

Welcome to the SIB Connections!

Spring 2023



Dear Alumni,

Welcome to the fourth edition of the SIB Connections! Since we began publishing this newsletter in 2019, we've all experienced a significantly changed and continuously changing world. The Class of 2023 were in the spring of freshman year when the pandemic began, and through their hard work, commitment, and adaptability, they are now almost at graduation. We are proud of everything our students have done to continue pursuing their goals and are excited to see what they do next. Several graduating students shared their research experiences for this edition, and we hope you enjoy reading their accounts.

Many IB undergraduate students engage in research during their time at Illinois.

Through mentored research, our students learn about themselves, their goals and challenges, and opportunities to explore and apply those goals to a variety of career paths. These students are exploring their interests and taking the lead on many of these projects, learning valuable technical, critical, and leadership skills for whatever career path they choose. Your support of our students makes this possible.

We would like to congratulate Dr. Lawrence Page on receiving the 2023 SIB Achievement Award. This award recognizes outstanding professional achievement that demonstrates the value of an education (BS, MS, or PhD) from the University of Illinois. Dr. Larry Page is a highly accomplished ichthyologist who devoted his career of 32 years at Illinois to describing and protecting biodiversity of freshwater fishes. Currently the curator of fishes at the Florida Museum of Natural History, Dr. Page has published nine books and nearly 200 scientific papers and described numerous previously unknown fish species. His philosophy is that in order to preserve biodiversity, we must understand it. What a truly integrative approach! Dr. Page's accomplishments were also celebrated by the College of LAS this year, as he was also recognized with the LAS Alumni Achievement Award.

This edition's featured alumni showcase the range of careers of our graduates. We remain grateful for the ways you allow us to highlight you and learn from your experience via the Alumni Mentoring and Career Connections programs. Your support is invaluable to our students as they pursue their goals. We are always interested in hearing from our alumni, and I encourage you to email us at communications@sib.illinois.edu, visit our website at sib.illinois.edu, or visit us in 286 Morrill Hall if you're in the Champaign-Urbana area.

With my best wishes,



Carla Cáceres - Director, School of Integrative Biology

Undergraduate Research – Award Highlights

Over half of all our students participate in some form of mentored research. This may involve anything from collecting data in the field to doing experiments in the lab, from working with faculty members, postdocs, or senior graduate students with ongoing experiments to independent research no one has ever undertaken before. Mentored research is a valuable opportunity for undergraduate students to gain hands-on experience in the lab and field. By working with a mentor, students learn about the research process, develop their technical and critical-thinking skills, and gain a deeper understanding of how their research questions relate to the broader science community.

Working on a mentored research project allows undergraduate students to make contributions to the scientific community, through published work, conference presentations, seminars, and sharing with their peers. At Illinois, students have access to some of the leading experts in their fields and can access cutting-edge technologies and resources. Collaborative research can provide students with an additional sense of direction and purpose in their work and can show them what research is really like.

For many of our students, scholarships and awards are an important part of their research support. The School of Integrative Biology is grateful for the many ways our community supports our students, and we are proud to share these spotlights of what that support has made possible. There are several awards offered by the School, both at the undergraduate and graduate levels, and they can be used in a variety of ways to help support our students.

We asked a few of the award winners from 2022 to share their research experiences, and hope you enjoy them. ❖

Jonathan Tetlie and Jamilyn Martin | Harmon-Threatt Lab | 2022 Sharon Gray Memorial Award Recipients



Jonathan Tetlie, PhD Student in Entomology:

“My role as a mentor was to be a guiding presence through each step of the research process to advise and assist with matters of feasibility, analysis, and interpretation.

Being a mentor allowed me to explore my understanding of the nuances between mentorship and collaboration. The research question we were examining utilized novel protocols which inherently can come with challenges. Instead of guiding with certainty, I have practiced working with Jami and providing guidance on troubleshooting and working through new methodologies.

