DEPARTMENTS
REPRESENTED ON
THE SUSTAINABILITY
PROGRAM ADVISORY
COMMITTEE

282

STUDENTS IN
SUSTAINABILITY
CLASSES '18-'20



Birds-eye view of Old River Park.

Evolving the Institution

Curran Place's solar prairie blooms into a 'living lab'



Facilities Management led the project to install solar panels at Curran Place and around campus.

In less than two years, the University of Dayton transformed the front lawn of Daniel J. Curran Place into a “living laboratory” dedicated to sustainability.

A solar array was installed in 2018 and a pollinator prairie was planted under those panels in 2019.

Leah Ceperley, who works for UD's Facilities Management and was a driving force for the prairie in her role at HSI (through spring 2020), said solar company Melink agreed not to fence the solar panels to allow students more access. “We are in a unique position to use the solar prairie as a living laboratory,” she said. “We have access to the student solar panels and to the prairie, opening up opportunities for faculty and students to engage the site for research, learning and teaching.”

HSI Executive Director Ben McCall noted Ceperley and Matthew Worsham – former HSI graduate assistants – helped grow the idea to realization. “This has been a fantastic collaboration among Facilities, HSI and students,” McCall said. “It’s a dramatic visual manifestation of the commitment of UD’s leadership to sustainability.” [Full story on HSI's blog](#)



Paper on carbon neutrality pathway for UD wins award



Former HSI graduate assistant Ryan Shea was the lead author of the study. A session on the paper was presented at the 2020 Global Conference on Sustainability in Higher Education. Shea now works as a senior associate at Rocky Mountain Institute.

A University of Dayton research paper on the cost of carbon neutrality at the University earned an Association for the Advancement of Sustainability in Higher Education 2020 Sustainability Research Award.

Graduate assistant Ryan Shea was the lead author of the paper - [“A life-cycle cost analysis of transitioning to a fully-electrified, renewably powered, and carbon-neutral campus at the University of Dayton.”](#) - with co-authors Hanley Sustainability Institute Executive Director Ben McCall, UD energy efficiency and renewable energy manager Matthew Worsham, engineering professor Andrew Chiasson and former UD engineering professor Kelly Kissock.

“Ben, Matthew, Kelly, Andrew and I are honored AASHE selected our research for their 2020 Campus Sustainability Research Award, signifying the importance of transitioning to decarbonized campus energy systems,” Shea said.

AASHE presented the award during an online awards ceremony Dec. 3, 2020.

“Limiting global warming to 1.5C° (2.7F°) to prevent the worst effects of climate change absolutely necessitates an immediate transition from a fossil fuel-based energy system to one that’s renewably powered,” Shea said.

“Our research showed that at the University of Dayton, and likely other universities, this imperative is not only possible but cost-effective.”

The award was announced by Fahmida Bangert, the director of sustainability and SEM business services at Stanford University. “This type of analysis will really help not just Dayton, but other universities to further reduce greenhouse gas emissions from Scope 1 and 2 emissions,” Bangert said. “So nice work, thank you and congratulations.”

The research paper said UD’s conversion would increase costs by just 2.4 percent during a 30-year period. The paper was published in the journal *Sustainable Energy Technologies and Assessments* and an [update to the study](#) was discussed in a presentation during the recent 2020 Global Conference on Sustainability in

Higher Education.

“This recognition of our work shows how powerful it can be when graduate students, faculty and Facilities Management personnel team up to tackle sustainability challenges,” McCall said. “I hope there will be many more such impactful collaborations at UD as we work to meet our commitment to becoming a carbon neutral campus.”

More than 400 applications worldwide were considered for the 40 finalists in several categories with competition in UD’s category from researchers in China, Indonesia and the United States.

“While UD faces similar logistical and capital barriers that many local actors face when realizing their fully-electric and renewably-powered future, I hope that this research, in concert with the continued hard work from dedicated students, faculty, and staff, lays the necessary groundwork for UD to finally address its contribution to a warming world,” Shea added.

[Full story on HSI’s news blog.](#)

UD earned its first gold rating in AASHE STARS in 2018



After earlier earning a silver rating, the University of Dayton received a gold rating in 2018. The effort was led by Facilities Management's Leah Ceperley, UD's sustainability planning and evaluation manager and also a former HSI graduate assistant. UD earned a second gold rating and is making a push for platinum in a future set of rankings.

In 2018, the University of Dayton earned its first gold rating for its sustainability achievements in the Association for the Advancement of Sustainability in Higher Education Sustainability Tracking, Assessment and Rating System (STARS).

With more than 800 participants in 30 countries, the STARS program is the world's most widely recognized framework for reporting a college or university's sustainability performance. UD's score ranked in the top 2 percent of all rated schools, first in Ohio, and second among all U.S. Catholic colleges and universities.

"We jumped nearly 23 points — and from a silver rating to a gold rating — since our last report submission just 14 months ago, thanks to a joint Facilities Management and Hanley Sustainability Institute effort to engage more units University-wide in our sustainability initiatives," said Steve Kendig, UD's executive director of energy utilization and environmental sustainability.

"This rapid improvement ... is only possible because more units bought into the University's sustainability goals and committed to evaluating, reporting and aligning performance and priorities to advance sustainability on our campus and in our community." [Full story.](#)



Flowers. Power.

This photograph taken of the solar prairie outside Daniel J. Curran Place was one of three finalists in the 2019 National Council for Science and the Environment (NCSE) [photo contest](#). In mid-July the plants and flowers were in full bloom, which attracted thousands of pollinators. The prairie plants with deep roots were chosen to retain water and cool the soil below the panels, which increases efficiency.

*Photo by Mark Gokavi,
HSI communications
coordinator*



Temperature setbacks during pandemic saved money



Former HSI graduate assistant Jack Rees (left) and Matthew Worsham, UD's energy efficiency and renewable energy manager, worked to make buildings more efficient in 2020.

