

**CELEBRATING 10 YEARS OF *STEP*:
SOLUTIONS TO
ENVIRONMENTAL
PROBLEMS**

ANNUAL REPORT · 2016–2017 ACADEMIC YEAR



Urban Agriculture Coordinator Kevin Erickson speaks with STEP: Food Systems students and STEP faculty, Dr. Tania Schusler (right), at the Talking Farm.

2016–2017 ACADEMIC YEAR

The advisory board, staff, and faculty lists reflect positions held during the 2016–2017 academic year.

ADVISORY BOARD

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

CO-CHAIRS

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Co-Founder and CEO, Iroquois Valley Farms LLC

Nancy C. Tuchman, PhD
Founding Dean, Institute of Environmental Sustainability, and Professor of Aquatic Ecology

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Environmental Lawyer, Illinois Pollution Control Board

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Executive Director, American Ornithological Society

Bill Schleizer, MS
CEO, Delta Institute

Michael D. Searle
Private Investor, Loyola University Chicago

Jean Sussman, PhD
Agricultural Economist

IES FACULTY AND STAFF

ADMINISTRATIVE TEAM

Nancy C. Tuchman, PhD
Founding Dean,
Professor of Aquatic Ecology

Daniel Amick, PhD
Associate Dean of Faculty,
Associate Professor of Anthropology

Christopher G. Peterson, PhD
Associate Dean of Academics, Professor of Aquatic Ecology

Aaron N. Durnbaugh, MS
Director of Campus Sustainability

STAFF MEMBERS

Kevin Erickson
Urban Agriculture Coordinator

Rachel Leamon, MA
Executive Assistant

Enikő Rácz, MBA
Business Manager

David J. Treering, MS
Geographic Information Systems Specialist, and Communications Manager

Zach Waickman, MBA
Biodiesel Lab Manager

Christine Wolff
Project Coordinator

Shanna Yetman, MFA
Communications Coordinator

Zhenwei Zhu, PhD
Analytical Lab Manager

FACULTY

Laura Brentner, PhD
Lecturer of Bio-based Technologies

JoBeth D'Agostino, PhD
Associate Professor, and Associate Provost for Curriculum Development

Ray Dybzinski, PhD
Assistant Professor of Applied Plant Biology

Tham C. Hoang, PhD
Assistant Professor of Environmental Toxicology

Ping Jing, PhD
Assistant Professor of Atmosphere and Climate Science

Theresa Johnston, PhD
Instructor of Ecotoxicology

Reuben P. Keller, PhD
Assistant Professor of Invasive Species Ecology

Roberta Lammers-Campbell, PhD
Senior Lecturer of Plant Biology, and Director of Academic Programs

and Ecological Restoration at Loyola's Retreat and Ecology Campus (LUREC)

Brian Ohsowski, PhD
Lecturer of Restoration Ecology

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

John Zahina-Ramos, PhD
Instructor of Sustainable Agriculture

Nancy Landrum, PhD
Professor of Sustainable Business Management

Rev. Stephen Mitten, S.J., MS
Advanced Lecturer of Conservation Ecology, Spiritual Director

Timothy O'Brien, PhD
Professor of Environmental Statistics

PART-TIME FACULTY

Jennifer Burke, JD
Instructor of Environmental Law

Larry DeBuhr, PhD
Instructor of Plant Ecology

Richard DiMaio, MS
Instructor of Weather and Climate

Anuradha Krishnaswamy, PhD
Instructor of Environmental Sustainability

Alison Paul, MS
Instructor of Environmental Education

Michael Ribant, MA
(current PhD candidate)
Instructor of Geographic Information Systems

Mike Ricketts, MS
(current PhD candidate)
Instructor of Ecology

RESEARCH

Brendan Carson, MS
Invasive Species Ecology Research Assistant

Shane Lishawa, MS
Invasive Species Ecology Research Associate

Andrew Monks, MS
Invasive Species Ecology Research Assistant

Dear Friends of IES,



Welcome to the Loyola University Chicago Institute of Environmental Sustainability's 2016–2017 Annual Report, highlighting activities and programs we accomplished in this, our fourth year of operation as an institute. Many of you recall the predecessor of IES, Loyola's Center for Urban Environmental Research and Policy (CUERP)

founded in 2005, and its flagship program Solutions to Environmental Problems (STEP), launched in 2007.

