

Department of Biology Updates

Inside this issue:

A Message from the Chair	1
MAMs Update	2
Welcome to our New Faculty	3
Herbarium now online	5
Anti-racist STEM pedagogy seminars	6
Faculty research updates	7
Alumni Updates	8
Giving and Support	10

A Message from the Chair

Dear Alumni and Friends of the Biology Department,

Welcome to our latest issue of the Biology Department newsletter. We have two issues per year, Spring and Fall, in which we hope to keep you up to date on departmental activities and achievements. In turn, I encourage you to please drop us an e-mail and let us know about any news and developments in your life and career (BiologyDept@luc.edu).

This semester has been challenging as we transition from distance learning back to the classroom. Nearly everyone, students, staff, and faculty, has been vaccinated. We wear masks in the classrooms and anytime we are in an enclosed space with students, staff, or other faculty. The faculty has done a great job again, this time adjusting to being back in the classroom after 18 months online. We are gratified to see the students back on campus and in our classrooms and research labs. We missed the direct student contact.

Our research was largely put aside earlier in the pandemic but suspended projects are now up and going again. We were able to award Biology Summer Fellowships last summer and other university programs supporting student research were reactivated. The Biology Summer Fellowships are a great opportunity for students to get a quality research experience. We typically have many more worthy student applicants than we can fund. Alumni donations have allowed us to offer more fellowships and award greater amounts per fellowship than we could do previously. We greatly appreciate our donors that made this expansion possible.

I think we all are still adjusting to the newest situation and our work and studies should be normalized soon. Dr. Jary Delgado (Neuroscientist) joined the department this fall semester and is settling in to his teaching and research duties. Dr. Sara Lipshutz (Genetics) spent this fall finishing up her postdoctoral research program at Indiana University and will join us at Loyola at the first of the year. Dr. Kristin de Nesnera joined the faculty as a Lecturer with special expertise in Ecology and Evolution. In addition, we have 5 faculty in one-year Instructor positions, including Drs. Thomas Hu (Anatomy & Physiology), Dallas Krentzel (General Biology), Angene Milton (Genetics), John Wilk (General Biology), and Jamie Grace (General Biology). With yet another very large freshman class expected in Fall 2022, we depend heavily on these faculty to cover courses and we appreciate the



Jim Cheverud, Ph.D.
Professor and Chair
773-508-3681
jcheverud@luc.edu

great job they are doing for our students.

Our faculty continue to develop their teaching and research programs through this challenging time. We are better funded by extramural grants than ever before with 65% of eligible faculty having external funding. We hope to start a new BIOL BS/MS 4+1 program starting in Spring 2023 if it is approved and are re-evaluating our other Biology academic programs.

Biology's faculty and staff wish you all a Happy Holiday and a safe, productive new year.

Best wishes,

Jim Cheverud

Masters of Arts in Medical Sciences (MAMS): Back In Action

MAMS is back on campus this fall and the current students have not wasted any time getting “back to normal.” The students met each other face-to-face at Orientation which went smoothly as we welcomed our Community Collaborators back to campus! Volunteer positions are hybrid these days as hospitals, clinics and our not-for-profit agency partners figure out how to balance in person and virtual volunteer positions. The good news is that despite the challenge of navigating this “return to normal” there are plenty of volunteer opportunities to go around! The new MAMS E-board is busy organizing outings, mentorship opportunities, and large scale volunteering including a medical team for the Chicago Marathon! The Marathon took place again this year after being suspended during the pandemic! MAMS has also welcomed a new Advisor, Sarah Berkowitz, to the fold! Sarah brings to MAMS enthusiasm, excitement, a background in social work and a PhD in English and we are happy to have her on board! Finally, we are thrilled and grateful to continue to have the contributions of our alumni who mentor the current class as they juggle medical school interviews and their jobs in clinical research, scribing and college teaching. #theMAMilyisreal.



Welcome to our new faculty members!