One byproduct of students not being at the University of Dayton during spring 2020 because of the pandemic was many buildings not seeing much use, which resulted in lower energy use.

Jack Rees, a Facilities Management graduate assistant who also was an active Hanley Sustainability Institute GA and was still affiliated with HSI in 2020, worked during that time to perform temperature setbacks on all academic buildings across campus.

"I started by making trend studies of various temperature readouts for each air handler in all of the academic buildings," said Rees, who worked with Matthew Worsham, UD's energy efficiency and renewable energy manager. "These trend studies would allow Matthew and me to view current and previous temperature data (going back 48 hours) in specific areas of buildings so that we could monitor the temperature and humidity readouts."

Worsham said UD had never done temperature setbacks for more than a long weekend. "For weeks at a time, we had to come up with new strategies for

how to manage those buildings and make sure that they were not getting too warm, or too cold or too humid," Worsham said. "We both probably learned more this summer than I have in the last three years of working with it.

"Jack set up views in the platform that we could use to quickly assess the conditions of different buildings based on the sensors that we had in place. And he also did some programming for new things that we had come up with to manage temperatures."

Rees said that once the trend studies were done, he and Worsham created spreadsheets of every building on campus with every air handler associated with each building.

"Matthew and I would then go through all of the trend studies and fill out the spreadsheet with high and low temperature and humidity readouts, as well as make notes of any readouts that were abnormally high," Rees said.

"We started the summer doing this every day but then transitioned to doing it every other day, or when a particular day

was going to be very hot and/or humid."

Rees and Worsham adjusted the air handler schedules because of little use during the summer. Instead of operating from morning to late afternoon, the schedules were staggered to run for two hours in the early morning to reduce humidity and cycle the air.

"The schedules were also staggered in all of the buildings to help reduce electrical load," Rees said. "Air handlers were also turned on manually if certain buildings were consistently too warm and/or too humid. Matthew and I, as well as the rest of the energy team, are now trying to calculate the overall energy savings from the temperature setbacks we put into place this summer."

Facilities Management staff later reported that they saved about \$1 million per year in energy savings across campus.

The HSI student leader energy teams along with HSI grad students have helped track and save energy in programs all around campus. [*Full story on Facilities Management's savings from retro-commissioning and other projects.*](#)

HSI student leaders program project highlights, part 1



Student leaders

The [sustainability leaders program](#) is an experiential learning and professional development program open to all UD undergraduate students. The UD campus and community benefit with expanded capacity in the work of making our campus and community more sustainable. Our sustainability leaders benefit with greater opportunity to develop professional skills in the very diverse field of sustainability and valuable mentorship in exploring their vocation while at UD.

Education Team

The HSI education team is led by three sustainability leaders who work with a group of about 20 student volunteers to offer a series of sustainability education events and programming for their fellow students and the broader campus and community. Their work includes:

- Sustainability Activation Program (SAP) - A series of events focused on conservation, sustainable food and consumer choices and social justice issues offered as part of the Housing and Residence Life (HRL) AVIATE program to offer PATH points. Events include the Flyers Go Green lesson and small-group conscious living and energy chats. SAP was recognized by AASHE as a finalist in [2018 for their Student Sustainability Leadership Award](#).
- Dakota Center afterschool program - The team is working with the Dakota Center, located in Dayton's McFarlane neighborhood, to develop and offer an afterschool program focused on sustainability topics.
- Student Sustainability Leadership Council - Members of the education team co-leads, with SGA, a group of student leaders from across campus who coordinate and collaborate on sustainability and social justice projects and discussions.

Energy Team

The campus energy team is led by three sustainability leaders and a GA supported through Facilities Management (FM). This team works in collaboration with FM and other campus partners on projects to reduce campus energy use and educate students about energy conservation and energy justice. Their work includes:

- Energy GPA – This collaboration with Facilities Management, HRL and mechanical engineering is led by HSI students who work with faculty and staff to reduce carbon emissions from university residential energy use.
- Students in the UD student neighborhood receive monthly updates on their household energy use through the Energy GPA dashboard, where they can not only see their energy use, but also how well they did as compared to average households (with a grade) and the rest of the neighborhood. This program paves the way to present actionable ways students can decrease the amount of energy they use so in return they are better prepared to save energy at UD now and in the future when they pay for their energy use in their own homes. [Energy GPA was recognized in 2018](#) in the AASHE Campus Index. *(continues on next page)*

HSI student leaders program project highlights, part 2



HSI student leaders established a garden at Old River Park.

- **Office Ecology** - In late 2019, HSI graduate assistants Tess Iseman and Lauren Wolford worked with the Center for Leadership on a pilot project to increase awareness of everyday habits in UD work spaces. They examined procurement, catering and food habits including the use of paper plates or one-time plastic bags/utensils, office plants, transportation to work and using power strips that get turned off at the end of the work day. During the spring of 2020 (both in-person and remotely) the office ecology team also worked with student leaders from all of the project teams on a collaborative audit of the UD president's house and presented their results and shared ideas with Dr. Spina and his wife, Karen. The energy team is looking forward to picking up their work on office ecology once faculty, staff and students return to campus full-time.
- **Building energy audits and energy efficiency projects** - The campus energy team regularly works with Facilities Management staff to support work to reduce energy in our campus facilities. Most recently the team has worked on academic building lighting audits, deployment of smart thermostats in junior and senior residential houses and buildings, and development of systems monitoring and information methods.
- **Empowered Energy Consumers PATH point events** - Members of our campus energy team created three new peer education events focused on energy justice, renewable energy and residential energy use. Each module was completed by more than 500 students.
- **Building Energy Education Program (BEEP) mini-course** - The eight-week course covered how energy is used in buildings, how to monitor energy use, and how to propose various energy savings

recommendations. Topics covered included building energy groupings, lighting, plug-loads, mechanical equipment, variable frequency drives, water and HVAC systems.