Jami is incredibly driven and self-sufficient. It has been a pleasure working with Jami, knowing that she will persevere through adversity while maintaining an optimistic outlook and attitude. Her attention to detail, proficiency as a researcher, and excellent communication skills have made working with Jami an absolute delight.”

Jamilyn Martin, Senior in Integrative Biology:

“My role as mentee was to design and execute a research project under the guidance and support of my mentor Jon. Through this process, I learned about protocol, trial and error, and what it is to conduct research from the very beginning. I also learned numerous lab techniques that I had not had the opportunity to use before.

By working on this project, I gained a better idea of what a career in research is like. Before this, I was unsure about my ability to have a career in this field. After working in the lab and on this project, I feel confident that a future in research is not only something I can pursue, but something I want to pursue. It was very encouraging to be faced with so many questions and obstacles and know that I could rely on Jon to help me find the answers. He was a wonderful mentor, working with me in a way that gave me confidence that my thoughts and ideas truly had merit.

One of my favorite parts of working in the lab are the people. From Dr. Harmon-Threatt to my fellow undergraduate students, everyone is kind, supportive, and genuinely fun to work with. They make it easy to ask questions and they find ways to make even the most basic tasks exciting. My time in the lab and the skills I gained were invaluable and I am very grateful to have had this opportunity.”



Vi Aldunate | Class of 2023 | Harmon-Threatt Lab

2022 SIB Alumni & Friends Research Award Recipient

“My research examined the community ecology of insects, or how insects interact with other organisms of their landscapes. With funding provided by SIB Alumni and Friends Research Award, I explored the fungal microbiome associated with a common polyester bee, *Colletes inequalis*. These native bees don’t live in colonies, but instead inter their young underground, in brood cells spun from a cellophane-like fiber.



In Spring 2022, I excavated these brood cells from the soils of residential Urbana, sampled both the cell linings and the bees themselves, and then cultured those samples on different types of agar in a microbiology lab. I thus characterized the relationships between both *C. inequalis* and generalist fungi, as well as between *C. inequalis* and fungi that may consume chitin. This was a natural history survey without a clear end goal, which taught me the patience to find meaning in the subtle patterns of stochastic nature, outside the planned structure of a laboratory experiment.”



Alexis Rhoades | Class of 2023 | Cáceres Lab

2022 SIB Endowed Scholarship Recipient

“With the SIB Endowed Scholarship, I have been supported in the classroom, research lab, and with my extracurriculars. In the lab and field, I have gained valuable skills and experience learning how to collect samples for research projects and conduct scientific experiments. In addition to the science skills, I have also made connections and built friendships with people that extend beyond the lab. My favorite memory was during fieldwork when I got to row the boat on a lake during sample collection. I am so grateful for the scholarship I received and for the support of the School of Integrative Biology and its supporters.”



Ruel Hanlan | Class of 2022 | Fuller Lab

2022 Spyros Kavouras Summer Research Award Recipient

“My favorite memory from my research experience is presenting my ongoing research findings at the Animal Behavior Society conference in Costa Rica, where I was awarded the Genesis Award (Research Poster - Honorable Mention) and representing my lab at the IBIO Research Symposium respectively. I made important connections with primary investigators from around the world and with graduate students who share my passion for biology and research. It was an invaluable opportunity that I am incredibly grateful for and will forever remember.



Undergraduate Research – Distinction Highlights

Five students from IB and IB Honors presented their research for distinction this past semester. To qualify for distinction, students need to have completed independent research and presented their findings. This fall, our students' presentations covered everything from bees and pesticide impacts to behavior and genetics in the red fox, from insect evolution to pollen in Panama, and how brain imaging can be used to create deep learning algorithms. ❖



Anna Zallek | Class of 2023 | Punyasena Lab – Plant Biology | Anna presented research on the variety of pollen types in Parque Nacional San Lorenzo in Panama.

