

5 YEARS OF IES



CULTIVATING A MORE SUSTAINABLE LOYOLA

ANNUAL REPORT • 2017–2018 ACADEMIC YEAR

LOYOLA UNIVERSITY CHICAGO • INSTITUTE OF ENVIRONMENTAL SUSTAINABILITY

2017–2018 ACADEMIC YEAR

The advisory board, staff, and faculty lists reflect positions held during the 2017–2018 academic year.

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The advisory board provides professional guidance to the dean on the direction of IES—informing curricula, programs, goals, and objectives, as well as evaluating accomplishments and financially supporting IES programs.

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Founding Dean,
Institute of Environmental Sustainability,
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Students at Loyola's Retreat and Ecology Campus (LUREC)

IES FACULTY AND STAFF

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Professor of Aquatic
Ecology

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Associate Professor of
Anthropology

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Academics, Professor
of Aquatic Ecology

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Director of Campus
Sustainability

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FACULTY

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Assistant Professor,
Applied Plant Biology

Tham C. Hoang, PhD
Associate Professor,
Environmental Toxicology

Ping Jing, PhD
Assistant Professor,
Atmosphere and
Climate Science

Theresa Johnston, PhD
Lecturer, Environmental
Ecotoxicology

Reuben P. Keller, PhD
Associate Professor,
Invasive Species Ecology

Linda Kurtos, JD, MS
Lecturer, Director of
Graduate and Certificate
Programs

**Roberta Lammers-
Campbell, PhD**
Senior Lecturer, Plant
Biology, and Director of
Academic Programs and
Ecological Restoration at
Loyola's Retreat and Ecology
Campus (LUREC)

Nancy Landrum, PhD
Professor, Sustainable
Business Management

Richard Melstrom, PhD
Assistant Professor,
Ecological Economics

**Rev. Stephen
Mitten, S.J., MS**
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Conservation Ecology,
and Spiritual Director

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Professor, Environmental
Statistics

Brian Ohsowski, PhD
Advanced Lecturer,
Restoration Ecology

Tania M. Schusler, PhD
Advanced Lecturer, Human
Dimensions of Conservation
and STEP Coordinator

PART-TIME FACULTY

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Instructor,
Environmental Policy

Larry DeBuhr, PhD
Instructor, Plant Ecology

Richard DiMaio, MS
Instructor, Weather
and Climate

Paul Gross, PhD
Instructor, Insect-Plant
Interactions

Crystal Guzman
Instructor, Environmental
Sustainability

Tinna Jokulsdottir, PhD
Instructor, Environmental
Sustainability

RESEARCH

Brendan Carson, MS
Research Assistant,
Invasive Species Ecology

Shane Lishawa, MS
Research Associate,
Invasive Species Ecology

Andrew Monks, MS
Research Assistant,
Invasive Species Ecology

WELCOME

Dear Friends of IES



This year's annual report marks the five-year anniversary of IES. Throughout the pages of this report, you'll see that at Loyola we understand every action, decision, and purchase we make has a ripple effect upstream in the supply chain and downstream in the waste stream. Over the years, we have aggressively reduced our campus waste, greenhouse gas emissions, water consumption, and stormwater effluents. **Overall, we are sourcing more locally and using campus resources more sustainably.**

Now, in 2018, we can boast of 10 LEED-certified buildings, a beautiful campus landscape with native vegetation, and a University core curriculum that requires environmental science. And people are noticing! In 2014, The Sierra Club ranked us No. 4 in the nation for greenest colleges, and in 2018 *College Magazine* ranked us No. 5 on their list of eco-friendly colleges. We have received the AASHE (Association for the Advancement of Sustainability in Higher Education) Gold STARS seal of approval for the second time, and we have big plans for our future. The University has adopted an aggressive climate action plan that has us reaching carbon neutrality by 2025, and as you'll see We Are Still In the Paris Climate Agreement.

At Loyola, we have taken the message in Pope Francis's 2015 encyclical *Laudato Si'* to heart. We are integral ecologists. Our fundamental science courses regularly work to develop innovative and interdisciplinary solutions to the planet's environmental crisis. Our students have turned waste (be it invasive species or vegetable oil) into energy, educated thousands in our campus community about recycling and composting, and conducted campus sustainability audits to determine what work still needs to be done.

Though we are proud of the progress we have made to cultivate a more sustainable Loyola, we know it is never only about "greening" our campus. Most importantly, it is about educating the next generation of change-agents.

I would like to thank you for supporting IES since its inception. Special thanks go out to Michael and Nydia Searle for their continued generous support, and former University President Fr. Michael J. Garanzini, S.J., for his vision and for embracing environmental sustainability as a social justice issue. Please enjoy this five-year anniversary edition of the IES annual report.

Yours,

Nancy C. Tuchman, PhD
Founding Dean
Institute of Environmental Sustainability

CELEBRATING 5 YEARS OF IES

CURRICULUM

6 MAJORS

BA in Environmental Policy
BA in Environmental Studies
BS in Environmental Science
BS in Environmental Science: Conservation and Restoration Ecology

BS in Environmental Science: Food Systems and Sustainable Agriculture
BS in Environmental Science: Public Health

3 MINORS

Environmental Action and Leadership
Environmental Science
Sustainability Management (housed in the Quinlan School of Business)

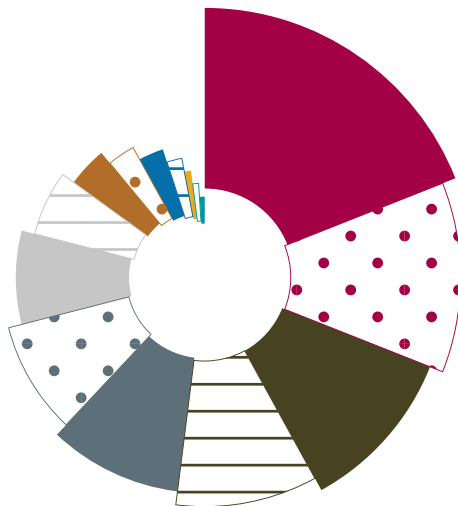
3 DUAL-DEGREE PROGRAMS

Five-Year Dual Degree with Master of Business Administration
Five-Year Dual Degree with Master of Public Health
Five-Year Dual Degree with Master of Public Policy

WHERE OUR GRADUATES WORK

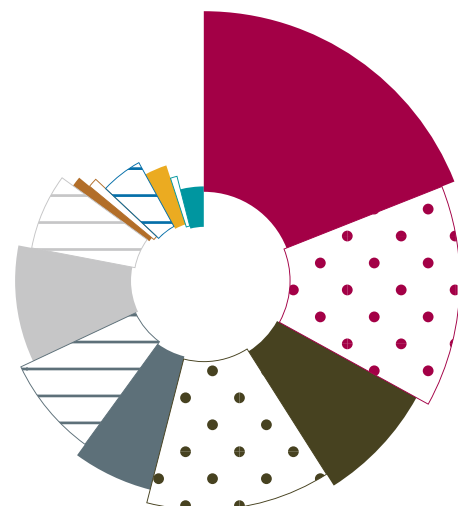
We are cultivating the next generation of citizen activists, environmental scientists, and sustainability leaders. Our graduates are smart and compassionate people who are expanding knowledge in the service of humanity and the planet. Look below to see where you can find them.