2017 marks the 10-year anniversary of STEP, and this report celebrates what has grown into a signature innovation lab for student learning and action. Over the past 10 years, students and faculty working in STEP have developed sustainability initiatives that have empowered students to significantly reduce our campus environmental footprint. I hope you enjoy learning about the history of the STEP program in this annual report and help us take the NEXT STEP in innovative problem solving.

This fall, as IES enters its fifth year, we are pleased to announce a new set of required courses for our majors that will provide students with a solid scientific foundation complemented by an interdisciplinary perspective. To that end, we have revised our degrees to include more science: a full year of General Chemistry and General Biology in addition to Principles of Ecology, Chemistry of the Environment, Environmental Statistics, and Ecological Economics.

One of the strengths of the environmental science field, in terms of its effectiveness in preparing ethical young men and women to tackle the grand challenges of the twenty-first century, is that it is truly interdisciplinary. Our new curriculum ensures that our students have a strong base in ecological sci-

Environmental Science is inherently interdisciplinary—centered in ecological sciences overlain by human dimensions.



ences as well as a foundational appreciation of the critical roles played by the policy, health, ethics, economics, cultural, and business sectors of our society. Finally, in order to help students understand and navigate the many career options available in environmental science and sustainability, all students will take our new Environmental Careers course.

Thank you for your interest and continued support of our growing institute. I invite you to come see us at the IES and join us at our fifth annual Climate Change Conference this coming March.

Yours,

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

SUSTAINABILITY BY THE NUMBERS

STUDENT URBAN AGRICULTURE PROGRAM

2,700 LBS. ANNUAL PRODUCE HARVEST

99 TILAPIA SOLD

59 CROP VARIETIES GROWN

258 STUDENT VOLUNTEERS

443 LBS. ANNUAL PRODUCE DONATION TO FOOD BANKS



\$558.50 TOTAL SALES TO GOVERNMENT ASSISTANCE RECIPIENTS (FMNP/WIC, LINK)

561 PLANT DONATIONS TO LOCAL CHURCHES AND SCHOOLS

456.23 LBS. TOTAL AQUAPONICS PRODUCTION: HEAD LETTUCE, BASIL, KALE, SWISS CHARD, AND TILAPIA

JERUSALEM ARTICHOKE (NATIVE, EDIBLE, FLOWERS)
FAVORITE PLANT OF 2016-17

CAMPUS SUSTAINABILITY AWARDS

★ ★ ★
THREE-STAR AWARD WINNER SUSTAINABLE PURCHASING AWARD

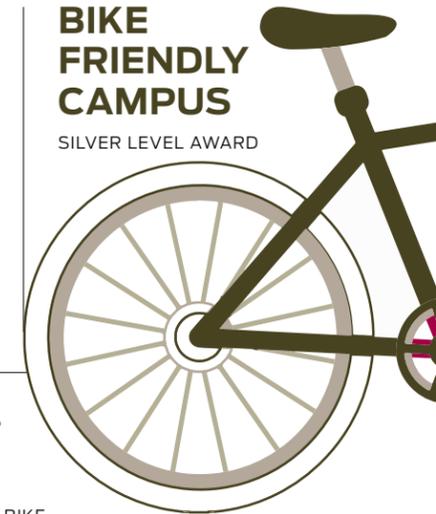
FROM THE GREEN ELECTRONICS COUNCIL



ACCU/SOLUTION GENERATION CLIMATE LEADERSHIP AWARD

BIKE FRIENDLY CAMPUS

SILVER LEVEL AWARD



TREECAMPUS USA DESIGNATION



10 CAMPUS BUILDINGS WITH LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN (LEED) CERTIFICATION



1ST

IN THE 2017 BIKE COMMUTER CHALLENGE FOR A MEDIUM-SIZE EDUCATIONAL INSTITUTION WITH EMPLOYEES NUMBERING 2,500-4,999

CAMPUS WASTE REDUCTION



49.1% DIVERSION RATE LANDFILL **177,427 LBS.** OF RECYCLING DURING RECYCLEMANIA 2017

7,400 LBS. OF DONATIONS COLLECTED DURING "THINK GREEN AND GIVE" RESIDENCE HALL MOVE-OUT CHARITY DRIVE

46.6% RECYCLING RATE AT LAKE SHORE AND WATER TOWER CAMPUSES COMBINED

3,150 LBS. OF UNEATEN FOOD RESCUED BY THE FOOD RECOVERY NETWORK AND DONATED TO A JUST HARVEST

176 TONS OF ORGANIC FOOD WASTE COMPOSTED

46 (44 CREW, 2 MANAGERS) LOYOLA STUDENTS HELPED DIVERT **147 TONS** OF WASTE FROM THE LANDFILL AT LOLLAPALOOZA THROUGH RECYCLING, COMPOSTING, AND REPURPOSING. EACH YEAR, THIS EVENT CREATES **353 TONS** OF WASTE.