What was it like finding a lab to work in? “For me, finding a lab was very serendipitous; I struck up a conversation with my IB 150 TA, Derek Haselhorst, who was finishing his PhD in the Punyasena lab. That casual conversation opened the door for me to join the lab, and four years later, I have been able to travel and do research across the U.S., Panama, and Colombia. I feel very lucky that my research experience started how it did; it's amazing how a five-minute chat led to so many opportunities for me to grow as a student and scientist.”

Abigail Rich | Class of 2023 | Kukekova Lab – Animal Sciences | Abigail presented research on how a maternally expressed gene is inherited can impact tame or aggressive behavior in the red fox.

What was it like on your first day? “On my first day, my lab supervisor introduced me to the current projects and the techniques the lab uses to gather and analyze data. I was initially nervous because all the projects were so complex, but I was excited to learn! With regular lab meetings, I am constantly presenting the results of my project to other lab members, and I learned that the aspect of research I'm most passionate about is being able to share my findings with my peers.”

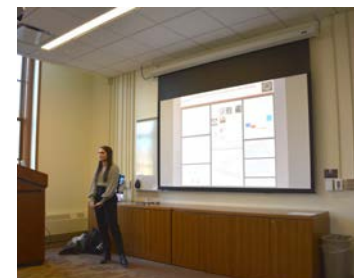


Shaw Kagawa | Class of 2023 | Cheng Lab – Evolution, Ecology, and Behavior | Shaw presented research on the genomics of antifreeze proteins and how they evolved separately in two insect families.

What was your first research project? “My first project was to figure out the various software for getting a genome sequence and annotating the locations of genes in a few species of notothenioid fishes. Learning these skills (which took months) eventually led to working on the project I presented on, applying the same software to analyze an entirely different set of organisms: insects.”

Maddy Caliendo | Class of 2023 | Miller Lab – Evolution, Ecology, and Behavior | Maddy presented research on how mapping different cells and microstructures in the brain can be used to create a deep learning algorithm for use with MRI.

What skills have you gained in the lab? “The skills I have gained from my research include grant writing, reading and understanding scientific journals, leadership by running cell consensus sessions, and presentations.”



Madeleine Shapiro | Class of 2023 | Dolezal Lab – Entomology | Madeleine presented research on how pesticides can impact how worker bees feed and care for queen bees.

What skills have you gained in the lab? “While working in the lab, I have learned not only new technical skills, but also gained familiarity with the research process, and most importantly, I have learned how to work independently to answer the questions that interest me.”

2023 Alumni Award: Dr. Lawrence Page

The School of Integrative Biology has a tradition of teaching and research excellence over 150 years old. To celebrate the accomplishments of our alumni, the School of Integrative Biology created the Alumni Achievement Award and the Outstanding Young Alumni Award. The Achievement Award recognizes outstanding professional achievement that demonstrates the value of an education (BS, MS, or PhD) from the University of Illinois.

The 2023 Achievement Award Recipient is Dr. Larry Page!



M.S. 1968 Zoology
University of Illinois

Ph.D. 1972 Zoology
University of Illinois

Curator of Fishes
Florida Natural
History Museum

Dr. Larry Page is a highly accomplished ichthyologist, with strong ties to the University of Illinois, where

he received his M.S. and Ph.D. in the Department of Zoology (now Department of Evolution, Ecology, and Behavior) in 1968 and 1972 respectively. He devoted his career of 32 years at the University of Illinois to describing and protecting biodiversity, specifically freshwater fishes.

He has published nine books and nearly 200 scientific papers and described numerous species of previously unknown fish species. His philosophy is that in order to preserve biodiversity, we must understand it. He has collected and documented fish in remote locations such as Thailand and South America, as well as familiar habitats, such as streams and rivers in central Illinois.

His books include "A Field Guide to Freshwater Fishes of North America North of Mexico" and "An Atlas of Illinois Fishes: 150 Years of Change", which are considered essential for scientists and nature enthusiasts alike.

He serves as an emeritus Principal Scientist with the Illinois Natural History Survey and as Curator of Fishes at the Florida Museum of Natural History at the University of Florida.

To learn more, please visit: sib.illinois.edu/alumni/awards.

