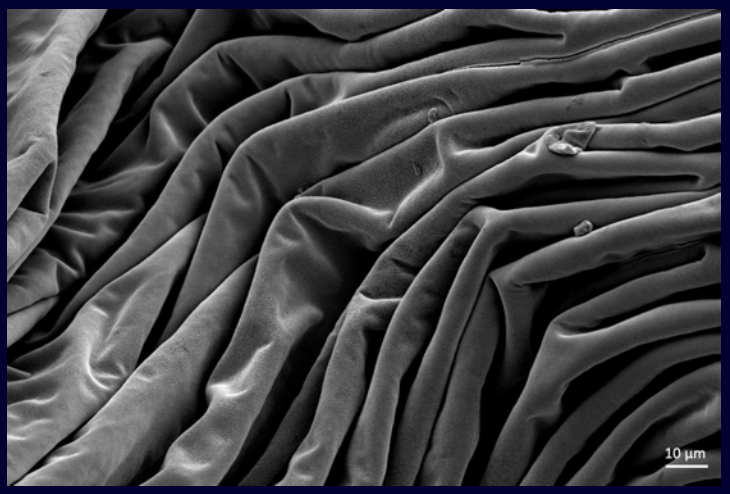
SCHOOL OF
INTEGRATIVE BIOLOGY

College of Liberal Arts & Sciences | UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

2022-2023 Annual Newsletter



WELCOME FROM OUR DIRECTOR AND HEADS OF DEPARTMENT

Dear Alumni and Friends,

As we start the 2023-2024 academic year, we find ourselves immersed in a time of growth and progress. The challenges of the past have shaped us, and we have emerged with valuable insights and experiences. As the semester approaches, we look forward to welcoming new faculty, staff, and students (both graduates and undergraduates).

The contagious enthusiasm that permeates our campus each fall, combined with the passion of graduate students, faculty, and research staff, sparks transformative research endeavors that seamlessly integrate into our teaching and outreach activities.

In this edition of the alumni magazine, we invite you to delve into the captivating projects that have unfolded in our Departments and School. Discover the exceptional contributions and accolades earned by our faculty and students. Immerse yourself in the stories of ingenuity and dedication that continue to shape the very fabric of our institution.

For those of you that haven't been back to campus lately, we encourage you to read on page 13 about the newest addition to our grounds, the majestic wooly mammoth statue. After years of planning for the Art in Architecture project associated with the renovation of the Natural History Building, our wooly mammoth now proudly patrols the south lawn. It has quickly become a favorite photo spot for students and their families, especially following our annual award ceremony and commencement.

Our gratitude knows no bounds for the unwavering support we receive from our esteemed donors. It is through their boundless generosity, from major contributions to smaller gifts, that we are able to offer named awards and sustain the "Alumni and Friends" fund, a lifeline of scholarship support for our deserving undergraduates.

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These invaluable contributions not only foster student and faculty research but also ignite innovative teaching initiatives and enable travel to national and international conferences, workshops, and research locations. We extend our heartfelt appreciation to each and every donor, and we stand forever grateful to our SIB friends and alumni who champion our endeavors.

If life ever brings you back to our vibrant town, we warmly invite you to visit us in 286 Morrill Hall. Additionally, stay connected with us through email at **sib@illinois.edu** or join us on social media (Facebook, Twitter, and Instagram) using the handle **@iBioIllinois**.

With warm regards,

Sincerely,

Carla E. Cáceres

Carla Cáceres

Director, School of Integrative Biology

Department of Entomology – May Berenbaum

AY2022-23 was a year of ups and downs not only for the world's insects (monarch butterflies are still in decline) but also for the Department of Entomology. The best news this year was being able to hire two new faculty members--Dominic Evangelista arrived in January 2023 as an assistant professor, bringing with him an abiding interest in insect biodiversity (particularly cockroaches) and evolution; he'll teach the systematics course for our graduate program and the Evolution course for the SIB major.

Xuguo "Joe" Zhou of University of Kentucky will be our new Endowed Chair of Insect Toxicology when he arrives in January 2024. Entomology faculty received both campus and external recognition this year; among these, Adam Dolezal received the Young Investigator Award from the MDPI journal Insects and Marianne (“M”) Alleyne served a term as President of the Entomological Society of America, the first assistant professor to do so. Her platform for her presidential year was to encourage entomologists to get involved in policy discussions involving insects.

Our graduate students continue to earn recognition locally and nationally, winning awards for posters and papers at the annual Entomological Society of America meeting as well as national competitive grants (including a USDA predoctoral fellowship). In addition to conducting research and teaching classes (for which many earn a place on the List of Teachers Rated Excellent by their Students), they participated in a wide variety of public engagement activities, including the 40th annual Insect Fear Film Festival (with living fossils as this year’s theme). Both faculty and graduate students mentored many undergraduates interested in learning more about the ways of the six-legged.

Also notable was the continued good will, ingenuity, and dedication of the faculty and graduate students, working to deliver the best possible educational experience for students, especially those whose UI tenure overlapped with the COVID pandemic and who missed out on many traditional events. This year we brought back old traditions and even developed a few new ones to ensure that all our students could get to know each other better and enjoy their UIUC experience.