Food & Growing Team

The food and growing team is led by two sustainability leaders and a joint environmental biology-HSI graduate student. The team works very closely with staff in Facilities Management (FM) to develop, maintain and educate around projects related to all things that grow. Their work includes:

- Members of the team worked with FM to plan, implement and maintain the Curran Place solar prairie. This area of native prairie plants is located under and around a 1.3 MW solar array in front of Curran Place. Planted in 2018, the project now includes day-to-day maintenance support from team members, education events and programming and engagement with volunteers.
- In addition to the Curran Place solar prairie, the team also works with facilities management to support the planning and implementation of several more native planting areas on campus including the Merkle grounds facility, ArtStreet bioswale and radio tower hill by Stuart Hall. The team regularly works with volunteers from the environmental biology program.
- **Tree map of main campus** - The food and growing team worked with landscaping and grounds staff during the past few years to map trees over our entire campus. So far the team has completed the main *(continues on next page)*

HSI student leaders program project highlights, part 3



HSI student leaders lead composting on campus. The team has run a neighborhood composting program since 2018.

campus and mapped more than 1,600 trees and 75 types. Our goal is to catalog the size and tree type and provide a mobile tool for staff to use to note tree condition and location of memorial trees.

- Pilot vegetable garden at Old River Park - The team is working with facilities management and dining services on a vegetable garden to explore growing at Old River Park for use by dining services and our on-campus catering chefs as well as to support student learning and engagement.
- Kennedy Union patio green roof - HSI worked with facilities management, faculty in the departments of biology and geology, and the KU staff in the fall of 2017 to install UD's first green roof. The food and growing team continues to support maintenance of the roof and the temperature sensor network that is installed under the roof.

Zero Waste Team

The campus zero waste team is led by three sustainability leaders and an HSI GA. The team supports the campus community in working towards a zero waste campus through reduction of our waste, increase in our recycling, and increase in composting organic waste. The team also is working towards increased student involvement in their efforts, with increased volunteer and student orgs engagement.

Their work includes:

- Student neighborhood composting program - The zero waste team leads this compost collection program for residences in a section of the UD student neighborhood. This program has been offered since the fall of 2018 and now has grown to serve up to 80 student residences. Students collect organic waste in five-gallon buckets, which are then picked up and exchanged by our team once a week, with about 350 pounds of waste collected each week. The team then works with facilities management to compost this waste on-campus for eventual use in our vegetable garden.
- Office and Flyer Enterprises compost program - The zero waste team also supports composting (bucket exchange) for offices and coffee locations on-campus. This program started at the same time as our neighborhood composting program and was serving 15-20 locations on-campus. The team looks forward to re-starting this program, which had to stop during remote work this past year.
- Zero waste education and events - In 2018-19 the team began supporting large campus events with the goal of zero waste. These include partnerships with dining services, senior week, family weekend, the MBA program, campus recreation, and reunion weekend. The team's efforts led to a typical diversion rate of 90-95 percent.

BY THE NUMBERS

350

POUNDS OF
ORGANIC WASTE PER
WEEK COLLECTED
FROM THE UD
NEIGHBORHOOD



80

STUDENT HOMES
IN THE COMPOSTING
PROGRAM

HSI graduate assistants kick off office ecology project



The office ecology project included using infrared photography to track heat sources in offices around the UD campus.

Hanley Sustainability Institute graduate students Tess Iseman and Lauren Wolford worked with the Center for Leadership on a pilot project to increase awareness of everyday habits in University of Dayton work spaces that they hope will lead to sustainability improvements.

The duo examined procurement, catering and work food habits including the use of paper plates or one-time plastic bags/utensils, office plants, transportation to work and using power strips that get turned off at the end of the workday, among other items. They then compiled and presented their findings.

“We’re not looking to change up everything that you’re doing,” Iseman said. “We’re looking to make your (office’s) current way of life better for the planet and people.”

“Our team is able to identify where the operations of the office are now, and develop strategies to help the office meet goals, which ultimately help the University meet our climate commitments.”

April Mescher, strategic partnerships and marketing director at the Center for Leadership, jumped at the opportunity for the Center for Leadership to be the case study after a “Lunch and Learn” put on by HSI.

Hosting more than 100 senior executives, emerging leaders, front-line supervisors and professionals from corporate, non-profit, education and government organizations weekly in their space, made it the perfect spot to pilot the program, according to Iseman and Wolford.

There were plenty of opportunities in a controlled space to observe and monitor everything from how the space is performing, team operations and preparations, printed items and catering, and food waste.

“By nature, I am always looking to ensure we are leaving the planet a better place, anyway,” Mescher said, who added that Iseman told her, “You know your team is already doing a lot of the right things, but I think that we could offer some suggestions and alternatives.”

Mescher said she hopes other UD offices take advantage of the program.

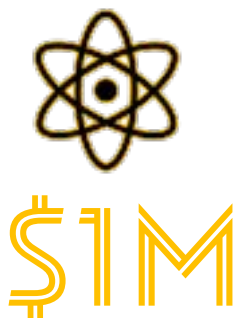
“I think we should be leveraging these types of opportunities to make us stronger and more sustainable,” she said. “It’s painless. They are bright people that will help us all be better. It’s really a zero effort to host the audit on the office that’s being assessed. You need to allow them (to work) and be open to their feedback.”

“We were actually able to celebrate a lot of really good best practices that they are already accomplishing,” Wolford said, “The pilot of this program went very well, and we’re looking forward to adding on a few more offices.”

This office ecology project piggy-backs the HSI’s Green Office Initiative that offered certifications to recognize best practices in work spaces. The Green Office Initiative was part of the Sustainability Tracking, Assessment & Rating System (STARS) effort, which ultimately resulted in UD earning a gold rating from the Association for the Advancement in Sustainability in Higher Education (AASHE).

Evolving the Institution: By The Numbers

HSI partners with numerous organizations on and off campus, the most important one being Facilities Management. The solar array and pollinator prairie were led by many FM personnel, including former HSI graduate assistants Matthew Worsham and Leah Ceperley, also UD's sustainability planning and evaluation manager.