Dr. Jary Y. Delgado-Núñez is a new Assistant Professor in the Biology Department. He comes from the University of Chicago, where he was a Staff Scientist associated with the laboratory of Dr. Xioaxi Zhuang in the Neurobiology Department. Having spent seven years at the University of Chicago, he is extremely happy to have been offered the opportunity to continue his research and teaching career at Loyola University Chicago. At Loyola, Dr. Delgado is enjoying teaching undergraduate students Introduction to Neurosciences and Neurobiology, courses that introduce students to the inner workings of the brain. Dr. Delgado is also excited to be building a research team composed of highly intelligent and eager undergraduate students who are being introduced to concepts and techniques utilized in neurobiology research. For his research, Dr. Delgado wants to understand the molecular and cellular mechanisms that allow animals to encode new information about the environment and to help diversify the research community at Loyola University Chicago. In his few months at Loyola University Chicago, Dr. Delgado has felt incredibly welcomed by the academic community and he is delighted to have joined the Biology Department.



Dr. Kristin de Nesnera is coming to Loyola from Utah Valley University where she was an assistant professor for three years. She is a biologist with broad training in both ecology and biology education. She completed her Ph.D. in Ecology and Evolutionary Biology at University of California, Santa Cruz (UCSC) and her postdoctoral training in the Science Education Partnership and Assessment Laboratory (SEPAL) at San Francisco State University (SFSU). Her interests include environmental literacy, equity and inclusion in STEM education, and developing learner-centered, evidence-based biology curriculum. She loves teaching courses in introductory biology, ecology, conservation biology, and science education and engaging students in ways that make biology accessible and enjoyable. With roots in the Midwest, she is thrilled to be in Chicago closer to family, and eager to continue her teaching career at Loyola University Chicago. She hopes to continue collaborating with other faculty to develop curriculum and assessments to meet the needs of an ever-changing higher education landscape. In her non-work time, Kristin enjoys running, cooking, and spending time outdoors with her rambunctious, nature-loving toddler!



Dr. Sara Lipshutz is a new Assistant Professor in the Biology Department. She comes to Loyola from Indiana University, where she was an NSF Postdoctoral Fellow in Biology. As one might imagine, the social behavior of animals can vary quite dramatically, not only across different species, but also between sexes and among individuals of the same species. Dr. Lipshutz wonders: What makes some birds more aggressive than others? At the foundation of this evolutionary framework, Dr. Lipshutz examines the molecular mechanisms that shape behavioral diversity: hormones, gene expression, and DNA sequence variation. As she settles into city life, Dr. Lipshutz is also developing a project on the evolution of the urban phenotype, and how anthropogenic stressors like noise and light pollution affect behavior, physiology, and genetics. At Loyola, Dr. Lipshutz is thrilled to teach Genetics and Genomics, courses that will explore the fundamentals of modern genetics and their applications for culture, policy, and medicine. This exploration is not limited to the classroom, and Dr. Lipshutz looks forward to collaborating with students on research projects regarding behavior, evolution, and genetics.