ENVIRONMENTAL STUDIES/POLICY 100 POSITIONS



- 18% Sustainability/Energy
- 14% Ecological-Private
- 8% Business
- 13% Community Service
- 6% Community Service and Education
- 6% Non-profit
- 8% Food/Agriculture
- 10% Agriculture
- 7% Consulting
- 10% Ecological-Government
- 1% Policy
- 1% Law
- 5% Urban Planning
- 3% Public Health
- 3% Academics
- 1% Industry
- 4% Lab

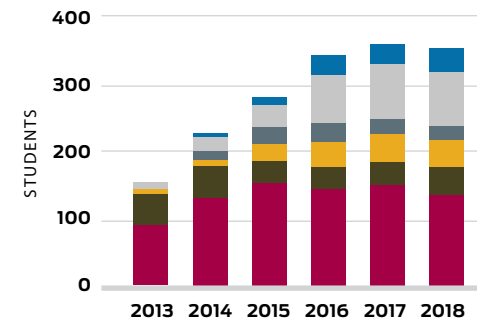
ENVIRONMENTAL SCIENCE 137 POSITIONS



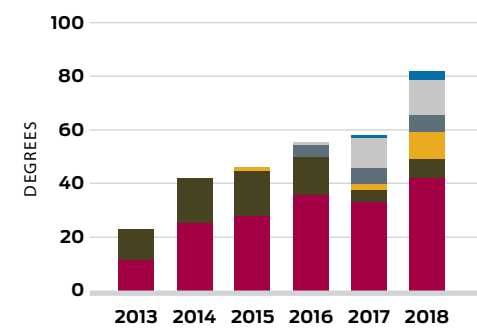
STUDENT GROWTH

Each year, more students seek out IES because of our academic excellence, research opportunities, hands-on internships, and the chance to make a real difference in the world around them. In 2013, we began IES with 161 students, and this fall the number of students studying at IES will reach 350.

DEGREE PROGRAMS (DOUBLE IES MAJORS INCLUDED)



DEGREES AWARDED WINTER/SPRING



- EVSC: BS in Environmental Science
- EVST: BA in Environmental Studies
- EVCR: BS in Environmental Science: Conservation and Restoration Ecology
- EVFS: BS in Environmental Science: Food Systems and Sustainable Agriculture
- EVPL: BA in Environmental Policy
- EVPH: BS in Environmental Science: Public Health

HIGH HONORS FOR HARD WORK



LOYOLA UNIVERSITY CHICAGO RECEIVES CLIMATE LEADERSHIP AWARD. As the recipient of this year's Higher Education Climate Leadership Award, Loyola was recognized for its extensive strides promoting sustainable culture, curriculum, and campus life. The U.S. Green Building Council recognized Loyola's dedication to a sustainable campus with high-performing, LEED-certified buildings and deep energy-efficiency retrofits.

ASSOCIATION OF CATHOLIC COLLEGES AND UNIVERSITIES (ACCU) HONORS LOYOLA WITH THE 2016 LEADERSHIP IN CLIMATE CHANGE AWARENESS AWARD. The ACCU honored Loyola for its commitment to climate change by making the impact of climate on natural and social systems a key aspect of our culture.

The ACCU commended Loyola for its partnerships with the Rogers Park and Edgewater neighborhoods, taking climate action and awareness beyond the campus. The award committee praised our campus's focus on environmental justice issues to address pollution, reduce waste products, and help communities adapt to the changing climate.



WE ARE STILL IN

Loyola's efforts to address climate change were lauded by the We Are Still In Coalition at COP23 in Bonn, Germany. This coalition profiled the University in the Phase 1 Report of America's Pledge.

NO. 4

GREENEST CAMPUS IN THE COUNTRY BY SIERRA

In 2014, *Sierra*, the national magazine of the Sierra Club, ranked Loyola as the fourth greenest campus in the country in their annual Cool School rankings.

NO. 5

IN RANK BY COLLEGE MAGAZINE

In 2018, *College Magazine* ranked Loyola fifth on their Top 10 Most Eco-Friendly Colleges list.

HEALING EARTH

RECEIVED A TOP HONOR FROM THE VATICAN

2017 was the year that Loyola's online textbook *Healing Earth* received a top honor from the Vatican with their first-ever Expanded Reason Award. The award, given through a partnership between the Joseph Ratzinger/Benedict XVI Vatican Foundation and the University Francisco de Vitoria in Spain, came with the opportunity to meet the Pope, participate in a two-day awards conference, and receive a €25,000 (\$29,500) honorarium. The award was presented to organizations or projects that expanded traditional reasoning by uniting faith and science. **See page 9** for more information about *Healing Earth*.

AT IES, WE TEACH OUR STUDENTS HOW TO LIVE IN THE 21ST CENTURY



MAXIMIZE THE NATURAL RESOURCES YOU HAVE

Heavy rains? Loyola has an innovative stormwater management system that captures rainwater and either diverts it for use—like watering plants in our Ecodome and flushing toilets—or filters it and returns the water to Lake Michigan. Each year, we collect, capture, and store over 18 million gallons of water, keeping it out of Chicago's overburdened sewer system.



FIND WAYS TO DIVERT, REUSE, AND REPURPOSE WASTE

Our Searle Biodiesel Lab takes waste vegetable oil from dining halls around Chicago and turns it into clean energy. Our students don't stop there. Biodiesel lab interns regularly find other uses for the waste they create from the biodiesel process. By implementing a **zero waste process**, they have invented the BioSoap you see throughout the University's bathrooms as well as lip balm and windshield wiper fluid.



PLANT A GARDEN

The IES Ecodome isn't the only garden on campus, but it is certainly the most innovative. This 3,100-square-foot greenhouse is used for research, teaching, and to propagate plants for our other gardens. The soils are all organically fertilized with fish wastewater from our aquaponics system. IES manages vegetable gardens on rooftops throughout Loyola as well as an extensive organic garden with a beehive and orchard on the north end of campus.



LIVE LOCALLY

Loyola is lucky to be located on a number of major transit corridors, and as such, the University encourages students to walk, bike, or take public transportation to campus. There's limited parking, and that's by design. Loyola faculty, staff, and students regularly participate and win Active Transportation Alliance's *Bike to Work* and *Bike to Campus* challenges. In addition, Loyola is proud to be one of nine Bicycle Friendly Universities in the state of Illinois named by the League of American Bicyclists.



EAT LOCALLY

Each year, we sell produce grown in Loyola's Ecodome and other campus gardens at our farmers market. Our farmers market runs from June through October. Engrained, our organic café, regularly acquires food within a 50-mile radius of the campus and gets much of its fruits and vegetables from local farms.

KEY MILESTONES ON THE ROAD TO A MORE SUSTAINABLE LOYOLA

Constructing a sustainable campus doesn't happen overnight.