ANNUAL
ESTIMATED
SAVINGS PER YEAR
ON CAMPUS AFTER
VARIOUS
PROJECTS BY
FACILITIES
MANAGEMENT



4,026

SOLAR PANELS INSTALLED
ON UD'S CAMPUS IN 2018

3

SITES THAT HAVE
SOLAR PANELS

1,600+

TREES MAPPED ON
UD'S CAMPUS

Building Relationships with the Community



The shelter at Lincoln Hill Gardens, a project involving HSI, East End Community Services and Mission of Mary, among others.

HSI has affiliations on campus and across the region



HSI Executive Director Ben McCall is a member of the [Montgomery County Food Equity Coalition's](#) "Backbone Support" team, which oversees the work of six topical branches. Assistant professor of sustainability Felix Fernando is the co-chair of the Vibrant Farms branch.

Fernando has been co-chair of [Dayton Regional Green's](#) economic pillar since 2016.



Katie Schoenenberger, HSI's director of student engagement, also is the [Sustainability Club's](#) advisor. The club often includes HSI leaders and/or volunteers and plans UD's sustainability week activities.



Sr. Leanne Jablonski, HSI's scholar for faith and the environment, also is the director at the Marianist Environmental Education Center. [MEEC](#) has hosted student internships, consulted on native plantings on campus including the Adele Center, held staff workshops on observing nature and has sponsored programs, including inviting students and others to Mt. St. John.



HSI graduate assistant Meg Maloney also was a co-author of [Dayton's sustainability plan](#) and Fernando was one of many key stakeholder reviewers.

HSI works with UD's dietetics program and Co-op Dayton on a community engagement intern position at [Gem City Market](#) for UD students.



GEM CITY
MARKET



HSI partnered with [East End Community Services](#) and [Mission of Mary](#) on Lincoln Hill Gardens and with [UD dietetics'](#) Diana Cuy Castellanos on a healthy food initiative.



HSI Curriculum Director Rebecca Potter has been on [Homefull's](#) board since 2019.



HSI collaborated with [Green Energy Ohio](#) on both a workshop on growing local solar power and a screening of the film, "The Human Element."



Affiliations; partnering in sustainability-related events



HSI has teamed up with [Five Rivers MetroParks](#) in several ways, including a UD student leader working with the Second Street Market.



University of Dayton
Human Rights Center



University of Dayton
School of Law

HSI partnered with UD's School of Law and the Human Rights Center to present the 2020 Gilvary Symposium. The symposium's [2020 theme](#) was "Building a Green New Deal in the Rust Belt: Legal, Policy and Democratic Challenges."



Global Council for Science and the Environment
formerly the National Council for Science and the Environment

Graphic design major and HSI volunteer [Shannon Stanforth won](#) a regional NCSE poster contest session for her "process of combining the fields of sustainability and design to produce a children's book which underscores the importance of caring for our natural world." Students and staff from HSI have attended national NCSE events.

UD students, including HSI student leader and sustainability minor Sophia Palmer, hosted more than 200 attendees in the 2020 [Women in Clean Energy Conference](#).

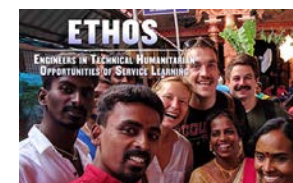


HSI partnered with the Sustainability Club, Human Rights Club, the Fair Trade Coalition and many others on a series of Dinner Dialogues that included students, staff, faculty and many community members.

HSI students and faculty led presentations at the Global Conference on Sustainability in Higher Education and have attended previous [AASHE](#) conferences.



Other key affiliations



Sustainability program director and HSI curriculum director Rebecca Potter serves as a board member for the [Sustainability Curriculum Consortium](#).



UD partnered with the [Marianist Social Justice Collaborative](#) on Elections 2020: Justice Signs of Our Times, about what UD's founders might have said about our challenges.

UD joins resilience commitment, forms CARES Council



HSI's work on the community report is part of the Second Nature Resilience Commitment.

In 2019, University of Dayton President Eric F. Spina signed Second Nature's Resilience Commitment focused on climate adaptation and community-building to address a changing climate and resulting extremes.

"In lockstep with the commitment, we believe colleges and universities must exercise leadership in their communities and throughout society by providing the knowledge, research, practice and informed graduates to create a positive and sustainable future," said Paul Benson, UD provost and executive vice president of academic affairs.

"Together, these commitments challenge the University to take meaningful action through our planning processes to reduce our greenhouse gas emissions and to collaborate with other organizations in the Miami Valley in planning for climate resilience."

"Climate resilience" is a term widely used to refer to the capacity of social, political, economic and ecological systems to adapt, reorganize and transform in the face of a changing climate, according to Benson.

"We recognize that mitigation and adaptation are complementary strategies for reducing the likelihood of unmanageable change, managing the risks, and taking advantage of new opportunities created by our changing climate," [Second Nature writes in its climate leadership statement.](#)

The University's first step toward affirming this commitment was to form a committee that will oversee development and implementation of climate action and resilience planning — the University of Dayton Climate Action, Resilience, and Environmental Sustainability (CARES) Council.

"As the commitment states, technology, infrastructure, global interconnectedness, and our greatest asset — engaged, committed, smart students — allow us to explore bold and innovative solutions, and to lead in climate action and sustainable solutions," Spina said. "This body should be empowered with the authority necessary to implement the carbon and resilience commitments, and should include high-level participants who have the ability to enact elements of the plan."

Chaired by Spina and supported by Vice Chair Ben McCall, executive director of the Hanley Sustainability Institute, the council includes representatives from academic affairs, finance, student development, the office for mission, university advancement, facilities, marketing and communications, the Fitz Center for Leadership in Community and the student government association.

"We remain mindful of the importance of continuing to make substantial, well-planned progress toward fulfilling our climate leadership commitments," Benson said. "This will require focused attention and continued collaboration from every corner of the University."

