

MY DIETRICH SCHOOL STORY

Faculty Mentors Support Meaningful Undergraduate Research



Adwoa Imbeah and Associate Professor of Psychology Melissa Libertus

When Adwoa Imbeah signed up for First Experiences in Research in her first term at the University of Pittsburgh, the Office of Undergraduate Research, Scholarship, and Creative Activity (OUR) provided her with a list of more than 50 different labs looking for undergraduate assistants.

“The Kids’ Thinking Lab, run by Associate Professor of Psychology Melissa Libertus, was my absolute first choice,” says Imbeah. The lab focuses on which factors may predict why some children are better at math than others.

As a psychology and Africana studies major, Imbeah knew that she wanted to do research in psychology but wasn’t exactly sure what subject area she wanted to focus on.

“When I joined the lab,” she says, “I became interested in education and academic differences among children. My continued work in the lab further instilled that interest. Now I know that after Pitt, I want to go to graduate school for education or clinical psychology.”

That career path wasn’t impacted only by the research itself but also by the faculty and graduate student mentorship she experienced during her time in the lab.

“While researching as an undergraduate, I have been able to make personal connections with faculty and graduate students in the psychology department who have given me advice and guided me on my postgraduation plans,” Imbeah explains.

She continues, “As a research mentor, Dr. Libertus gets to know each student and makes an effort to see each student, whether in lab meetings, one-on-one meetings, or just popping into the lab.”

Libertus encouraged Imbeah to continue her research beyond Libertus’ own lab, connecting Imbeah to multiple opportunities.

“Dr. Libertus encouraged me to make my own independent project researching spontaneous focusing on number (SFON), which determines how well children pay attention to numbers in everyday situations,” Imbeah says. “With her encouragement, I applied for and received a Summer Undergraduate Research Award through OUR to conduct this research.”

Imbeah points out how, through research, you often discover things you hadn’t necessarily set out to find. “We predict that 3- and 4-year-old children who perform well at SFON are also good at math, and I can track that in the research. So far, I have learned how other factors—such as socioeconomic status, math talk, and parents’ math ability—are also correlated to math abilities in children. What interests me about this research is how much of a child’s math ability is determined before they even begin school,” she says.

She also notes that mentored research can lead to personal and professional experiences you never expected. “Dr. Libertus presented multiple opportunities to me, including presenting

at a psychology conference, something I never would have imagined myself doing as an undergraduate,” she says.

“Undergraduate research is an excellent opportunity to get lab experience and discover whether you have a passion for research, especially for those who want to go to graduate school after Pitt,” she concludes.

PATHS TO RESEARCH

At the Kenneth P. Dietrich School of Arts and Sciences, students follow many paths to connect with research opportunities. Enrolling in First Experiences in Research; traveling to conduct field studies in New York, N.Y., or London, England; seeking funding to develop independent research projects—every student’s path is unique.

You can watch videos and hear about the research experiences of the three students below by visiting asundergrad.pitt.edu/paths-to-research.



Jerome White (neuroscience, chemistry) started out doing research for a few hours a day in a faculty mentor’s lab as a sophomore. But OUR’s Summer Undergraduate Research Award allowed him to dive into his research 40 hours a week during the summer.



Salina Pressimone (political science, global studies) participated in First Experiences in Research, assisting Associate Professor Yolanda Covington-Ward in the Department of Africana Studies. The next year, Pressimone’s New York City Field Studies experience culminated in a meeting with an immigration reporter at *The New York Times*.



Shayla Staley (anthropology; gender, sexuality, and women’s studies) traveled to London as part of the field studies program to research levels of comfort with sexual orientation and how it plays a role in mental health on college campuses. Researching gender identities and emotional health is part of this first-year student’s work to become a pediatrician or women’s care provider.

THE PITT PRIDE



MESSAGE FROM THE ASSOCIATE DEAN

Research is for Every Student

Research is a common word to hear when you're talking about Pitt. But research at the Dietrich School is anything but common.