THEN



AN EARLY COMMITMENT

In 2004, former Loyola President Michael J. Garanzini, S.J., embarked on an ambitious \$750 million building plan to improve the infrastructure on all three campuses. Major renovations to most buildings and central systems were completed. This included the creation of 10 new LEED-certified buildings. These additions helped transform the University from a largely commuter school to one with a robust residential, experiential community. The campus' energy footprint was reduced by 40 percent over this time-period, the highest such achievement among all campuses in the Midwest.

NOW



LOYOLA ADDS SUSTAINABILITY LITERACY TO THE CORE CURRICULUM

Today, all incoming freshmen are required to take UCSF 137: The Scientific Basis of Environmental Issues, as well as one more science course, which is often a second environmental issues course. We want all undergraduates to have a solid literacy in environmental issues and appreciate the need to respond to these issues through action.

2004

2008

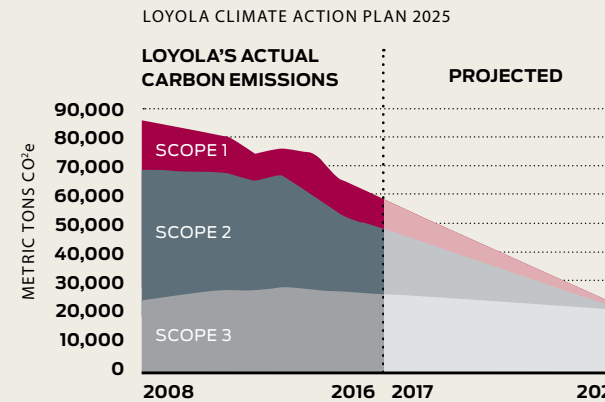
2012

2025



CONSTRUCTING AN ENERGY-EFFICIENT AND COOL STUDY SPACE

The Information Commons was the building that started Loyola's sustainable campus transformation. Built in 2008, the building uses 45 percent less energy than a traditional building. The building is automated and contains hundreds of sensors for temperature and wind. This building has won international recognition by sustainable architecture organizations.



SCOPE 1: On-site emissions, including natural gas, campus vehicles, and landscape fertilizers

SCOPE 2: Off-site, direct emissions, including electricity generation and associated transmission losses

SCOPE 3: Shared emissions, including study-abroad and business air travel, commuting emissions, and solid waste transportation and disposal

Carbon neutral for Scope 1 and 2 emissions
25% reduction for Scope 3 emissions

CARBON NEUTRALITY BY 2025

Loyola's 2015 Climate Action Plan set out the ambitious goal of creating a carbon neutral campus by 2025. This is how the University plans to get there:

- Reduce total energy use by 10 percent
- Purchase renewable energy credits and carbon offsets
- Incorporate climate forecasts into planning, especially capital projects
- Install solar panels on rooftops to create our own renewable energy
- Maintain a clear accounting on progress and challenges to reach carbon neutrality by 2025

IES FACULTY: BREAKING DOWN DISCIPLINARY BARRIERS



Father Stephen Mitten (left) with his first cohort of J-Term students in 2013 to travel with him to Belize for ENV5 340: Natural History of Belize. He and his students are standing at the entrance of the Cockscomb Basin Wildlife Sanctuary and Jaguar Preserve.

At IES, we know complex problems need complex solutions, and we are proud to take a whole-system and interdisciplinary approach to today's environmental problems.



Solutions to Environmental Problems (STEP) students, led by Dr. Tania Schusler, collect data to monitor water quality on the Chicago River's north branch with Mark Hauser of Friends of the Chicago River.

That's why our core faculty have expertise in **biology • ecology • chemistry • ecotoxicology • urban agriculture • atmospheric science • anthropology • mathematics • conservation and restoration • economy • business administration • sustainability • theology • history • engineering • sociology**

How does this translate to teaching and research? It's Conservation and Restoration Ecologist Brian Ohsowski publishing papers with Sustainable Business Professor Nancy Landrum. It's Economist Richard Melstrom studying the impacts of the oil and gas industry on endangered species. It's Aquatic Ecologist Reuben Keller working closely with state and local governments to determine the impact that invasive species will have on Lake Michigan. In addition to all of this, we have unique partnerships with a variety of departments on campus to ensure that our students learn about climate change from a variety of perspectives.

UNIQUE PARTNERSHIPS AND PROGRAMMING

Professor Nancy Landrum holds a joint appointment between IES and the Quinlan School of Business. Over the course of her tenure with IES and Quinlan, she's published scholarly research articles with faculty from over 10 different disciplines. She also developed our sustainable business management minor which is housed in the Quinlan School of Business.

In 2018–2019, we will launch our first graduate and professional courses.

Students will be able to take a four-course sustainability sequence geared at teaching them the skills of a sustainability professional, including how to conduct waste, energy, and water audits and how to write a sustainability plan for an organization.

Our Environmental Careers course gives students an idea of what environmental careers look like in a variety of fields including law, public policy, waste management, energy, education, environmental protection, conservation and restoration, and the nonprofit sector.

A recent addition to IES, Dr. Max Melstrom is an ecological economist.

Dr. Melstrom's research has focused on measuring the economic effects of land use regulations to protect imperiled species and examining different methods for valuing the environment.

FACULTY PROFILE: GOING THE EXTRA (ECOLOGICAL) MILE

BY BRIGID PAULSON (BA '17, MPP '18)



Dr. Brian Ohsowski (right) pictured with IES graduate Jonathan Alspach (BS '18). Ohsowski spends time outdoors with his Restoration Ecology students at Loyola's Retreat and Ecology Campus (LUREC). Every summer, Ohsowski teaches an intensive three-week course at LUREC, ensuring that IES students are able to study nature in nature.

It's 95 degrees by 10 a.m., but IES Advanced Lecturer Brian Ohsowski is still rallying his troop of students to plant tree seeds and create deer-repellant fences. Everyone is roaming around a recently scorched field at LUREC (Loyola University's Retreat and Ecology Campus), focused on their task. In a few months, their hard work will be visible, with the growth of oak tree saplings and budding hazelnut blooms. It's sweltering under the sun, but these students have a drive for restoration, so they push through. Guest Lecturer and McHenry County Conservation District Ecologist Tom Simpson is impressed.

It's no surprise they're so committed. Ohsowski pushes his students to work hard and reflect their success on their resumes. Alumnus Nick Bergstrom (BS '17) thinks Ohsowski has a unique teaching style. "One of the first things he tells his students is that it's his job to get us a job, and he means it," said Bergstrom.

"My job is to set them up to be competitive in the market," said Ohsowski. "It's about making these connections and showing students where job resources are." Ohsowski speaks from experience, as he didn't have these same opportunities when he was in college. "I come from a working-class background. I was the first one in my family to graduate from college."