UD also is part of Second Nature's Carbon Commitment; "We're Still In," which supports the Paris Agreement; the Global Catholic Climate Movement; and the U.N. Global Compact — the world's largest corporate sustainability initiative.

UD was the first Ohio university to be part of Second Nature's carbon and resilience commitments.

[Full story on HSI's news blog.](#)

Two GAs led assessment for Second Nature commitment

Two HSI graduate assistants led the University of Dayton's resilience assessment as part of UD's Second Nature climate commitment to plan for climate resilience. The assessment is a key component of the commitment signed in 2019 by UD President Eric Spina to focus on climate adaptation and community-building to address a changing climate and resulting extremes.

Lauren Wolford and Meg Maloney planned to speak first with UD leaders, but when the pandemic interrupted, the pair instead engaged 59 people from the community.

"We kind of created our own framework for how we were going to do a resilience assessment," Wolford said. "We spoke with (Dayton) city management, the environmental advisory board, the water department, different nonprofits in the area that serve a variety of different social needs, disaster recovery, emergency management and police," among others.

"We asked them questions about what resilience means to them," Wolford added. "As part of our research, we have to establish what the definition of resilience is for Dayton, because it can vary so much depending on what you do."



To determine Dayton's readiness, Wolford and Maloney looked at seven types of the area's "capital" – human, social, political, financial, built, cultural and natural.

The Second Nature commitment process began with conversations with the Miami Valley Regional Planning Commission and included Leah Ceperley with UD's Facilities Management, UD assistant professor of

sustainability Felix Fernando and others.

"We are fortunate to have a faculty member like Felix and two talented graduate students like Lauren and Meg to undertake this work," HSI Executive Director Ben McCall said. "The progress that has been made really showcases the power of faculty and student engagement, and I'm proud that HSI has helped to facilitate this important work." [Story on HSI's news blog](#)

BY THE NUMBERS



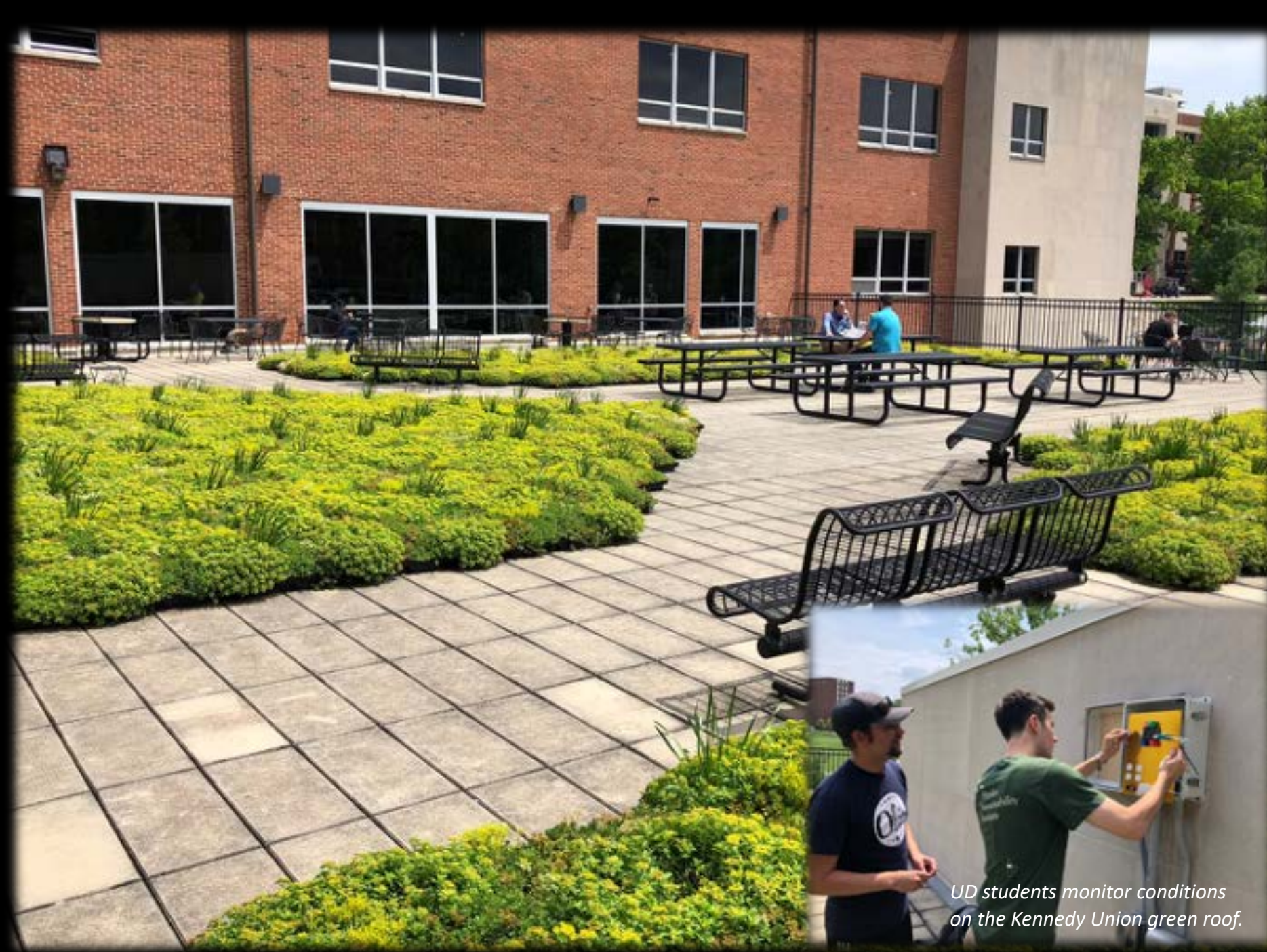
42

COMMUNITY
STAKEHOLDERS
INTERVIEWED FOR
THE ASSESSMENT

17

DAYTON
NEIGHBORHOOD
PRESIDENTS
INTERVIEWED

Leaning into Research



*UD students monitor conditions
on the Kennedy Union green roof.*

Fernando has studied energy and nutritional challenges



Felix Fernando, who has been at HSI since 2016, was named the first assistant professor in an institute at the University of Dayton.