UNDERGRADUATE ENROLLMENT

299 STUDENT MAJORS

42 STUDENT MINORS

57 GRADUATED SENIORS

STUDENT INTERNSHIPS

152 POSITIONS ACROSS IES FILLED BY LOYOLA STUDENTS

Environmental justice featured at Loyola's fourth annual Climate Change Conference

Former president of Ireland and climate justice advocate Mary Robinson delivered the keynote address to a packed auditorium.

Loyola University Chicago's fourth annual conference on climate change, "Climate Justice: The Struggle for Our Common Home," drew in over 1,200 participants and featured panelists from the frontlines of environmental justice, including Tokata Iron Eyes, the Lakota Sioux youth leader credited with starting the Standing Rock movement.



Mary Robinson (pictured left)—president of the Mary Robinson Foundation: Climate Justice, recipient of the U.S. Medal of Freedom from President Obama, and the United Nations Secretary General's Special Envoy on El Niño and Climate—delivered the keynote address. During her keynote, Robinson pointed out that although implementation of the Paris Climate

Accord is important on the federal level, much of the hard work to address climate change occurs on the local level. She mentioned U.S. cities like Chicago, Washington, D.C., Philadelphia, and New York, which are C40 cities committed to action on climate change.

"We were heartened that global and local experts joined us in delving deeper into scientific and social solutions to the chaos of climate change," said Janet Sisler, director of the Gannon Center for Women and Leadership at Loyola University Chicago.

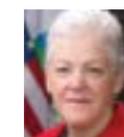
The second day featured case studies on the Flint water crisis and Standing Rock, paired with panels on corporate sustainability and frontline advocates for a just and sustainable future. Attendees were also treated to a performance by University Chorale and dance students, as well as a poster session showcasing student and faculty research.

"We wanted to give our students the chance to hear from a variety of voices within the environmental movement. Over the past three years, our conferences have featured environmental scientists, theologians, sociologists, and those within the Jesuit community. This year, we added the voice of community activists," said Nancy Tuchman, founding dean of the Institute of Environmental Sustainability (IES).

The IES, along with the Gannon Center and the Alvin H. Baum Family Fund, hosted the conference. Sponsors included Baxter International, Iroquois Valley Farms, Green Grease Environmental, the Consulate General of Canada, Loyola's THEA Institute, Loyola's Fellowship office, and the Union of Concerned Scientists.

SAVE THE DATE

Loyola's fifth annual Climate Change Conference slated March 15–16, 2018 • 7 p.m. • Mundelein Auditorium



Gina McCarthy has been a leading advocate for common-sense strategies to protect public health and the environment for more than 30 years. As the head of the U.S. EPA under President Obama, she developed bold public health and environmental protection goals. In 2015, McCarthy signed the Clean Power Plan, which set the first-ever national standards for reducing carbon emissions from existing power plants, underscoring the country's commitment to domestic climate action and spurring international efforts that helped secure the Paris Climate Agreement.



Our 2017 poster session featured an array of interdisciplinary research by conference participants.

"At the Alvin H. Baum Family Fund, we work to ensure healthier, more equitable, and safer lives for our fellow Chicagoland residents. We recognize global climate change and its consequences will lead to profound economic disparity, resource scarcity, and a forever altered ecosystem. Through timely information, shared strategies and inspired speakers, the climate change conference reveals the interconnection between the cultural, economic, political, and scientific systems. With insight like this—we are armed to tackle this wicked problem."

—JOEL M. FRIEDMAN

IES BOARD MEMBER AND PRESIDENT OF THE ALVIN H. BAUM FAMILY FUND
THE ALVIN H. BAUM FAMILY FUND WAS A 2017 CLIMATE CHANGE CONFERENCE KEYNOTE INVESTOR AS WELL AS ONE OF OUR TWO CONFERENCE CO-HOSTS.