Loyola University Herbarium database is now online

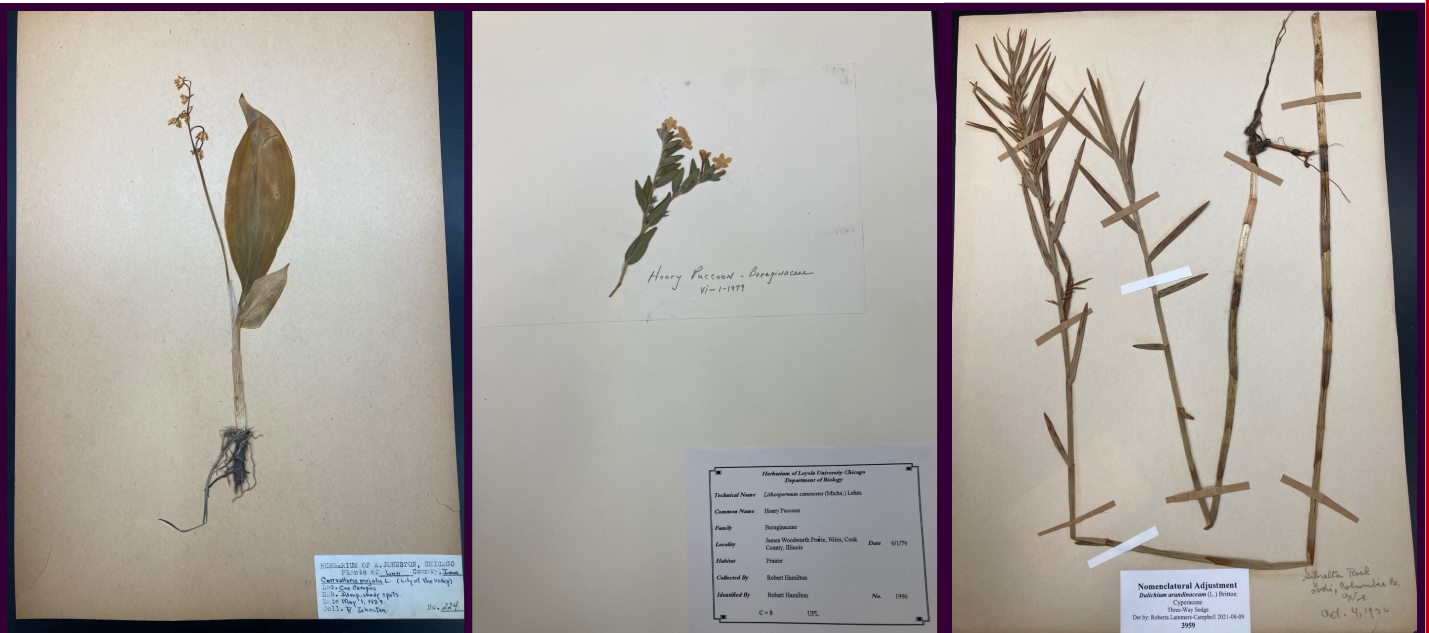
The Loyola University Herbarium database is online and can be accessed at the Midwest Herbarium Consortium:

<https://midwestherbaria.org/portal/collections/misc/collprofiles.php?collid=477>.

As of this writing, the herbarium contains 4,086 specimens. Some specimens were collected by former faculty, including Bill Cordes, Arden Davidson, Nancy Garwood, Bob Hamilton, Alice Hayes, and Bob Morgan, and some by classes. (Find your specimens in the database by searching under “collector.”) We know nothing about some of the collectors and would be happy to receive information about them – G. R. Bucher (1937), A. Johnston (1939), Sr. Mary Cecilia (1941), and T. Tiger (1976). The oldest specimen is from 1926. About half the specimens are from LUREC and are stored there. The rest are in the herbarium space in Quinlan 237.

The Midwest Herbarium Consortium is one of ten regional North American portals integrated into the Symbiota-based portal network SEINet (Symbiota.org). Data in this network can be published to IDigBio and to GBIF (Global Biodiversity Information Facility), which provide free and open access to biodiversity data. The Loyola herbarium is registered as “LUC” in Index Herbarium (sweetgum.nybg.org/science/ih/) which is “a worldwide index of 3400 herbaria and associated staff where a total of 350 million botanical specimens are permanently housed.”

Roberta Lammers-Campbell, Ph.D
Curator Emerita, Loyola University Herbarium



For scientists. By scientists. A seminar series dedicated towards promoting anti-racist STEM pedagogy

LUC STEM—Science, Technology, Engineering, and Math—engages with thousands of students each year, many from diverse backgrounds traditionally underrepresented in science classrooms. Yet, research has shown that students from underrepresented groups (e.g. low-income, female-identifying, first-generation college, and underrepresented racial and ethnic groups) experience achievement gaps in STEM-based courses.

Professors **Michael Burns**, **Thomas Sanger**, and Kristin Krueger (Anthropology) have organized a university-wide seminar series on anti-racist pedagogy. Over the next six months the seminar series will bring in professionals from the field of evidence-based STEM pedagogy. Each speaker's research has focused on a distinct set of practices that we can deploy in our classroom to help narrow achievement gaps among students. To move beyond a traditional passive seminar, each speaker has provided a unique set of learning objectives for their workshop. .

The series kicked off December 2nd (3:30-5:00) with an interactive panel discussion among LUC STEM faculty dedicated to achieving an anti-racist classroom and campus environment. The discussion followed a screening of Picture a Scientist, a documentary focused on gender-based discrimination in academia.