Most of assistant professor of sustainability Felix Fernando's research focuses on the human dimensions of natural resource use. He also works on many food security issues. His research from 2018-2020:

- Schad, J., Larson, E., **Fernando, F.**, and Abulbasher, A. (2020). "[The Goldilocks View?: Perceptions of Current and Continued Oil and Gas Development in the Bakken Shale.](#)" *Energy Research and Social Science*. [Volume 70](#). December 2020, 101799.
- **Fernando, F.N.**, Ulrich-Schad, J.D. and Larson, E.C. (2020). "Methodological Adaptations for Conducting Social Science Research during Different Stages of Shale Oil and Gas Development." In *Energy Impacts: A Multidisciplinary Exploration of North American Energy Development*. Edited by Jacquet, J.B., Haggerty, J.H., and Theodori, G.L. Social Ecology Press (Logan, UT) & Utah State University Press (Logan, UT). (Photo of North Dakota oil well at right.)
- **Fernando, F.** (2020). "Experiential Learning in Sustainability: Opportunities, Building Partnerships, and Student Engagement." In *Diverse Pedagogical Approaches to Experiential Learning: Multidisciplinary Case Studies, Reflections, and Strategies*. Edited by Velasquez, K. Pelgrave Macmillan: London, UK.
- Abstract only: Cuy Castellanos, D., Schneider, K., **Fernando, F.**, Holcomb, J., and Callen, E. (2020). [Addressing Food Insecurity through Innovative Healthcare System Collaborations](#). *Journal of the Academy of Nutrition and Dietetics*, 120 (10), A113.
- Cuy Castellanos, D., Holcomb, J., **Fernando, F.**, Schneider, K., and McCullough, D. (2019). "Exploring Dietary Behavior in At-Risk Youth Participating in an After-school Agricultural Program." *Journal of Hunger and Environmental Nutrition*, 15(6), 767-777. ([Taylor & Francis Online website](#) to find research)
- **Fernando, F.N.** and Goreham, G. (2018). "A Tale of Two Rural Cities: Dynamics of Community Capitals during a North Dakota Oil Boom." *Community Development*, 49 (3), 274-291.



Photo by Jeff Brady, NPR

Brecha worked with Climate Analytics during sabbatical



Bob Brecha, who will return to UD in fall 2021, was awarded a two-year appointment as a European Union Marie Curie fellow with Berlin-based Climate Analytics. He was the first to be announced as a tenured professor of sustainability. HSI Executive Director Ben McCall also has that designation.

Bob Brecha's recent research has related to trying to limit climate change through transitions to more sustainable energy systems.

HSI-related research papers:

- ["Threshold Electricity Consumption Enables Multiple Sustainable Development Goals"](#)
Robert Brecha, *Sustainability* **2019**, 11(18), 5047; (2019)
- ["Electricity Access Threshold for Meeting Non-Energy SDG Targets"](#)
Robert Brecha, *European Journal of Sustainable Development* **8**, (4) 90-100 (2019)
- ["Large Scale Residential Energy Efficiency Prioritization Enabled by Machine Learning"](#)
B.I. Altarhuni, A.A. Naji, P. Brodrick, K.P. Hallinan,
R.J. Brecha, Z. Yao, *Energy Efficiency* **12**, 2055-2078 (2019)



During his two-year appointment, Brecha submitted columns to HSI's news blog and other outlets.

- Aug. 31, 2020 - A lesson about natural resources: Exponential growth and limits in a time of COVID-19 https://udayton.edu/blogs/udhsi/_resources/20-08-31-brecha-exponential-growth.php
- June 5, 2020 - How West Africa can expand power supply and meet climate goals (Sebastian Sterl, Robert Brecha) <https://theconversation.com/how-west-africa-can-expand-power-supply-and-meet-climate-goals-139521>
- Dec. 3, 2019 - Meeting sustainable development goals by gaining electricity access in poor countries <https://udayton.edu/blogs/udhsi/19-12-04-brecha-sustainable-goals.php>
- Nov. 11, 2019 - A castle in the Austrian Alps is teaching sustainability lessons to tourists <https://udayton.edu/blogs/udhsi/19-11-11-brecha-austrian-castle.php>
- Oct. 11, 2019 - Not even the bare minimum: Unpacking Germany's 2030 climate package <https://climateanalytics.org/blog/2019/not-even-the-bare-minimum-unpacking-germanys-2030-climate-package/>
- Oct. 8, 2019 - Coal a key 'knob' to turn off to slow carbon dioxide emissions <https://udayton.edu/blogs/udhsi/brecha-commentary.php>

Potter presents research on sustainability in higher ed



Rebecca Potter presented at the United Nations Environmental Assembly in 2019, as well as other talks locally and nationally. She is the lead editor for a joint publication with AASHE and the Sustainability Curriculum Consortium on Approaches to Teaching Sustainability: Key Competencies.

Rebecca Potter's current research focuses on narratives of sustainability and trends in sustainability education.

Select publications, webinars and workshops:

- **Potter, Rebecca.** "Confessions of a Tree-hugger." *ISLE. Interdisciplinary Studies in Literature and the Environment*, vol. 26, no.1, 2019.
- **Potter, Rebecca** and Elizabeth Mackey. "Ophelia's Mother: The Phantom of Maternity in Shakespeare's *Hamlet*." *The Absent Mother in the Cultural Imagination: Missing, Presumed Dead*, edited by Berit Aström, Palgrave MacMillan, 2018.
- **Rebecca Potter**, Todd LeVasseur, Krista Hiser, Michael Reiter, Paul Barresi, David Blockstein, Madhavi Venkatesan, Cody Edwards, Peter Soyka. "Sharing Perspectives on the National Academies." Webinar. St. Louis High School Vocational Workshop. Feb. 11, 2020.
- **Rebecca Potter.** "Majoring in Sustainability." Webinar. St. Louis High School Vocational Workshop. Feb. 11, 2020.
- **Rebecca Potter.** "The Strange Musical Ecology of Olivier Messiaen's *Turangalila-Symphonie*." Summer 2019 Humanities Commons Workshop. University of Dayton, May 14, 2019. **Rebecca Potter** and Leah Ceperley. "Crusoe's Footprint: Climate Change and Community Narratives," UDOLLI-University of Dayton Osher Lifelong Learning Institute. University of Dayton, Feb. 12, 2018.