Joel M. Friedman and Erika F. Cornelisen of the Alvin H. Baum Family Fund greet Keynote Speaker Mary Robinson.



(1) Three panelists for #NoDAPL: Voices of Hope from the Water Protectors: Ecologist and Lakota Sioux Tribe Member Al Eastman, Tokata Iron Eyes of Standing Rock and Juliana Britto Schwartz of Change.org. (2) As one of the leaders for the Chicago Southeast Side Coalition to Ban Petcoke, Olga Bautista challenges state and local politicians to address pressing environmental issues in the 10th Ward. (3) Mary Robinson embraces Tokata Iron Eyes, a Water Protector Youth of Standing Rock at our VIP Reception. (4) Loyola's Department of Fine and Performing Arts responds to climate change with a dance and chorale performance.

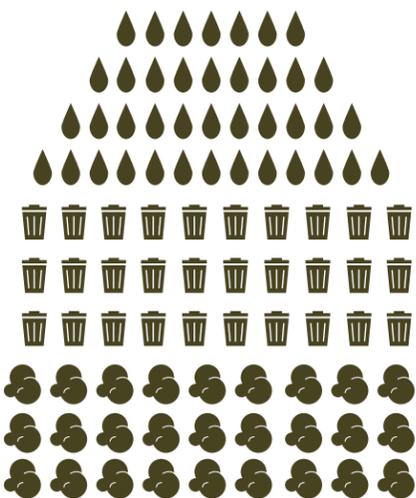
To see photos, presentations, and posters from last year's conference and to sign up to receive e-mail updates about our 2018 conference, go to LUC.edu/climatechange.

THE SITUATION: LOYOLA'S CAMPUS 10 YEARS AGO

The University requires imported resources, or inputs, in order to do its work—food, books and paper, computers, water, electricity, pens, and myriad other items.



High rates of “input” consumption, coupled with inefficient use of these resources and energy-inefficient buildings, created high amounts of waste, or outputs—emissions from smokestacks, landfill trash, and sewage water/storm runoff.



STEP: Food Systems students attend a Winthrop Gardens work day on Loyola's campus.

The STEP concept
The **Solutions to Environmental Problems** program explores ways Loyola can become more efficient by procuring less and better using what it already has.

**Celebrating
10
Years
of STEP**

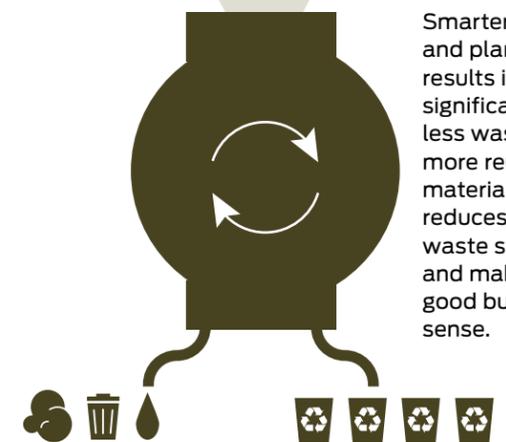
2017 marks the 10-year anniversary of IES's most innovative, collaborative, and hands-on program: Solutions to Environmental Problems (STEP). Students in STEP don't just learn about today's most pressing environmental problems. They act. They act to convert waste into energy and lower the carbon emissions at Loyola by developing the biodiesel fuel that powers our campus shuttles. They act by planting and growing organic vegetables in rooftop gardens and selling that bounty at our student-run farmers market. They act by banning the sale of bottled water on campus and inventorying the campus waste streams in order to develop real solutions to food waste.

TODAY: THE EFFICIENT CAMPUS

We have developed a conservation ethic where Loyola community members are saying no to single-use disposables and embracing a reduce, reuse, and recycle culture that has lowered inputs. New energy-efficient buildings further reduce our environmental footprint.



Smarter usage and planning results in significantly less waste and more reuse of materials. This reduces our waste streams and makes good business sense.



From thought experiment to reality

Thought experiments like the one shown have led to real change. STEP students who inventoried campus waste streams quickly realized that much of the campus waste was food-related. Through an educational campaign, these students helped institute tray-less dining halls and dramatically lowered Loyola's food waste.

HERE'S HOW: Students would pile more food onto their trays than they could possibly eat. Leftover food would be tossed into the garbage bin. Now armed with only a modest sized plate, students make better choices and less food is thrown out. Students can always return for seconds if desired.