Dr. Page was also named the recipient of the 2022 College of Liberal Arts & Sciences Alumni Achievement Award!

To learn more, please visit:

go.illinois.edu/LASAward-LarryPage. ❖

Career Connections and Alumni Mentoring

2022 was another exciting year for both Alumni Mentoring and Career Connections within SIB. IB 592, the first IB graduate level career class, was piloted in the fall, covering a range of topics on career exploration and development. Students learned how to use foundational life design principles to make intentional choices about career paths, including understanding and leveraging their personal values and goals to build a career.

The class explored what employers are looking for in job candidates, and how to best showcase their skills and experiences. Through alumni guests and panelists, and sharing their experiences with each other, students also learned how they can determine what careers might best suit them and how to be an effective leader in an inclusive and diverse environment. After the course, one student shared, "I gained some serious and super beneficial insights into many things I hadn't quite thought about. I now have a huge plethora of contacts and resources at my disposal for future interviews, job searches, and skill building."

Our SIB Discord continues to grow! Since beginning in 2021, our online community has grown to almost 350 students, alumni, faculty, and advisors. Our students especially have found the Discord helpful, and have been able to find opportunities for research, employment, mentorship, and more. Our alumni and faculty have also enjoyed interacting with the students, offering their perspectives on graduate school, professional and research opportunities, and more.

We are always looking to connect with our alumni, whether to offer our resources and support, or to connect our students with an inside look at new educational and professional options.

To learn more, please visit:

go.illinois.edu/SIBCareerConnections. ❖



For more information,
please contact:

Christina Swanson
Academic Advisor,

Director of Career Connections
alumnimmentor@sib.illinois.edu

Alumni Feature | Heather Lash, UIUC Plant Biology Greenhouse

Heather Lash joined SIB in 2022 as the Plant Biology Greenhouse Coordinator. After earning both her bachelor's and master's degrees from the University of Illinois, Heather served as a Research Greenhouse Specialist at the ACES Plant Care Facility for 16 years before transitioning to Greenhouse Coordinator. Heather also had the unique experience of being a student employee at the Plant Biology Greenhouse during her undergraduate program.



Q: What's it like being the Plant Biology Greenhouse Coordinator after starting in the greenhouses as an undergraduate student?

“When I worked here as an undergrad it never crossed my mind that 20+ years later I would be in my boss's role! My greenhouse job is where I had my first experience with caring for research and tropical plants and it brings me joy to be on the other side now working with my student employees and seeing their appreciation for plants and the greenhouse. I have worked with students in the past that have changed the focus of their major, added a plant science minor, or pursued graduate school in plant research because of their work experience in the greenhouse. You never know where life is going to take you.”

Q: What's one of your favorite memories from your time as a student at the University of Illinois?

“There are many, but one would be the horticultural shrub and tree identification course I took called Woody Ornamentals that was taught by Gary Kling. We would walk all over campus and Urbana neighborhoods looking at mature specimens and learning how to identify them. There are some old and beautiful trees on our campus. That class is how I learned about Carle Park, which is still one of my favorite spots in Urbana.”

Q: What's the latest news from the greenhouse?

“Spring semester is always busy since I grow plant material for three Integrative Biology courses- IB103, IB271 and IB335. In addition to the normal busy, the Plant Biology Greenhouse will be undergoing an upgrade project to transition to LED supplemental lighting which is very exciting. The greenhouse facility as a whole will begin the initial staging for an upgraded environmental control system.

We are working on updating our website and started an Instagram just this last semester. You can find us there at [@uiucplantbiologygreenhouse](https://www.instagram.com/uiucplantbiologygreenhouse). My student is also helping me this semester with updating the labels, signage and plant database for the conservatory so we can make the visitor experience more interactive. There's a lot happening this year, and we're very excited!”

Q: What advice would you give other alumni?