Invited talks:

- **"Fallibility and Irony: Pedagogical Insights from Elinor Ostrom and Aldo Leopold."** Ignatian Pedagogy for Sustainability Workshop. Xavier University, Cincinnati, OH, September 15-16, 2019.
- **"How Education Curricula Can Improve Sustainable Consumption & Production."** Panel on the Core Competencies in Sustainability Education and the SDGs. 4th United Nations Environmental Assembly. Nairobi, Kenya. March 14, 2019.
- Rebecca Potter. **"What's Missing? Reconsidering the Key Competencies in Sustainability Education"**, Live Educational Session. Global Conference on Sustainability in Higher Education. October 21, 2020.

Select undergraduate research:

- Stanforth, Shannon (2020); supervised by Misty Thomas-Trout and Rebecca Potter. Sustainable Stories: **Linking Art and the Environment to Inform, Educate, and Inspire.** Poster. National Council for Science and the Environment Annual Conference. Washington DC.
- Sandstrom, Emily, Rebecca Potter and Ryan McEwan (2019). **Where you are and what you know: impact of location and education on individual engagement with the United Nations' Sustainable Development Goals.** Poster. Ecological Society of America Annual Meeting. Louisville, KY.



Jablonski building bridges between science and faith



Sr. Leanne Jablonski, FMI:
HSI Scholar for Faith and
the Environment

Utilizing her Ph.D. and network as a climate change plant ecologist, pastoral minister and justice advocate, Marianist Sr. Leanne Jablonski builds bridges between science and faith communities at all levels to achieve the vision of Pope Francis' Laudato Si' Encyclical, *On the Care for Our Common Home*.

She builds partnerships on and off campus to form teams and create collaborative events for advancing a just and sustainable future, rooted in UD's Catholic and Marianist identity. On campus, she works across entities bridging the Academic, Student Life and Faith dimensions (Campus Ministry/Center for Social Concern and Office for Mission & Rector).

Select publications, session organizing and invited presentations:

- **Jablonski LM** & D Boorse 2019. Building bridges: communicating between ecologists and faith communities. *Frontiers in Ecology and Environment* 17(10): 599-600. 02 Dec. 2019/ [Exploring Ecological Careers](#) (Aug. 2017 – Dec. 2020) Series <https://esajournals.onlinelibrary.wiley.com/doi/full/10.1002/fee.2139>
- **Jablonski, LM** 2019. Science & All Fields in Partnership & Dialogue Building Communities to Address Environmental Injustice. Panelist in: Building Stronger Collaborations across Movements by Understanding the Differences, T Harris, **LM Jablonski** & B Shmaefsky at: AAAS Science, Tech. and Human Rights Conference, Washington DC, Oct. 2019. <https://www.aaas.org/coalition/conference/2019/agenda/thurs>
- **Jablonski, LM** 2019. Ecology – The Study of Living Relationships in Our Common Home and the Science of Climate Change Impacts. Webinar for: Global Catholic Climate Movement International *Laudato Si* Animators Training, March 2019. <https://gccm.thinkific.com/courses/laudato-si-animators-lent-2019>
- Justice Dimensions of Extreme Events: Raising Awareness through Applied Ecology, Education and Outreach. Organized Oral Session 20, **LM Jablonski (Organizer)** with KA Bjorgo-Thorne, JL Whitbeck. Ecological Society of America Annual Meeting, New Orleans, LA, August 2018. <https://eco.confex.com/eco/2018/meetingapp.cgi/Session/14033>
- Exploring the United Nations Sustainable Development Global Goals: A Bridge for Including Ecology, Human Rights and Justice in Education, Outreach & Community Engagement. Special Session 5: **LM Jablonski, Organizer** with T Harris, AAAS, B. Shmaefsky, Lonestar College, A Talbott/S Inglis UD Human Rights Center. Ecological Society of America Annual Meeting, Louisville, KY, 2019. <https://eco.confex.com/eco/2019/meetingapp.cgi/Session/15649>

Leadership & Engagement



Sustainability Scholars a network of faculty learning



[Click here](#) to view the members and research interests of the Hanley Sustainability Institute's Sustainability Scholars.

The University of Dayton is home to scores of faculty members and other researchers all across campus with scholarly interests in sustainability. The sustainability scholars program brings these scholars together to learn about, and celebrate, each other's work. The initiative seeks to foster new collaborations to understand and respond to humanity's grand challenges in sustainability in ways that are only possible by working across traditional disciplinary boundaries.

"Given how many different avenues of research and scholarly expertise connect with HSI's inclusive vision of sustainability, the sustainability scholars program has been a wonderful way to both connect with others on campus I'd otherwise be isolated from and to deepen my own understanding of what sustainability can and should mean," said Faisal Chaudhry, assistant professor of law and history. "For example, the brief five-minute flash lecture sessions HSI organizes that feature sustainability scholars talking about their research are an amazingly inventive and effective way of intellectual dialogue. Even beyond specific events, I appreciate the sense of community the sustainability scholars program has allowed me to ground my engagement with HSI in."



BY THE NUMBERS

100

FACULTY AT THE
UNIVERSITY OF
DAYTON WHO ARE
HSI SUSTAINABILITY
SCHOLARS

30

PROGRAMS AND
DEPARTMENTS
REPRESENTED BY
HSI SUSTAINABILITY
SCHOLARS

SURF will fund interdisciplinary studies and scholarship



University of Dayton graduate John Alberici is the chairman emeritus of Alberici Corporation and Flintco, LLC.