Here, research is for all students, no matter their major or year. Students have the chance to work side-by-side with expert faculty mentors, contributing to groundbreaking research in a wide array of fields.

Research across all disciplines

Our undergraduates conduct research in theatre arts, economics, neuroscience, studio arts, communication, political science, psychology, and music, just to name a few. No matter a student's passion, we have a research opportunity to help them explore it.

And we don't ask students to pick just one interest. Our undergraduates can earn credits toward graduation while exploring research outside their major, allowing them to engage their diverse interests and build a wide array of skills. Our expansive opportunities help undecided students to discover the right academic path for them, and the well-rounded education helps them stand out in the job market after graduation.

Even students who come in knowing what major they want to pursue can discover new strengths and expand their credentials, as Catherine Gannon did when she explored studio arts for the first time through First Experiences in Research (FE-R) and realized her talent and passion for art.

Work closely with faculty on research that matters

Having so many disciplines within one school also allows for unique and meaningful collaboration across disciplines and with many faculty mentors, as Steven McGrath experienced working on a project spanning geology, chemistry, and anthropology. (Read McGrath's story on this page.)

And as you'll read on page 1, faculty mentors lead our students to surprising and meaningful places through research, helping them to develop lifelong skills and forge their own research path in search of new discoveries.

Research in your very first year

Many schools don't allow undergraduates to participate in research until later in their academic careers. At the Dietrich School, students can participate in research in their very first year. Our FE-R program pairs first-year students with a faculty mentor and includes formal training on research methodology.

Students also can apply to conduct their own directed research projects as first-year students through our field studies programs. (See page 1 for a link to a video of Shayla Staley's experience with this.)

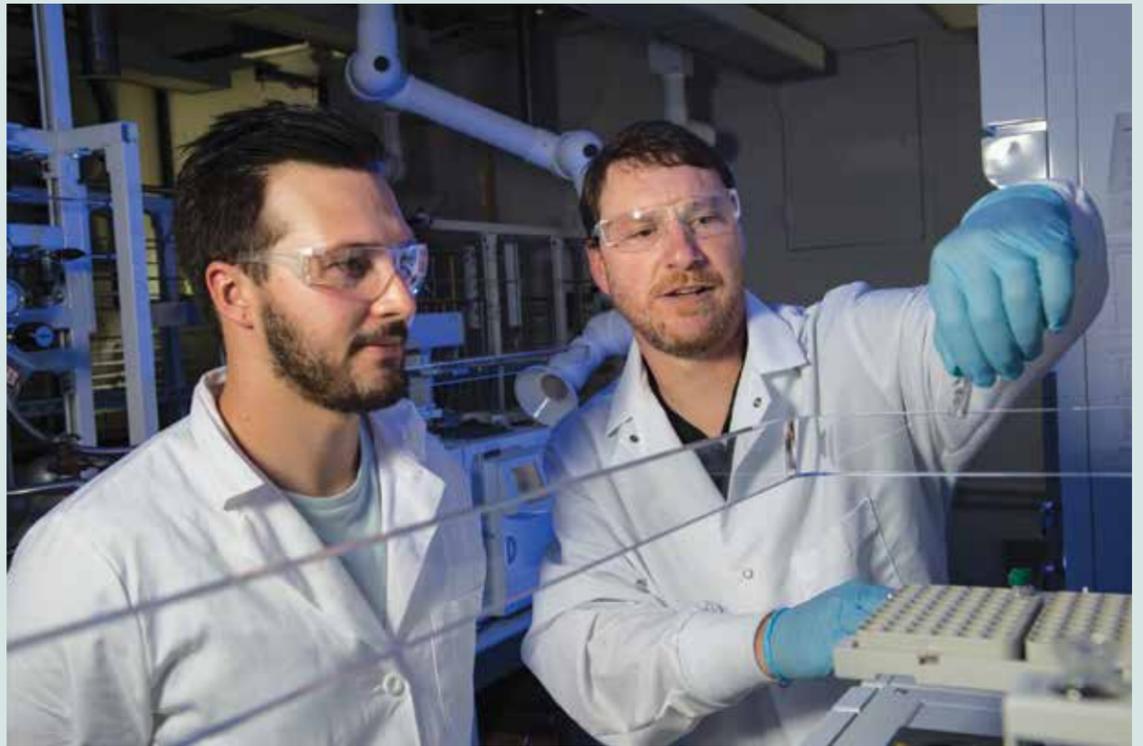
And, of course, staff members within the Office of Undergraduate Research, Scholarship, and Creative Activity are here to help students connect to the research opportunities that fit them. Connect with them at asundergrad.pitt.edu/research.