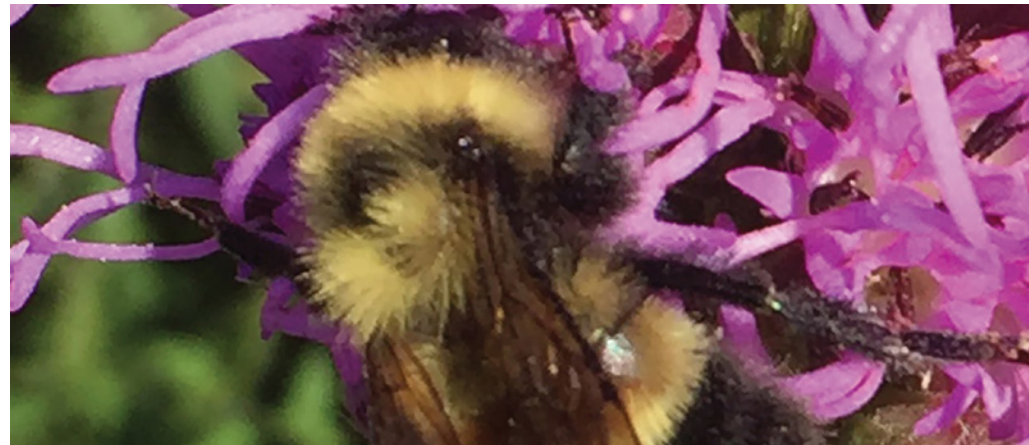
To prepare his students for their careers, Ohsowski creates assignments that produce tangible results. "My general philosophy of teaching is to be informative and engaging and try to teach students the things they need to be successful," he said. "Now is the time to be career-focused."

Ohsowski knows how meaningful work with the McHenry County Conservation District can be. As a fresh graduate, unsure of his future, he interned at the Conservation District under Simpson. It was there he learned about restoration and conservation relating to ecosystems of the Midwest. "My internship changed my life," said Ohsowski. "It instilled a respect and curiosity for all of Earth's creatures."

To help his students find their own hidden curiosities, Ohsowski encourages them to become involved with research and get to know their local plants, animals, and fungi. Facilitating research projects helps students discover their own career paths, which has always been the end goal for Ohsowski. "Growing up, no one ever told me how to be a professional," he said. "I tell students to jump in with both feet and be dedicated. Now is the time to be involved."

LUREC IS AT THE HEART OF IES EXPERIENTIAL WORK

At Loyola's Retreat and Ecology Campus, IES students study nature *in nature*. Field courses range from Ornithology to Conservation and Restoration Ecology. The organic farm and wetland restoration project provides a unique practical field experience.



Endangered rusty-patched bumblebee discovery prompts LUREC's first-ever BioBlitz. Some highlights are listed below.

FIRST BIOBLITZ

This May, we hosted our first-ever BioBlitz at the campus after LUREC intern and IES senior Kevin White discovered an endangered species of bee. During a BioBlitz, expert and novice naturalists catalogue as many species as they possibly can over a 12- or 24-hour period.

DUSKY CLUBTAIL

The dragonfly nymphs that were collected included the Dusky Clubtail (*Phanogomphus spicatus*), a rare find for Illinois naturalists. After its first occurrence in 1892, it was not seen again in the state until 2007, when it was collected from the Dead River at Illinois Beach State Park. Since then, it has been found at three other sites in McHenry County. All the McHenry County sites, including the LUREC pond, have been constructed within the last 50 years or so. This may indicate a recent colonization by this species, which may be more common than recently believed.



360

TOTAL SPECIES WERE FOUND DURING THE BIOBLITZ

80+

PARTICIPANTS IN BIOBLITZ

52

SPECIES OF FUNGI WERE DISCOVERED Including "an unknown zygomycete in a slime flux"—otherwise known as a tree slime—the first time many of the participants had heard of such a thing.

PARTICIPANTS ALSO CATALOGUED BIRDS, BUTTERFLIES, TREES, AND AMPHIBIANS THAT THEY FOUND ON SITE.



WHAT LUREC MEANS TO ME

Our newly retired LUREC Academic Program Director Roberta Lammers-Campbell reflects on her experiences at LUREC.

"The first time I saw LUREC, it was in the middle of winter and everything was covered with snow. Little did I know how much the place would come to mean to me, in all its seasons. Here are some of my fondest memories.

- **Teaching Winter Ecology** during intensive J-terms when students learned to love the daily treks, often through snow and freezing temperatures, to their observation sites.
- **Teaching Wetland Ecology** when the students and I sought to learn the history of the land, beginning interactions with our LUREC neighbors in the process.
- **Working with interns** during the years and throughout the summers, first to discover what was hidden in the wetland choked with buckthorn and then, after the buckthorn was removed by the spectacular efforts of a Geoboy machine, watching natives reappear.
- **And now, during this summer of my retirement**, finding that there are extensive areas in the wetland where the native species have overtaken the invasives.

More than anything else, I rejoice in the students who describe the way their lives have been transformed as a result of being able to work and study at LUREC."

LOYOLA UNIVERSITY CHICAGO'S INNOVATIVE ONLINE TEXTBOOK, *HEALING EARTH*, WINS HIGH HONORS FROM THE VATICAN

BY SHANNA YETMAN



Theology Professor and Healing Earth Co-Editor Michael Schuck greets the Pope.

A CLOSER LOOK AT *HEALING EARTH*

The case study section is a hallmark of each of *Healing Earth's* six chapters. Students are provided with information surrounding an environmental issue (like uranium mining) and asked to consider the issue through a scientific and ethical lens. After these careful considerations, students must ask what type of action people can take to solve these environmental problems.

WATER CASE STUDY: THE GANGES RIVER FROM *HEALING EARTH*

"Every morning, Mallika Ganpati wakes up at her small home in Varanasi, India, and walks a mile to the Ganges River to collect water for her family. Mallika is one of 784 million people worldwide who walk long distances every day to access the water they need to survive.

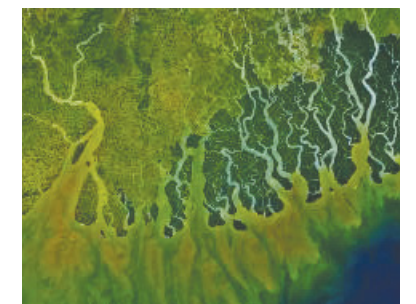
The Ganges originates from the Gangotri Glacier on the southern flank of the Himalayan Mountains. Global climate change is reducing the size of the glacier, lowering the water volume flowing downstream."

In his 2015 encyclical, *Laudato Si'*, Pope Francis spoke incisively about our world's environmental crisis. He called us all to become people of compassionate care for the planet. That's why when Theology Professor Michael Schuck and IES Dean Nancy Tuchman found themselves in St. Peter's Square in September 2017, they listened closely.

"He spoke of *esperanza*, hope," said Tuchman. Their front-row location near the Pope during his Wednesday audience was breathtaking. Thousands of pilgrims from all over the world filled St. Peter's Square behind them. Dean Tuchman and Professor Schuck acquired their special spot near the Pope because their project, *Healing Earth*, was one of four receiving the Vatican's Expanded Reason Award. The award, given through a partnership between the Joseph Ratzinger/Benedict XVI Vatican Foundation and the University Francisco de Vitoria in Spain, came with the opportunity to meet the Pope, participate in a two-day awards conference, and receive a €25,000 (\$29,500) honorarium.

"We know how necessary it is to educate students as whole persons—as intellectually inquisitive, morally developing, and spiritually graced human beings," said Schuck. "That is the trademark of a Jesuit education. But we also know that there are few teaching resources that can guide exploration of the scientific, ethical, and spiritual dimensions of today's environmental challenges in one textbook."