A gift from University of Dayton graduate John Alberici has led to the creation of the Sustainability Undergraduate Research Fellowship (SURF) program. The fellowship advances two of the Hanley Sustainability Institute's priorities - enhancing undergrad experiences in sustainability and catalyzing transdisciplinary research and scholarship.

Through a competitive review process, HSI will select a cohort of outstanding undergraduate students each year to work on transdisciplinary research projects in sustainability. Each student will spend a full academic year (including a summer) working on a project guided by one or more faculty members. Students will receive a stipend for their summer work and faculty mentors will receive an allowance to offset research expenses.

In addition to highlighting student research, SURF will breathe energy into the Sustainability Scholars initiative, which is a collaborative of about 100 faculty members all with interests related to sustainability. The scholars bring faculty together to discuss their research and forge new collaborations. The gift could support up to seven students per year for three years and up to as many as 42 faculty members.

Alberici, a 1967 UD graduate, served in the U.S. Army before joining his family's construction company in St. Louis, Missouri. He is now the chairman emeritus of Alberici Corporation and Flintco, LLC.

STUDENT VOICES



"I firmly believe that the technology and solutions needed to create a sustainable world will only be possible with a robust and wide-spread base of connectivity in the world. I never would have been able to have this opportunity without the opportunity afforded to me by HSI!" - Dan Lenz, 2018 UD graduate in mechanical engineering. Lenz was the project manager for the Kennedy Union green roof, designing 1,800 square feet of vegetation and an underlying sensor network.

Hanley Sustainability Institute names faculty affiliates



**Zachary Piso (top)
and Roger Reeb.**

In 2020, the University of Dayton's Hanley Sustainability Institute announced its first two faculty affiliates, a designation indicating a significant level of engagement and commitment to HSI's mission.

Zachary Piso, an assistant professor in philosophy, and Roger Reeb, a professor of psychology and former Roesch Chair in the Social Sciences, were named affiliates.

"These are just the first two faculty affiliates, and we are eager to expand their ranks," said Ben McCall, HSI's executive director. "The affiliate designation is a way of recognizing the valuable contributions of these faculty members while also formalizing their work with HSI (including the sustainability program) to ensure an appropriate balance with their activities in their home departments."

Piso, whose appointment is for three academic years, will continue teaching the sustainability research classes SEE 401 and 402. Piso also will continue to serve on the sustainability program advisory committee.

"We just want to make sure that we can project the course offerings for students out into the future with some certainty to make sure that the curriculum is available for them to complete in a

timely and predictable way," Piso said. "The sustainability of the sustainability program needs some regularity in how these courses are offered."

Piso investigates the ethics of interdisciplinary environmental research, proposing better practices of stakeholder engagement that ensure more just and democratic science, policy and management. His work focuses particularly on social-ecological systems and the values at stake in social scientific explanations of environmental change and resilience.

Reeb, whose appointment is for one year, will serve as chair of HSI's first promotion and tenure committee, which is developing scholarship criteria and providing mentorship for assistant professor of sustainability Felix Fernando. "We're already really involved with the work coming up with criteria for scholarship to evaluate the tenure track faculty members' work," Reeb said. "It's exciting work and it's a privilege to get that appointment."

Reeb's interests revolve around nutritional benefits for shelter residents at the urban farm at St. Vincent de Paul's Gateway for Men, the therapeutic benefits and vocational opportunities for shelter residents who volunteer on the farm, and civic-related development of service-learning students who assist with the project.



The urban garden at St. Vincent de Paul's Gateway for Men in Dayton.



Media/ Achievements

The Chapel of the Immaculate Conception at the University of Dayton.

Select Hanley Sustainability Institute media mentions



[DAYTON-TRANSPLANT
HELPING UD BE A LEADER
IN SUSTAINABILITY](#)

[FAMILY 411: ENERGY
SAVING TIPS YOU CAN
DO AT HOME](#)

[FAMILY 411: EASY WAYS
TO REDUCE, REUSE AND
RECYCLE AT HOME](#)



[UNIVERSITY OF DAYTON: HANLEY SUSTAINABILITY INSTITUTE](#)



NEWS
91.7 WVXU | 88.5 WMUB

[HOW THE UNIVERSITY OF DAYTON PLANS TO STRENGTHEN
HUMAN RIGHTS AROUND THE WORLD](#)

**Dayton
Daily
News**

[SUSTAINABILITY AT
UD: A MAJOR
OPPORTUNITY](#)

ENERGY NEWS NETWORK

[OHIO UNIVERSITIES
EXPAND CLEAN
ENERGY PROGRAMS](#)

AXIOS

[HIGHER EDUCATION
EXPANDS ITS
CLIMATE PUSH](#)

Select University of Dayton sustainability achievements



3 TIMES IN
THE TOP 10
PERCENT



1ST IN OHIO TO
SIGN SECOND
NATURE'S PLEDGE
IN 2019

INCLUDED UD IN A SLIDE SHOW
OF ENVIRONMENTALLY FRIENDLY
COLLEGE CAMPUSES



UD WINS GREEN ENERGY
OHIO'S GREEN ACHIEVEMENT
AWARD IN ACADEMIA



UD NAMED A
GREEN SCHOOL BY
THE PRINCETON
REVIEW GUIDE



MULTIPLE GOLD
RATINGS IN
AASHE'S STARS
REPORTING SYSTEM



BRONZE RATING
AS A BICYCLE-
FRIENDLY
UNIVERSITY

2019

CELEBRATED 5
YEARS SINCE THE
HANLEYS' GIFT TO
KICKSTART HSI



2020

CELEBRATED THE 5-YEAR
ANNIVERSARY OF
LAUDATO SI' AND 50TH
EARTH DAY



SAP PROGRAM
A FINALIST IN
2018 AASHE
STUDENT
SUSTAINABILITY
LEADERSHIP
AWARD