At the Dietrich School, while we are committed to providing uncommon research opportunities, we also are committed to making research a common experience for every student.

John A. Twynning
Associate Dean for Undergraduate Studies

RESEARCH ACROSS THE DISCIPLINES

Spanning Anthropology to Geology, Pittsburgh to Peru



Steven McGrath and Josef Werne

Steven McGrath (chemistry and geology) came to Pitt knowing what he wanted to study, but he found his niche when he got involved in research.

His interest was piqued during a class with Josef Werne, professor in the Department of Geology and Environmental Science. When he approached Werne about doing research, Werne connected McGrath with an interdisciplinary project, already underway.

The project is analyzing the accumulation of certain compounds, called fecal sterols, in the lake sediments in the Lake Titicaca Basin in Peru. The accumulation of these compounds can help modern-day researchers to determine whether pre-Incan civilizations inhabited the area and whether or not they were herding civilizations.

The project epitomizes the interdisciplinary spirit that defines the Kenneth P. Dietrich School of Arts and Sciences.

Werne explains, "This project came together as a collaboration among myself; Mark Abbott, chair of the Department of Geology and Environmental Science who has expertise in taking sediment cores from lakes; and Liz Arkush, an archaeologist in the Department of Anthropology who is an expert on understanding pre-Incan cultural transitions.

"This project ended up utilizing people with very different skill sets to combine chemistry and anthropology and paleolimnology," Werne continues.

McGrath is quick to point out the value of working on a real research project instead of doing a simulation in a lab. "You learn a lot more because the trial and error exists so much more in a lab than in a classroom, and you get hands-on experience with people who are doing research, not just made-up experiments," he says.

RESEARCH IS FOR EVERY STUDENT

By Catherine Gannon (English and French majors)

Embracing Vibrant Research Opportunities in the Humanities



When I was in high school, I wanted to pursue a pre-med track, so I attended a lot of info sessions at the University of Pittsburgh about how to get involved in natural sciences research. What I didn't realize until I got here, however, was that research in the humanities is just as vibrant on campus as research in the natural sciences.

The Office of Undergraduate Research, Scholarship, and Creative Activity has so many options for humanities research: projects in English literature, studio arts, foreign languages, art history, music, and more. Those opportunities really spoke to my interest in the humanities and I decided to pursue research in that area.

I assisted Lenore Thomas, associate professor and advisor in the Department of Studio Arts, in creating artwork for an exhibition in Pittsburgh's Strip District. At first, I was uncertain: I had envisioned myself doing literary research, and I have never formally pursued studio arts. But the idea of working on an art exhibition sounded like too good of an opportunity to pass up!

No two days were the same when I went to work with Lenore, and I was really involved with the creation of the art pieces and planning for the exhibition right from the beginning. While a lot of my tasks were preparation work that Lenore needed to create her final pieces, I also did work on the final pieces themselves.

One thing I loved about my research was that people were able to see my hard work, time, and efforts reflected in the pieces shown in the gallery, which really was a surreal experience for me to have in my first year of college. Honestly, it's something I never imagined I would get the chance to do in my life!