“Stay connected with the University. That could mean staying in touch with a former instructor or supervisor, attending the many public events and open houses on campus, or following social media accounts. There are so many things happening on this campus and avenues for involvement and collaboration if you desire. It's a wonderful resource that we have access to, to continue learning.” ❖



A view of the flowers and newly renovated pond in the Plant Biology Conservatory.

Hear from other IB Alumni!

Since its formation in 2004, the School of Integrative Biology has trained and educated almost two thousand alumni, many of whom have pursued careers in all kinds of fields. Learn about what these alums are doing now and visit our website to learn more about other alumni: sib.illinois.edu/alumni/mentor/profiles. Do you know someone you'd like to see featured? Let us know! ❖



Justine Macalindong
Class of 2022
Graduate Student
University of Oregon

Justine is pursuing her master's degree in biology (with a focus in bioinformatics and genomics) from the University of Oregon, as part of the Knight Campus Graduate Internship Program.

Patrick Madigan
Class of 2014

Teacher
Notre Dame College Prep
High School

Patrick is in his 7th year of teaching at Notre Dame College Prep High School in AP Biology, Chemistry, and Forensic Science, while serving as a moderator for the Science Fiction and Pre-Health Clubs.



Hayley Henderson
Class of 2021

Soil Conservationist
USDA - Natural Resources
Conservation Service

Hayley applies conservation practices to environmentally sensitive land through the administration of federal Farm Bill Conservation Programs such as the Conservation Reserve, Conservation Stewardship, and Environmental Quality Incentives Programs.



Joe Frumkin
Class of 2013

Guest Engagement Coordinator
Lincoln Park Zoo

Joe designs and delivers public education programs and manages the Guest Engagement Fellowship, mentoring new educators entering the informal education field.



Carolyn Kelly
Class of 2007

Podiatrist
John H. Stroger
Cook County Hospital

Dr. Carolyn Kelly is an attending podiatry physician and surgeon at John H. Stroger Cook County Hospital in Chicago, where she assists in training and educating podiatry students and residents.

Laura Janousek
Class of 2019

Quality Engineer
Medline Industries, LP

As part of the Quality Engineer Leadership Development Program, Laura completes rotations in corporate quality, manufacturing quality, and the audit team to develop a holistic understanding of medical device regulations.



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How can I connect with SIB?

We would love to hear from you!

Website: Our website includes all our recent news, research updates, student blogs and more here: sib.illinois.edu.

Social Media: SIB is also active on Facebook, Twitter and Instagram: [@iBioIllinois](https://www.instagram.com/iBioIllinois).

Alumni Mentoring: Our alumni play an important role in helping to guide and mentor our undergraduate students through our Alumni Mentoring Program and the Career Connections. Visit: go.illinois.edu/sibcareerconnections.

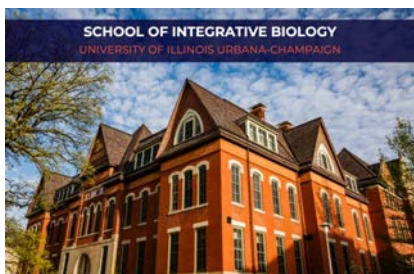
Email: For everything else, send us an email at communications@sib.illinois.edu. We look forward to hearing from you and celebrating your success!

Learn more about Student Support

Alumni and friends play a vital role in the success of our students, faculty, and staff. Your investment supports the best and brightest students with fellowships and scholarships, supports world-renowned faculty and their innovative research and teaching, and funds essential upgrades to laboratories, classrooms, and technologies.

To learn more about opportunities for support, please visit sib.illinois.edu/alumni, or contact Paul Winterbotham, Associate Director for Advancement, at paulww@illinois.edu.

Get a copy of the SIB Calendar!



Every year, our SIB community hosts a photography competition, with categories for organisms, landscapes, and scientists at work. These stunning photos are now available for our community to enjoy year-round with the SIB Calendar! This 18-month calendar runs from July 2023 to December 2024.

To request your free copy, please email your mailing address to Rose Schultz at rkeane3@illinois.edu. Your information will only be used for mailing the calendar and will not be stored. ❖