Healing Earth was designed to meet that need. *Healing Earth* is a free-access online textbook in environmental science, ethics, spirituality, and action designed for upper-level secondary school students, beginning college and university students, and adult learners. It embodies the integral ecology and interdisciplinary approach that Pope Francis discusses in his encyclical and that Pope Benedict XVI champions through this award.



To read the entire Ganges River Case Study as excerpted above from *Healing Earth*, go to <https://healingearth.ijep.net> and click on the **Water Chapter**.

ACHIEVING THE GOLD STANDARD



In February 2017, Loyola received its second gold-level accreditation from the Association for the Advancement of Sustainability in Higher Education (AASHE) through its STARS program. STARS stands for Sustainability Tracking, Assessment, and Rating System, and it's not a ranking system. This program relies on colleges and universities to self-report their data, which is then reviewed for accuracy by AASHE staff and is publicly available to be evaluated by peer institutions. Higher education institutions that have received gold or platinum level STARS ratings, like Loyola, are leaders in sustainability.

To honor this accomplishment, and throughout this report, we've placed our key sustainability highlights within the STARS categories they fall under.

ACADEMIC HIGHLIGHTS



Loyola Ramblers prepare for a Zero Waste Game in 2012.

CURRICULUM

NO. 5

LOYOLA RANKED FIFTH on *College Magazine's* "Top 10 Most Eco-Friendly Colleges" list.

1,300+

COURSES address at least one of Loyola's sustainability learning outcomes.

14

ACADEMIC PROGRAMS offered at Loyola that directly address sustainability, including minors, bachelor's, and master's programs.

78

STUDENTS lived and participated in the GreenHouse Learning Community in 2017-18 located in San Francisco Hall.

RESEARCH

24%

FACULTY at Loyola report that their research addresses at least one of the sustainability learning outcomes defined by Loyola.

2

PROFESSIONAL JOURNALS published campus-as-laboratory research on water conservation and behavior change in the residence halls.

ENGAGEMENT

ON CAMPUS

BUSINESS FOR GOOD

The Baumhart Center for Social Enterprise brought social change leaders to campus in 2017-18, supporting the Schreiber Center's commitment to use "business for good."

600

The IES Climate Change Conference attracted over 600 visitors to campus to address the intersection of climate change and public health.

THOUSANDS OF LOYOLANS AND VISITORS

Programs ranging from Welcome Week to Commencement addressed sustainability topics at each campus, engaging thousands of Loyolans and visitors.



Members of the Divert-IT Team help Lollapalooza concertgoers compost and recycle in 2017.

4,000+

STUDENTS participate in engaged learning through their coursework, and over 50% of these courses address a sustainability topic.



Students hang out in San Francisco Hall. San Francisco Hall is Loyola's environmentally conscious residence hall complete with low-flow showerheads and dual-flush toilets, among many other sustainability features.

OFF CAMPUS

MOST LINK SALES AND MATCH

Loyola's 2017 farmers market had the most LINK sales (\$3,107) and LINK match (\$1,745) of any year.

200+

STUDENTS participated in Alternative Break Immersions and 35% of these address sustainability issues.



Biodiesel Lab Manager Zach Waickman has been part of the Biodiesel Lab since its inception in 2007.

TRANSPORTATION

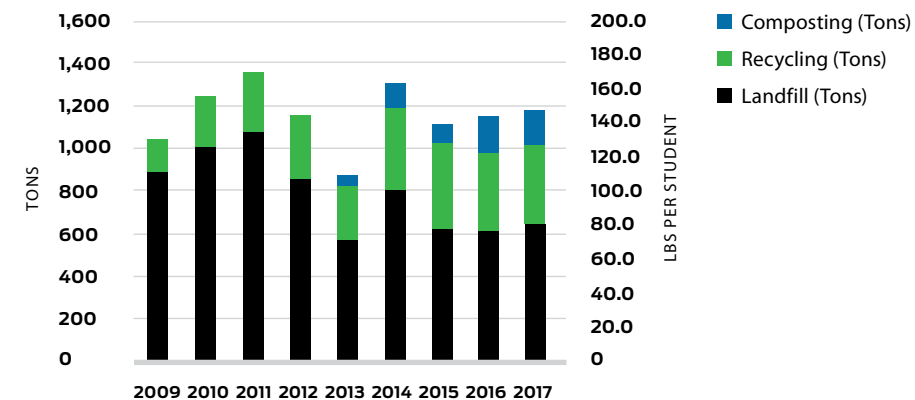
ANTI-IDLING POLICY

Loyola adopted an anti-idling policy for the Lake Shore Campus to reduce air pollution and energy waste.

5,200

In fall of 2017, students in the Searle Biodiesel Lab set a production record of 5,200 gallons in a six-month time period, and all of that fuel went into the shuttle buses.

WASTE GENERATION AND DIVERSION



NOW OPEN

The Cycle and Recycle Center at Lake Shore Campus opened following a student initiative to collect hard-to-recycle items like styrofoam and plastic film.

Currently, Lake Shore Campus has over a **50% diversion rate**. As you can see, starting in 2013, we have expanded our composting program.

CLIMATE CHANGE CONFERENCE: FIGHT THE GOOD FIGHT

“We have to step up or we cannot expect our government to stand up for us,” said former EPA administrator Gina McCarthy to a full house at Loyola’s annual climate change conference in mid-March. “It’s time to reengage.” McCarthy’s keynote kicked off our 2018 conference, *Climate Change and Human Health: 21st Century Challenges*, which included panelists who are leaders in the U.S. and abroad in climate change and public health advocacy. These experts discussed a variety of relevant issues, from furthering the U.S. commitment to the Paris Agreement to the overwhelming growth of climate refugees throughout the world.

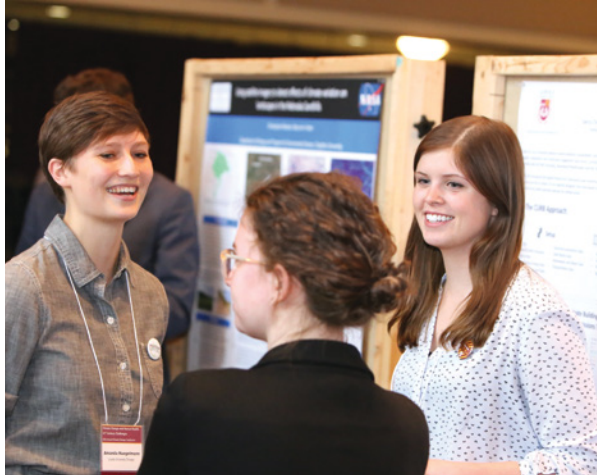


2018 Conference Keynote Speaker Gina McCarthy (center) tours IES with former Gannon Center Director Janet Sisler (left) and Dean Nancy Tuchman (right).

“People think about the floods and the wildfires, which are devastating. But there’s more to it. Drinking water can be impacted. Changes in air quality come along with a change in climate that can exacerbate premature deaths and premature births.”