More information about these events can be found at:
<https://www.luc.edu/fcip/anti-racistpedagogy/anti-raciststemseries/>

The following seminars will be held during the spring semester:
January 26, 2022: Dr. Mica Estrada

HOW TO INTEGRATE DIVERSE STUDENTS INTO STEM

February 27, 2022: Dr. Tracie Addy
HOW TO MAKE CLASS MORE INCLUSIVE

April 2022: Dr. Ebony McGee
HOW TO USE STEM TO PROMOTE SOCIAL JUSTICE

Sponsored by: Badia Ahad and the Office of the Provost
Faculty Center for Ignatian Pedagogy



Faculty research updates

Father Peter Breslin, S.J., of the Dept's. of Biology and Molecular/Cellular Physiology (H.S.D.), recently co-authored the following two articles:

“Seed oil of *Brucea javanica* induces apoptosis through the PI3K/Akt signaling pathway in Jurkat acute lymphocytic leukemia cells.” in the Chinese Journal of Natural Medicine

“Safety Assessment of *Aconitum*-Derived Bulleyaconitine A: A 91-Day Oral Toxicity and Tissue Accumulation Study.” in the World Journal of Traditional Chinese Medicine

Fr. Breslin worked on these studies with a team of his colleagues in Shanghai, P.R.C., with whom he regularly collaborates.

Tim Hoellein received a new grant from the National Science Foundation titled “Plastic Spiraling In River Networks (Plastic-SIReN): Determining the controls of watershed plastic fluxes using a field and modeling approach.” This work involves measuring plastic litter in urban streams in Chicago, Toronto, and Massachusetts, to understand how plastic litter moves with floods.

Lauren Wisbrock defended her MS thesis in August 2021, titled “Anthropogenic Litter in Illinois Streams: Monitoring, Distribution, & Relationship to Biological Indicators of Stream Health.” She is now working in science communication at the Adler Planetarium.

Two former MS students published portions of their dissertation research, **Loren Hou** and **Anna Vincent**. Loren is now working at Abbot Pharmaceuticals and Anna is in a Ph.D. program at the University of Notre Dame.

Recent publications from the Hoellein Lab:

Hou, L., McMahan, C.D., McNeish, R.E., Munno, K., Rochman, C.M., and T.J. Hoellein. 2021. A fish tale: A century of museum specimens reveal increasing microplastic concentrations in freshwater fish. *Ecological Applications*: e2320.

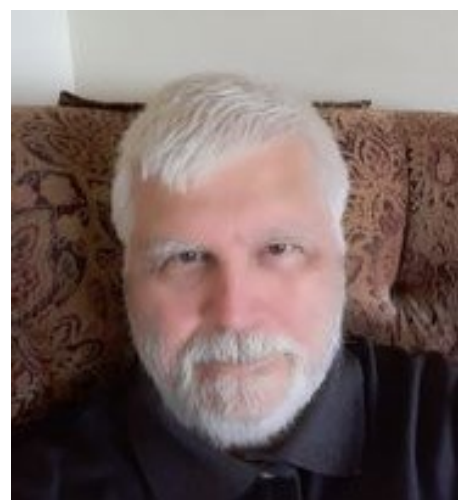
Vincent, A. and T.J. Hoellein. In press. Microplastic Distribution and Transport in Urban

Alumni Updates

Below are two Biology Department Alumni who share their stories and the impact Loyola has had on their careers. Are you an alumnus? We'd love to hear from you! Please email biologydept@luc.edu to share your updates!

Joseph Pearson, Ph.D.

I matriculated at Loyola University in 1965 as a Biology Major at the Lake Shore Campus and I graduated with a B.S. in Biology in 1969. In the Fall of 1969, I was one of about twelve students to enter the second class of M.S. students in Biology at the Lake Shore Campus. I graduated with my Master of Science in Biology in 1971. Tuition for the full year at Loyola in 1965 was approximately 500 USD. When I graduated in 1969, tuition for the full year was approximately 1,000 USD. In the M.S. program, all students were full time and received full tuition scholarships with a monthly stipend of 244 USD; most of us each taught two or three laboratory sections to receive the stipend.