The Beginning—STEP: Biodiesel 2007

Making biodiesel from campus cafeteria waste vegetable oil

“Loyola’s biodiesel program is very unique. It is the only university biodiesel lab that has a license to sell fuel in the entire country.”

—ERIC HEINEMAN
SUSTAINABILITY DIRECTOR
IN THE OFFICE OF THE GOVERNOR



(TOP) Founding STEP: Biodiesel Lab instructor Shane Lishawa pumps the first batch of biodiesel fuel into Dr. Coffman’s car.

(LEFT) STEP: Biodiesel students Julie Kenel (BA ’08), Sara Calapiz, and Greg Deresinski (BA ’09) construct the first biodiesel processor as part of the inaugural STEP class in fall 2007.

“I was impressed with how deep the students went with the biodiesel project. They took ownership of solving the problems associated with biodiesel production. We were trying to solve real problems, and we gave our students enough latitude to follow their own path and work through it. I think the end goal of adding to Loyola’s sustainability efforts made it different.”

—SHANE LISHAWA
FOUNDING STEP: BIODIESEL
LAB MANAGER AND CO-INSTRUCTOR



Zach Waickman (pictured top) remembers his first day of STEP: Biodiesel vividly. “The first thing we did in the class—before the semester even started—was get on a bus and drive to Western Michigan University,” he said. At Western Michigan, students in the first cohort of Loyola’s STEP: Biodiesel course were given an overview of how to make biodiesel from chemist Steve Bertman. While much of the information discussed wouldn’t be decoded until the students were in the thick of making their first batch of biodiesel, this information download proved to be a huge advantage. Quickly, the students realized they were breaking new ground and that nobody at Loyola (not even the faculty teaching the course) had made biodiesel before.

“We got into the class and there was this awesome choose-your-own-adventure atmosphere. The faculty laid out the issue for us—telling us that they could probably make biodiesel from used vegetable oil from our cafeteria deep-fat fryers, informing us that there’s a little bit of money from a grant to create a lab, and reminding us that we had a university full of resources,” said Waickman. “We were building out of nothing. It was a really exciting time.”

As the students worked together to build the first biodiesel processor and create the first batch of biodiesel, other issues came to the forefront. How can we get our biodiesel into our shuttle buses to reduce our fossil fuel consumption? How can we get a license to sell this fuel? What would a business and marketing plan look like for a student-run biodiesel lab? Over the course of three semesters, students continued to answer these questions, and STEP: Biodiesel transformed into the certified green business it is today—the Searle Biodiesel Lab.

As for Waickman, he turned his excitement over a hands-on science course into a full-time job at Loyola as the current Searle Biodiesel Lab manager.



Luke Beasley (BBA ’10) collects used cooking oil from the Rambler Room in the Centennial Forum Student Union.



(TOP) Lauryn Burkhalter (BA ’09, Certificate from the School of Professional Studies ’11) and Margaret McCoy (BS ’10, MED ’11) present the mobile biodiesel processor they designed as part of the high school educational outreach program that grew out of STEP: Biodiesel. They presented the mobile processor on the National Mall in Washington, D.C. as part of a U.S. EPA P3 Grant.



(LEFT) Students from the first STEP cohort gather for an emissions test of their biodiesel. School of Communication faculty member Dr. Elizabeth Coffman agreed to test the fuel in her car.

“I’m an investment person. In 2005, when I was serving on Loyola’s Council of Regents, through the Centers for Excellence, I found the STEP program. I learned we had thousands of gallons of used fry oil and that Dr. Tuchman wanted to recycle it and use it in our shuttle buses—a really good idea especially with fuel costs at that time. I asked Dr. Tuchman what they did with used fry oil; the answer seemed ridiculous and made the idea of recycling it more appealing.

The real idea of this is to teach students that it takes many disciplines to make an idea a reality. If Loyola University Chicago can differentiate itself from other institutions through interdisciplinary education, the University can graduate students that will make a difference. Whether it’s saving money on electrical costs, paper consumption, or recycling waste into energy, these students will have an impact in any field they choose to enter.”



Michael and Nydia Searle

—MICHAEL SEARLE
PRIVATE INVESTOR, LOYOLA UNIVERSITY CHICAGO



IES student Jason Moon (BS '16) works in our ecodome.

STEP is

INTERDISCIPLINARY

Students explore the ecological, historical, social, political, and economic contexts of environmental problems on a global scale. Faculty across the University teach portions of STEP, and both graduate and undergraduate students from all disciplines are enrolled in the program.