—GINA MCCARTHY
FORMER EPA ADMINISTRATOR

HIGHLIGHTS FROM OUR 2018 CLIMATE CHANGE CONFERENCE



CHANGE HAPPENS ON THE GRASSROOTS LEVEL, AND YOUNG PEOPLE HAVE A UNIQUE VOICE IN THAT CHANGE. “Young people today are incredibly focused on environmental justice and social equity,” Gina McCarthy remarked. “If they maintain that focus, we will win.”



WE ARE STILL IN. Being sustainable and supporting clean and renewable energy is a sound business decision. Bob Best, sustainability lead at Jones Lang LaSalle, said as much during a Friday afternoon panel. “We save hundreds of dollars per square foot when we incorporate sustainability in the workplace. Everyone’s involved in the process.” Other panelists during this session spent a large part of their time talking about what their organizations are doing to move America forward on commitments made in the Paris Climate Accord. Amy Jewel from the City of Chicago discussed her work to push not just Chicago, but also local businesses in the direction of 100 percent renewable energy. “We’re hoping to launch a renewable energy challenge for local businesses to be 100 percent renewable by 2025, 2030, or 2035.”



WE ARE ALL CLIMATE REFUGEES. Anthropologist Susan Crate from George Mason University reminded us that “we are all being displaced by the climate” and that very often “wars and conflict have deep roots in climate change.” As our climate changes, storms will get more powerful and situations like the one occurring in Puerto Rico will continue to happen. We must be vigilant, we must be prepared, and we must be available and willing to help each other through these tough times.



TAKE TIME TO EXAMINE YOUR RELATIONSHIP WITH CREATION AND OUR PLANET. AJCU participants like Tomás Insua (above), executive director of the Global Catholic Climate Movement and one of our conference panelists, had an extra day to reflect on sustainability curriculum. This year, they became acquainted with the Ecological Examen. Unlike a traditional examen, this new one takes cues from Pope Francis’s encyclical *Laudato Si’*, asking for reflection on an individual’s relationship with creation, on questions of ecological justice, and on how we can all stand in solidarity with those most impacted by environmental harm.

CLIMATE CHANGE CONFERENCE: KEYNOTE SPEECHES IGNITE THE CROWD

Each year, our conference keynote speakers inspire and push us towards climate action. We'd like to look back at some of the lessons we've learned from their speeches.

YEAR 1

NOVEMBER 2013

U.S. ENERGY AND CLIMATE CHANGE: SCIENCE, ETHICS, AND PUBLIC POLICIES

Conference keynote speaker: James Balog, photographer



To reveal the impact of climate change, Balog founded the Extreme Ice Survey (EIS), the most wide-ranging, ground-based, photographic study of glaciers ever conducted. The purpose of our first conference was to develop solid messaging around the ethical void in our decisions to develop and implement technologies like fracking, mountaintop removal, and tar sand extraction, instead of putting those efforts towards renewable energy technologies. "We were excited to have Mr. Balog be our first-ever

keynote speaker, because he was an artist and a photographer," says Dean Tuchman. "He could tell a story about climate change that was different than the story scientists tell. Through his photography and documentary, he transformed complicated graphs and scientific numbers into a relatable story for a large audience."



YEAR 2

MARCH 2015

TO TEND THE EARTH: RESPONDING TO THE GLOBAL CLIMATE CHANGE CRISIS

Conference keynote speaker: Dr. George Crabtree, director, Joint Center for Energy Storage Research (JCESR) and distinguished professor of physics, electrical, and mechanical engineering at the University of Illinois at Chicago



Crabtree spoke about the massive research project he is leading at JCESR to develop clean energy storage technologies for transportation and the electricity grid. He reminded us all where our energy is coming from and how important discovering new sources of clean energy will be. "Twenty percent of our energy flows through a gas tank of a car," said Crabtree. "And about 39 percent flows as electrons through the electricity grid. These two things together make up two-thirds of all the energy we use. If you can address these two items in a positive way, you are going to have a big impact."

YEAR 3

MARCH 2016

GLOBAL CLIMATE CHANGE: ECONOMIC CHALLENGES AND SOLUTIONS

Conference keynote speaker: Naomi Klein, author and activist



Klein reminded the audience that we live in a moment of high contradiction in which our current economic system, including free trade, stands in the way of caring for our planet. She also pointed to

ways where economic activity can be inclusive and centered on social justice. Klein pointed out that global warming might be the best chance for the world to change its economic system. She said that climate change is the issue that can bring disparate activist groups together, and we can use it to create a more just and equal system.

YEAR 4

MARCH 2017

CLIMATE JUSTICE: THE STRUGGLE FOR OUR COMMON HOME

Conference keynote speaker: Mary Robinson, environmental activist and former president of Ireland



Robinson asked a series of tough questions, like what will life be like for our children when they are middle-aged? She also reminded us that the federal government doesn't have to be the leader on climate change. Much of the hard work to address climate change is occurring on the local level. She mentioned U.S. cities like Chicago, Washington D.C., Philadelphia, and New York who are C40 cities committed to action on climate change.

YEAR 5

MARCH 2018

CLIMATE CHANGE AND PUBLIC HEALTH: 21ST CENTURY CHALLENGES

Conference keynote speaker: Gina McCarthy, former EPA administrator



Fiery and impassioned, McCarthy spoke of the importance of considering public health when discussing climate change. "Climate change has the potential to impact you and your kids," she said. "People think about the floods and the wildfires, which are devastating. But there's more to it. Drinking water can be impacted. Changes in air quality come along with a change in climate that can exacerbate premature deaths and premature births." McCarthy also reminded us that climate change is not a partisan issue and that we must have hope for what the future will bring.

LOYOLA'S SIXTH ANNUAL CLIMATE CHANGE CONFERENCE

Our 2019 conference will focus on climate action and the change that happens from a groundswell of concerned citizens.

Climate Action and Citizen Activism
Loyola University Chicago's Sixth Annual Climate Change Conference
March 14–15, 2019

To see highlight videos, photos, presentations, and posters from last year's conference and to sign up to receive e-mail updates about our 2019 conference, go to LUC.edu/climatechange.

STUDENT PROFILE: COLETTE COPIC HOW CHANGE HAPPENS

BY CARLA BEECHER

Like many Loyola students, stepping onto campus their first year means self-discovery. For Gannon Scholar and rising senior Colette Copic, it was no different. She wondered how her passion for the environment and women's rights would play out in her new home. Three years later, this journey has taken her from computer science to grassroots community organizing, from researching water rights to the front lines of the Dakota Access Pipeline protests.



"When I started my college search, I knew I wanted a school that had a social-justice mission, but I wasn't really sure what that meant exactly," said Copic by phone last summer from a coffee shop in her hometown of Portland, Oregon, where she was studying for the LSATs.

She credits her Jesuit schooling and her parents for instilling healthy values, so that when she began exploring colleges, her focus was on whether its ideals matched her own.

Being from an environmentally conscious state, the Gannon scholar chose to live in the GreenHouse Learning Community in the Institute of Environmental Sustainability for students who are passionate about nature and want to be change agents for a more sustainable society.

Required to take a class with other GreenHouse students, she chose theology and environmental ethics—food justice, food security, climate change—and it touched her.