CONNECTING TO COMMUNITY

By Swapna Subramanian (ecology and evolution, anthropology, chemistry)

Out of the Lab, Into the Great Outdoors

Working in Assistant Professor Martin Turcotte's lab was my first experience in research at Pitt. As I was looking for research opportunities, I noticed that the Turcotte lab studies plant ecology and evolution—both of which I am very interested in. The lab studies rapid eco-evolutionary dynamics using rapidly growing plants, such as duckweed, and conducts experiments in the lab and field. I immediately wanted to get involved, and e-mailed Dr. Turcotte to say that I was interested in his research and would like to join his lab.

While processing duckweed samples as part of my work in the lab, I found that many insects were feeding on them and started to collect the insects for identification. This was especially intriguing as duckweed is a common and dominant plant in ponds, and I was curious as to how it could spread so efficiently if so many organisms were consuming it. This resulted in my becoming more interested in herbivore interactions with duckweed, and we started designing experiments based on those interactions.

Those experiments then led to my own self-directed research on the interactions of water lily aphids and three species of duckweed. I am testing if preferential feeding and differential performance effects can affect duckweed diversity. This research should shed light on plant-herbivore interactions and also help us to learn more about how duckweed is regulated and affected by herbivores.

Working Side by Side with Faculty Experts

Being able to consult with an expert in the field about how to get started in research and how to conduct that research has been very useful to me. Dr. Turcotte and I speak frequently about the progress of my experiments and how to further my research as well as about the intricacies of the organisms I am working with and other important topics in ecology and evolution.

Being able to do research with him has allowed me to learn about the subject in greater detail than I could have in a class with many students, and I've also gained valuable experience about the process of research, from conducting experiments to analyzing results to documenting the research. I think the Earth is fascinating, and I truly enjoy parsing apart why organisms and ecosystems are the way they are. I am very grateful to be able to cultivate this interest at Pitt.

Research in the Great Outdoors

My research occurs both in the lab and outside in nature. In the lab, I am usually working on controlling and maintaining colonies of my aphids and duckweed. I also am setting up and collecting data from my experiments. In addition, I have set up experiments in the field at the Pymatuning Laboratory of Ecology. These experiments consist of wading out into ponds to help understand the interactions of duckweed and herbivores in the wild, as compared to those in a controlled lab setting.

Through this experience, I have learned many of the ins and outs of aphids and duckweed. I also have learned that experiments in nature are subject to the whims of nature, spiders and storms alike. These experiences will all allow me to be a better researcher in my future career.

Hands-on Learning for a Lifetime

Undergraduate research is a great way to gain experience and knowledge in a field you are interested in. It is much more hands on than lecture-based classes and enables one to acquire much more in-depth knowledge of the subject matter. I am now much more able to appreciate the great accomplishments of scientists and their experiments due to having a more thorough understanding of how experiments are designed and conducted. I have learned so much about this field of study.

I would like to continue in ecology and evolution research after my time at Pitt by going to graduate school for a PhD, and be able to contribute to this field and continue learning about the world around us.

For more information about the Pymatuning Laboratory of Ecology, visit biology.pitt.edu/facilities/pymatuning.



Swapna Subramanian and Assistant Professor Martin Turcotte



From Humanities Research to Med School

By Rachel Evans (BA'18)

Neuroscience and religious studies majors,
chemistry minor



As a pre-med student, I began working in a neuroscience/psychology lab in my first year as part of the First Experiences in Research program.

But when I went to complete my capstone course for my major in religious studies, I felt like a first-year student all over again! I had never undertaken humanities research before, so it was daunting to try to learn an entirely new research methodology, collect data, and write a paper in only one term. I was challenged to step outside my comfort zone, learn new methodologies of research, and discover new resources.

I knew that I wanted to focus on the intersection of religion and medicine. After talking with my capstone advisor and another religious studies professor (who also is a practicing physician), I decided to write about how religion has influenced and continues to influence patient care in two historically faith-based hospitals.

For the research itself, I examined boxes upon boxes of historical documents from the hospitals' archives and conducted interviews. I was interested not only in the history of these hospitals and why they were or were not able to remain closely connected to their respective religious communities but also in the ways that these religious connections impacted the ways that the hospitals cared for patients.