I eventually earned a Ph.D. in Curriculum and Instruction with an emphasis in science teaching from Arizona State University.

Some of my fondest memories at Loyola include teaching laboratory sections of histology for all four of my semesters in the M.S. program. Afterwards, I was hired as adjunct faculty to teach in the Department of Natural Science at Loyola's Lewis Towers Campus (most of my students were Education majors at Loyola). As an undergraduate, I loved taking General Biology and Genetics courses from Fr. Peters. I also loved taking Physics courses from Fr. Roll. The Jesuit presence was very much a part of campus life then. Mrs. Cook taught me how to write in the three English classes I took from her. Dr. Wandel taught me to read and speak German well enough to pass the Foreign Language proficiency exam then required of M.S. students in Biology.

Since my time at Loyola, I have taught high school biology at Fenwick High School in Oak Park for two years. I was a Research Faculty Associate at the University of Illinois Department of Ophthalmology for two years. I was a tenured Professor of Biology for

the City Colleges of Chicago and a tenured Professor of Biology for the Maricopa County Community College District in Arizona. I eventually became a Dean of Instruction at Mesa Community College. At 74, I am now retired.

Loyola helped turn a nerdy, rather shy young man into a professional researcher and educator with the scholastic confidence to experience significant success in his chosen field(s). I hope that current students of Loyola learn to savor their educational experiences while they are having them and, also, not forget to lend a helping hand to others, now as well as during their future careers.

Mike Hutz, M.D.

My name is Mike Hutz and I graduated from Loyola in 2011. I was a member of the Men's volleyball team during my tenure and double majored in biology and religious studies with a minor in bioethics. I completed my medical school training at Loyola University Chicago Stritch School of Medicine in 2015 and went on to complete a 5-year residency training in Otolaryngology - Head and Neck Surgery in 2020 at Loyola University Medical Center. In June of 2020, I completed a 1-year fellowship at the University of Pennsylvania in sleep medicine and surgery (surgical management of obstructive sleep apnea) and joined Rush University Medical Center in the Department of Otolaryngology - Head and Neck Surgery in the section of Sleep Surgery with a dual appointment in the section of Sleep Medicine.



I definitely would not have made it to the point I am today without some incredible mentors that helped direct me along the way. I'd love the opportunity to pay it forward so if there are any students interested in hearing more about my journey or needing advice about a career in medicine, I would be happy to help. I can be reached via email at michael_hutz@rush.edu.



Loyola University Chicago
1032 N Sheridan Rd.
Chicago, IL 60660

Phone: 773-508-3620
Fax: 773-508-3646
E-mail:
biologydept@luc.edu

ABOUT THIS NEWSLETTER

This newsletter was compiled by Dr. Caroline Turner and edited by Drs. Jennifer Zitzner and Michael Burns for the purpose of keeping our departmental alumni abreast of new developments, programs, and events.

We would love to hear from you!

If you know someone whom you would like to see featured in the Faculty or Alumni Spotlight section, or have ideas about things you would like to see in future newsletters, please send an email to:

biologydept@luc.edu

Also, we here in the Loyola Biology Department just love hearing from our alums. So don't be a stranger! Please email us at biologydept@luc.edu, let us know where you are, what you're doing, and send us pictures if you have them!

Alumni Support

The University and the Department of Biology are extremely grateful for the generosity of all our donors. Donations in any amount from one to thousands of dollars are appreciated and help the department serve our students. Your support of the Biology Department permits us to continue many programs and services including:

- Student research fellowships
- Travel funds for students to attend local and national meetings
- Professional development opportunities for Biology Faculty
- Equipment for teaching and research laboratories

If you would like to make a gift to the Biology Department Gift fund, you may do so in two ways:

Online: [Click here to be directed to the secure donations website](#)

Mail: Please mail checks to:

Loyola University Chicago
Biology Department
c/o Stephanie Tomakowski
820 N. Michigan Avenue, Ste. 1721
Chicago, Illinois 60611

Please include in the memo line: Biology Department Gift Fund