STUDENT-DRIVEN

Large-scale projects are chosen by students. Through coursework and in-depth research, STEP students become acutely aware of the issues. Discussions are fostered to allow students to ask questions, collectively explore ideas, hear from their peers, and elevate their understanding of an issue.

INNOVATIVE

In this hands-on course, students develop their capabilities in environmental problem-solving. Students participate in lab activities to develop practical and technical scientific solutions. STEP courses are full of field trips to observe and communicate with practitioners in the field, and these practitioners also serve as guest lecturers.

Sustainable outcomes

STEP projects become institutionalized to reduce our campus environmental footprint.



BIODIESEL

STEP students explored producing biodiesel from waste vegetable oil through projects related to chemistry, business planning, educational outreach, and proposal writing.

Today, the Searle Biodiesel

Lab produces over 20 percent of the fuel for our campus shuttles, and our BioSoap is now distributed in all campus restrooms. Our biodiesel and BioSoap are produced by collecting used cooking oil from more than a dozen institutional partners around Chicago.



QUINLAN ROOFTOP GARDEN

Located on the rooftop of the Quinlan Life Science Building, this garden features 11 raised beds and six large pots. It is a vegetable and flower garden whose harvest is sold at the Loyola Farmers Market, and the revenue helps pay for student internships.



LOYOLA FARMERS MARKET

Conceptualized, planned, and run by students, the Loyola Farmers Market increases access to fresh, affordable, locally produced foods in the Rogers Park neighborhood while

supporting small producers who use sustainable practices. The market is in its seventh year.



UNCAP LOYOLA

This two-year campaign led by STEP and the Student Environmental Alliance began with STEP students' concerns about water privatization and resulted in a campus ban on the sale of bottled water and installation of 50 water refill stations.

The STEP approach

The development of STEP was driven by the desire for faculty members and administrators at the University to give energized students a voice in sustainability initiatives across the campus. Students research an issue as a class—like renewable energy, water shortages, or the U.S. food systems—then they analyze the issue at the campus level and develop solutions that will create a more sustainable Loyola. Over the course of 10 years of STEP, many of these student-driven solutions have become fully adopted by the University and are now an integral part of the campus community. (Provided by Dr. Tania Schusler, Advanced Lecturer of Human Dimensions of Conservation and STEP Coordinator)

“STEP: Biodiesel was a radical departure from most undergraduate coursework. It was powerful to see our students run with it.”

—SHANE LISHAWA
FOUNDING STEP: BIODIESEL
LAB MANAGER AND CO-INSTRUCTOR



STEP: BY THE NUMBERS

IES students use their compost in neighborhood raised beds.



“You get that tight-knit feeling of team-based unconventional learning with a STEP class.”

—ALICIA WALTER
STUDENT IN STEP: FOOD SYSTEMS

10 YEARS

2017 MARKS THE 10-YEAR ANNIVERSARY OF THE STEP PROGRAM.

“STEP: Biodiesel was a one-stop location for gaining a broader understanding of all things Loyola—research, administration, involving yourself in the community, and then sampling from all these different departments.”

—BLAKE ANDERSON
(BS '08, STEP: BIODIESEL)

349

STUDENTS HAVE PARTICIPATED IN OUR STEP PROGRAM SINCE THE COURSE'S INCEPTION IN FALL 2007



53

BIODIESEL INTERNS AND RESEARCH FELLOWS HAVE BEEN TRAINED THROUGH THE BIODIESEL PROGRAM TO DATE

\$234,700

IN GRANT DOLLARS AWARDED TO STEP OR IES PROGRAMS THAT BEGAN IN STEP



The Urban Agriculture Program sells its produce at the Loyola Farmers Market.

7

THE STUDENT-RUN FARMERS MARKET IS IN ITS 7TH YEAR. THE MARKET IS OPEN OVER **18 MONDAYS** FROM JUNE THROUGH OCTOBER.