By the end of the project, I had learned how to conduct and present humanities research, which is important, but I also had learned about other resources both on campus and in the city of Pittsburgh that I never would have known about had I not undertaken this project.

Humanities research requires different skills from research in the natural or social sciences, and I believe that my experience was an integral component of a well-rounded education.

I know that medical schools want to admit students who are well rounded, curious, and committed to lifelong learning. My experiences with research in the Dietrich School have helped to shape me into that kind of person.

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Questions or concerns? E-mail us at pittpride@as.pitt.edu.



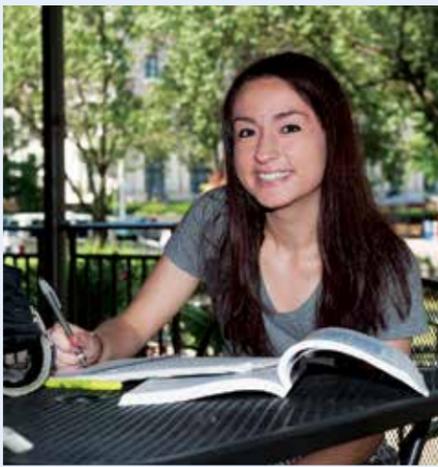
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Summer Classes Connect Students to Peers, Faculty, Pittsburgh



Haruko Arango-Kautz

“Summer sessions allowed me to begin doing clinical research at UPMC Presbyterian. I couldn’t have had that amazing experience at home,” says Haruko Arango-Kautz, a student studying emergency medicine. Taking advantage of the unique connections Dietrich School students have to outstanding resources on Pitt’s campus and across the city—from research opportunities to internships to classes that aren’t offered all the time—is just one of the many benefits of summer sessions.

By taking summer classes, students can:

- catch up on needed credits,
- get ahead of schedule for the fall term,
- focus on difficult classes one at a time,
- enroll in classes that fill quickly during the school year,
- complete general education requirements,
- complete pre-med requirements, and
- stay on track to graduate on time.

Students also have the opportunity to connect to each other and to Pitt’s world-class faculty thanks to the smaller class sizes during the summer. “Smaller classes allowed me to get to know my classmates and professors better,” says Mariam Shalaby, a graduate who studied music and the natural sciences.

And with the flexibility of enrolling in classes during 4-, 6-, and 12-week sessions, students can take summer classes without forgoing summer jobs, internships, or family vacations.

Registration for summer sessions is now open. For more information and to check out specific course offerings in all disciplines, students should talk with their advisor or visit summer.pitt.edu.

CALENDAR OF EVENTS

MARCH

10–17	Sunday–Sunday	Spring recess for students
15	Friday	Spring holiday; University closed
22	Friday	Deadline to apply with the Dean’s office for August 2019 graduation
25	Monday	Fall enrollment begins

APRIL

19	Friday	Last day for undergraduate classes
22–27	Monday–Saturday	Finals week
27	Saturday	Spring term ends
28	Sunday	Residence halls close; Annual Undergraduate Commencement Convocation

MAY

13	Monday	Summer 12-week, 6-week-1, and 4-week-1 classes begin; the summer calendar is available online at asundergrad.pitt.edu/academic-calendar
27	Monday	Memorial Day holiday; University closed

JULY

4	Thursday	Independence Day; University closed
8	Monday	Deadline to apply with the Dean’s office for December 2019 graduation

University of Pittsburgh
Dietrich School of Arts and Sciences

The Pitt Pride

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For information on University equal opportunity and affirmative action programs, please contact: University of Pittsburgh; Office of Diversity and Inclusion; Katie Pope, Title IX Coordinator, and Cheryl Ruffin, 504 and ADA Coordinator; 500 Craig Hall; 200 South Craig Street; Pittsburgh, PA 15260; 412-648-7860.

For complete details on the University’s Nondiscrimination Policy, please refer to Policy 07-01-03. For information on how to file a complaint under this policy, please refer to Procedure 07-01-03.

*Except where exempt by federal or state law