"I felt so much passion deep within me about what I was learning that one day I just changed my major right then and there. It was

the best decision I ever made," she said. "After that, I stood at the edge of Lake Michigan and thought, 'I'm so thrilled to have the rest of my life to try to protect you.'"

Her majors, environmental science and international studies, will give her a global perspective and form the perfect blend of working for human rights and the need to protect the environment. "They are interconnected by gender and class and race," she said.

In September of her sophomore year, Copic and a fellow Gannon scholar hitched a ride with a group to protest the Dakota Access Pipeline near the Standing Rock Sioux Reservation. While there, she saw a sign on a structure near the river that read: "The Legal Tent."

She realized that she wanted to be in that tent helping people navigate the system so that they can use it in the way it was meant to be used—for civic engagement and democracy.

"That's hard to do when you don't have years of schooling," she said, "but I have that opportunity. I decided then to become an environmental lawyer. I never felt so right about something."

"Colette is a truly an inspired young woman and mature beyond her years," said Nancy Tuchman, founding dean of the Institute of Environmental Sustainability. "The work toward saving the planet and advocating for environmental justice requires all hands on deck, and she has what it takes to be a very valuable leader in the movement."

Copic also studied abroad in Vietnam with a nonprofit to learn how cultural differences can affect the environment. And last spring, she interned at the Chicago Council on Global Affairs. "It was very academic and research driven," Copic said about studying ways in which water rights affect people and policies.

Now in her last year at Loyola, Copic, the Baum Senior Scholar at the Gannon Center, plans to wrap up her many projects and, hopefully, ace the LSATs.

Copic's journey all started as a whim, to travel 2,000 miles from home to attend college in Chicago, but it ended up with a rising senior who may just end up on the international stage, fighting for sustainability and giving voice to the environmental issues of our time.

Read the full-length feature at LUC.edu/gannonscholars

STUDENT ACHIEVEMENT

2018 IES STUDENT AWARD RECIPIENTS

Each year, IES honors outstanding student achievement and celebrates graduating seniors at our end-of-year awards ceremony.

ALDO LEOPOLD AWARD FOR OUTSTANDING ACHIEVEMENT

Nicole M. Spehn (BS '18)

The recipient of this award has demonstrated excellence both academically (≥ 3.20 GPA required) and in service/action toward the greater good.

RACHEL CARSON AWARD FOR ACADEMIC EXCELLENCE

Abigail N. Dunbar (BS '18)

This award goes to the IES graduating senior who earned the highest GPA.

BERTA ISABEL CÁCERES FLORES AWARD FOR OUTSTANDING LEADERSHIP

Judy Malas (BS '18)

This award goes to the IES graduating senior who distinguished themselves through exceptional leadership.

JAMES E. HANSEN AWARD FOR OUTSTANDING PERFORMANCE IN AN IES INTERNSHIP

Lucy P. Anderson (BS '18)

This award recognizes the outstanding performance of one IES graduating senior in an internal IES internship.

WANGARIA MUTA MAATHAI AWARD FOR OUTSTANDING SERVICE

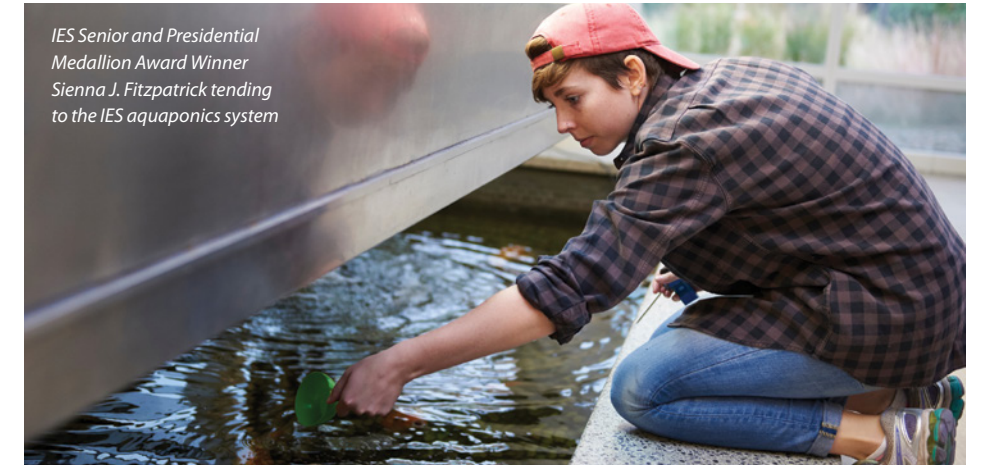
Sienna J. Fitzpatrick (BA '18)

This award recognizes one IES graduating senior who distinguished themselves through service to others.

E. O. WILSON AWARD FOR OUTSTANDING PERFORMANCE IN INDEPENDENT RESEARCH

Mason M. Majszak (BS '18)

This award recognizes the outstanding performance of one IES graduating senior in faculty mentored research.



*IES Senior and Presidential Medallion Award Winner
Sienna J. Fitzpatrick tending to the IES aquaponics system*

LOYOLA UNIVERSITY CHICAGO PRESIDENT'S MEDALLION

Sienna J. Fitzpatrick (BA '18)

This award is given annually to Loyola's most outstanding students who excel not only in the classroom but also in the world and are dedicated to helping those around them.

You can read more about our student award winners online:

LUC.edu/sustainability/stories/enewsletterarticles/2018seniorawards

SCHOLARSHIPS

IES LUREC SCHOLARSHIP

Brody Diehn, Teresa Dorado, Muhammad Javani, Olivia Niosi, Taylor Schneider, Brittany Wheeler

Recipients were awarded up to \$3,885 to fully or partially cover tuition, fees, and lodging at our ecology campus in Woodstock, Illinois.

IES RACHEL CARSON SCHOLARS

Isabelle Abbott, Megan Barrera, Eleanor Ermentrout, Emma Hutson, Gabby Krochmal, Hannah Sather, Patrick Williams

The Rachel Carson Scholarship provides the opportunity for students to learn about nature by studying in nature through summer coursework at Loyola's Retreat and Ecology Campus (LUREC). Recipients are freshman or transfer students and can receive this \$2,500 scholarship throughout all four years they attend Loyola. They must take classes over two summers at LUREC.

FELLOWSHIPS

CARBON UNDERGRADUATE RESEARCH FELLOWSHIP

Peter Fiorica, Zoa Glab, Taylor Miller-Ensminger, Audrey O'Neill

The Carbon Fellowship program offers a full two-year, interdisciplinary research opportunity for undergraduate students majoring in science or math. Students must have a junior standing when they enter the program and will work closely with faculty mentors. Recipients are awarded \$7,500 per year.