250+

PEOPLE ATTEND EACH FARMERS MARKET ON THE LOYOLA PLAZA

105

LOYOLA STUDENTS HAVE PARTICIPATED IN OUR BIODIESEL PROGRAM THROUGH STEP: BIODIESEL, AS A BIODIESEL INTERN OR RESEARCH FELLOW

THANK YOU FACULTY AND STAFF MENTORS

THE STEP PROGRAM IS INTERDISCIPLINARY IN NATURE, AND OVER THE PAST 10 YEARS FACULTY AND STAFF FROM **18 DIFFERENT DISCIPLINES** HAVE PARTICIPATED IN THE PROGRAM. WE THANK THE FACULTY AND STAFF MENTORS FROM:

Biology • Campus Ministry • Center for Urban Research and Learning (CURL) • Chemistry • Engineering • GIS • Marcella Niehoff School of Nursing • Mathematics/Statistics • Philosophy • Physics • Political Science • Quinlan School of Business • School of Communication • School of Education • School of Social Work • Sociology • Stritch School of Medicine • Theology

STUDENT ACHIEVEMENT

AWARDS AND HONORS

2017 IES AWARD RECIPIENTS

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

Christie L. Kochis

Aldo Leopold Award for Outstanding Achievement

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

Jessica R. Beckman, Jack C. McCabe, Corinn E. Rutkoski

Rachel Carson Award for Academic Excellence

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

Daniela T. Herrera

James E. Hansen Award for Outstanding Performance in IES Internship

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

Aqsa Q. Junagadhwal

Wangaria Muta Maathai Award for Outstanding Service

This award recognizes one IES graduating senior who distinguished himself or herself through service to others.

Taylor L. Choy, Ashley M. Williams

Berta Isabel Cáceres Flores Award for Outstanding Leadership

This award goes to the IES graduating senior who distinguished himself or herself through exceptional leadership.

Gabrielle A. Habeeb

E. O. Wilson Award for Outstanding Performance in Independent Research

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

Christie L. Kochis

Loyola University Chicago President's Medallion

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.

SCHOLARSHIPS

IES LUREC SCHOLARSHIP RECIPIENTS

Joshua Bynum
Erin DeFrancesco
Aaron Fisher
Muhammad Javani
Gabriela Krochmal
Luke Landry
Olivia Niosi
Jenny Par
Mitchell Saviola
Nicole Spehn
Connor Tomaka
Kevin White

Recipients were awarded up to \$2,830 to fully or partially cover tuition, fees, and lodging at our ecology campus in Woodstock, Illinois.

FELLOWSHIPS

CARBON UNDERGRADUATE RESEARCH FELLOWSHIP RECIPIENTS

Elana Baltrusaitis
Andrea Garretto
Saad Kothawala
Paul Risteca

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.

GRANTS AND PUBLICATIONS

\$783,645

IN NEW GRANT FUNDING DURING THE 2016–2017 ACADEMIC YEAR

12 NEW GRANTS | 5 FACULTY AND STAFF GRANT RECIPIENTS | 11 FUNDING SOURCES

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

NEW RESEARCH PUBLICATIONS

30

NEW PUBLICATIONS BY 11 FACULTY MEMBERS

102

RESEARCH COLLABORATORS

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

MOVING AHEAD

STEP FORWARD

“‘What’s next?’ is what we ask our students all the time.”

—ZACH WAICKMAN
(STEP ALUMNUS AND
BIODIESEL LAB MANAGER)

We look forward to the next 10 years of STEP and the innovative student projects that will come out of this course and leave a legacy at Loyola.

HOW CAN YOU HELP?

We launched our first STEP class on an EPA grant. We’ve been fortunate enough to receive private support from individual donors to continue many of the initiatives that have stemmed from STEP. Our next generation of STEP projects will need the generous support of private donors to turn our student’s research projects into a sustainable reality.

THE VISION

Classic multiple-semester projects proposed by IES faculty and staff that lead to University initiatives.

THE NEED

We need funding for faculty support, classroom supplies, etc.

Learn more about funding the STEP programs of the future:
Dean Nancy Tuchman • ntuchma@LUC.edu

Donate to our STEP Program:
[LUC.edu/sustainability/give](https://www.luc.edu/sustainability/give) and click on “Other.” Please enter STEP in “Other” category.

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, 2016, and June 30, 2017.

\$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)

Joyce Saxon (MUND ’49)

\$5,000–9,999

Baxter International

Samantha Dwyer Zinober (BS ’03) and
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Jean Sussman, PhD and Ed Lyons

Elizabeth (MBA ’86) and
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INSTITUTE OF ENVIRONMENTAL SUSTAINABILITY

Lake Shore Campus
1032 W. Sheridan Road • Chicago, IL 60660

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