IES UNDERGRADUATE RESEARCH FELLOWSHIP

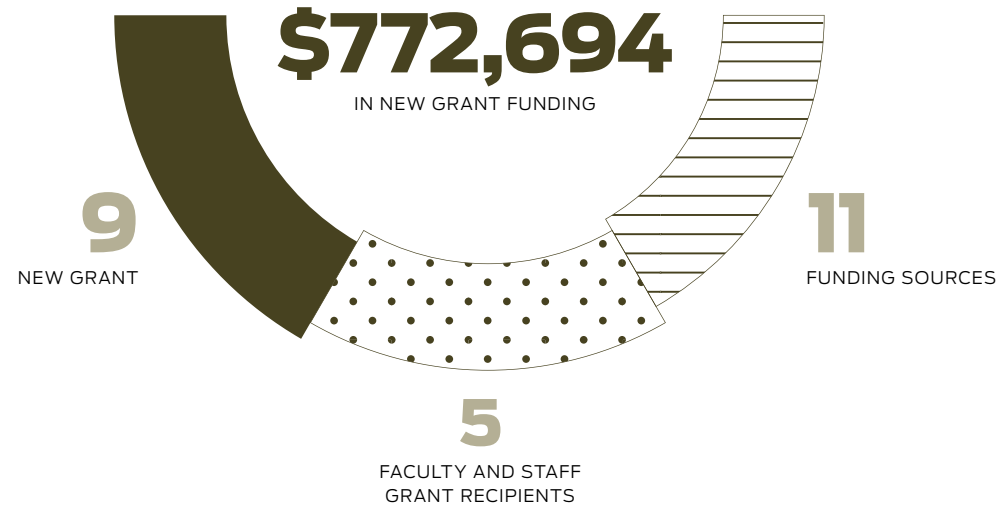
Renee Belleville, Amelia Howerton, Raul Lazzano Gonzalez, Olivia Niosi, Maggie O'Brien

The IES Fellowship is designed for students to conduct interdisciplinary research on issues related to unsustainable natural resource uses in the greater Chicagoland region. Recipients are awarded a \$1,000 stipend and up to \$1,000 for research supplies.

2017–2018 FACULTY GRANTS AND RESEARCH PUBLICATIONS

NEW GRANTS

For a full list of all active grants, visit the IES Grants & Funding page: LUC.edu/sustainability/research/grantsfunding



NEW FACULTY PUBLICATIONS

For a full list of all publications, visit the IES Publications page: LUC.edu/sustainability/research/publications



CONGRATULATIONS

INTERDISCIPLINARY IES FACULTY PARTNERSHIP RECEIVES RECOGNITION

Congratulations to IES faculty Nancy Landrum and Brian Ohsowski. Their 2017 paper “Content Trends in Sustainable Business Education: An Analysis of Introductory Courses in the USA,” published in the *International Journal of Sustainability in Higher Education*, was named Emerald Publishing’s 2018 Outstanding Paper.

Landrum discusses their work, which delved into the types of readings taught within sustainable business education courses across the U.S. “We studied 81 courses from 51 universities and came up with a list of 88 readings assigned through these courses. We placed these readings along the sustainability spectrum and my own ‘stages of corporate sustainability.’”

The paper found that the majority (55 percent) of readings supported a “weak sustainability” position (business-as-usual with incremental improvements) while only 29 percent supported “strong sustainability” (science-based radical change). The message is that we are not adequately preparing future business leaders for the sustainability challenges they are certain to face.



Nancy Landrum



Brian Ohsowski

FORWARD FOCUS: IES GRADUATE PROGRAMMING



IES students conduct an energy audit as part of their sustainability training at Loyola University Chicago.

BE AN AGENT OF CHANGE WITHIN AN ORGANIZATION!

Fortune 500 companies are looking for you!

Help companies be more sustainable by creating their sustainability plans. In our four-course graduate program, you will learn to conduct a sustainability audit, create baseline measurements, and set future goals for energy, air, building, transportation, water, land, food, and waste management. Sustainability plans enable a company to create a culture of sustainability from the ground up and help save money.

To learn about our first IES Graduate Program, please contact:
Linda Kurtos at lkurtos@LUC.edu

You can also visit our website:
LUC.edu/sustainability/academics/sustainabilitysequence

IES DONORS

Thank you to all of our donors. Through your generous support, we are able to provide internships, fellowships, scholarships, and general academic support to the students of IES. These gifts were received between July 1, 2017, and June 30, 2018.

\$100,000–\$999,999

Michael and Nydia Searle

\$10,000–\$99,999

The Alvin H. Baum Family Fund
Dorothy (MUND '62) and Michael Carbon, MD (BS '62)

\$5,000–\$9,999

Baxter International
Samantha Dwyer Zinober (BS '03) and Scott Zinober

\$1,000–\$4,999

Anonymous
Raymond Goder and Teresa Krafcsin
Iroquois Valley Farms, LLC
Joan Holden and David E. Miller (JFRC '73–'74, BS '75)
Elaine (BS '68) and Thomas Layden III (MD '69)
Ronald Meissen
E-Caucus, Loyola Emeriti Association
THIMUS
Mario Ubiali and Andrea Bariselli
Nancy Tuchman, PhD



A student helper at our annual end-of-year donation drive, Think Green and Give. Each year, Loyola encourages students to donate their unused or lightly used clothes, food, and furniture to local nonprofits instead of tossing these items in the garbage during their yearly move-out.

\$1–\$999

Moss Adams
Kathleen Lacey-Anderson and Richard Anderson
John Barrett
Bear Foundation
Belyna Bentlage (BA '12)
Norma Carrillo
Clarke Environmental Mosquito Management, Inc.
Brian Conner
David Crumrine, PhD
Catherine and Robert Del Carlo
Heather Eidson
Eve (JFRC Summer '04, MSOD '05) and George Estrada
Philip Greazel
Patricia Heineman-Vernon (MUND '77)
Catherine Polak Hlohowskyj and Ihor Hlohowskyj
Ping Jing, PhD
Ryan Lents
Lauren Levites (BS '09)
Loyola Campus Ministry—Lisa Reiter, PhD
Loyola Fellowship Office—James Calcagno, PhD
Anita Mandell
Jhonna McHenry
Barbara and John McNelis
Richard Melstrom, PhD
Sylvia and Richard Morrisroe (MA '73)
Irene (BS '56) and Raymond Mostek
Dixie Ost
Jackie and Peter Saviola
Eileen (BA '70, MEd '74) and Robert Schuetz, Jr.
Jeanine Solinski (BA '01, BS '01)
James Sredzinski (BA '79)
Maree Stewart (JFRC Fall '09, BA '11)
Jean Sussman, PhD and Ed Lyons
Jessica Szadziewicz
Adonios Vavarutsos
Patricia and Dale Vecchio (BS '75)
Zhenwei Zhu, PhD

IN-KIND GIFT

Uncommon Ground



Loyola University Chicago First-Year Research Experience (FYRE) scholars, like Kirk Bodden (pictured here), work to remove invasive buckthorn, canary reed grass, and Canadian thistle from the Loyola University Retreat and Ecology Campus (LUREC) in Woodstock on May 22, 2018. FYRE scholars were given small plots of land where they independently devised methods of invasive species removal while promoting native plants to attract pollinators.



INSTITUTE OF ENVIRONMENTAL SUSTAINABILITY
Lake Shore Campus
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WORRIED ABOUT CLIMATE CHANGE?

Help the planet, like IES graduate Sierra Chmela (BS '18), by earning your degree in environmental science or environmental studies at Loyola's Institute of Environmental Sustainability.