Department of Evolution, Ecology, and Behavior – Becky Fuller

The Department of Evolution, Ecology, and Behavior (EEB) had a productive year, with faculty and students united in their desire to understand the relationship between environmental change and its impact on organisms across ecological and evolutionary timescales. Multiple faculty worked in polar regions, which are witnessing some of the most rapid rates of environmental change. Others worked closer to home, focusing on how changes in habitat (e.g., temperature, rainfall, and disease exposure) alter genomes, physiology, and behavior. SIB undergraduates were eager to work in these areas, and EEB faculty strove to provide meaningful opportunities to students in the field, laboratory, and classroom.

Last year, EEB garnered numerous awards for its members. Dr. Larry Page received the LAS Alumni Achievement Award for his dedication to the recognition and conservation of biodiversity. Dr. Alison Bell was recognized with the Campus Award for Excellence in Undergraduate Mentoring, for her successful guidance of numerous undergraduates and her work on a research program for community college students. Dr. Ken Paige secured a U.S. patent utilizing plant overcompensation to potentially enhance food production, showcasing the practical applications of foundational research. EEB graduate and post-doctoral students received awards from the National Science Foundation, UIUC, and scientific societies. And, of course, many SIB undergraduates received awards that allowed them to perform summer research with EEB faculty.

EEB remains committed to fostering an inclusive scientific environment. At the heart of our efforts is our weekly colloquium where we hear presentations of novel research, discuss recent findings, and hone scientific skills. We also feature alums who provide insight into non-academic career paths. Last year, Dr. Miles Bensky, an animal trainer at Purina, and Dr. Liza Mitchem, a data analyst at Syngenta, shared their experiences. EEB actively encourages alumni involvement, inviting insights and resources to guide students.

In summary, EEB's dynamic year encompassed impactful research, faculty and student achievements, and a commitment to maintaining a welcoming scientific environment. The department's dedication to excellence, inclusivity, and alumni engagement continues to shape a vibrant scientific community.

Department of Plant Biology – Andrew Leakey

The 2022/23 academic year has included many exciting successes in Plant Biology. I will mention just a handful of highlights here, but hope you enjoy more details in the later pages of this newsletter.

Two of the largest research grants on the UIUC campus are led by Plant Biology faculty and both received renewed funding commitments this year. The Center for Advanced Bioenergy and Bioproducts Innovation (CABBI) received a funding commitment of $137.5M for the next 5 years from the US Department of Energy. This will support Drs. Bernacchi, Chen, DeLucia, Leakey, Long, Marshall-Colon, Ort and Yang, plus collaborators at 20 partner institutions around the country, as they work towards making a domestic bioenergy and bioproducts industry economically and environmentally beneficial to our society.

The Realizing Improved Photosynthetic Efficiency (RIPE) project received a funding commitment of $34M for the next 4 years from the Bill and Melinda Gates Agricultural Innovations. This will support Drs. Ainsworth, Bernacchi, Leakey, Long, Marshall-Colon and Ort, plus collaborators at 6 partner institutions around the world, as they work towards providing food security in the face of global climate change.

The success that all Plant Biology faculty have had in winning these grants, and many others, has placed unprecedented pressure on our greenhouse facility to meet demand for space to perform experiments. Therefore, it is thrilling to be able to announce that Plant Biology has partnered with the School of Integrative Biology, Department of Crop Sciences, College of ACES, College of LAS, and the UIUC Provost's Office to fund the development of a new greenhouse and growth chamber complex. This will support new cutting-edge capabilities in high-throughput phenotyping and stable isotope labelling of plants and their associated microbes. I hope to bring you news of the facility opening in summer 2024.

We are also celebrating Wendy Yang being promoted to Professor and Li-Qing Chen receiving tenure and being promoted to Associate Professor. So, this year has been a great year for growth and progression, and we look forward to what 2023/24 has in store for us.

DEPARTMENTS AND PROGRAMS

DEPARTMENTS
Department of Entomology
Department of Evolution, Ecology, and Behavior
Department of Plant Biology

UNDERGRADUATE PROGRAMS
Integrative Biology
Integrative Biology Honors
IPS – Entomology
Teaching of Biology

GRADUATE PROGRAMS
Entomology
Evolution, Ecology, and Behavior (EEB)
Integrative Biology
Plant Biology
Program in Ecology, Evolution & Conservation Biology (PEEC)
Online Master of Science Teaching Biology Program (OMST)
Master of Science in Integrative Biology

SIB BY THE NUMBERS
2022-2023 Academic Year

STUDENTS
Undergraduate - 439
- Out-of-state – 8%
- International – 4%

Graduate – 143
- Entomology –31
- EEB – 23
- Plant Biology – 22
- PEEC – 44
- OMST – 13
- MS in IB – 10

DEGREES AWARDED
Bachelor of Science - 142
Minor – 27
Master of Science – 24
Doctor of Philosophy – 12

FACULTY
Professors - 17
Associate Professors – 8
Assistant Professors – 8

FUNDING

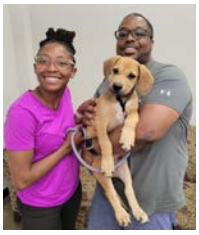
The School of Integrative Biology has been supported by:

- National Science Foundation
- National Institute of Health
- US Department of Agriculture
- US Department of Energy
- US Department of Education
- US Department of Defense
- Private Support from Alumni and Friends

Newsletter Design:
Rose Keane, Communications Coordinator | rkeane3@illinois.edu

NEW FACES AND **NEW FACULTY** IN SIB

Devin Althoff – Facilities Operations Coordinator - I assist with all facility needs: remodels, repairs, inventory, removal of equipment and lab safety. I started at the University in 2017 at the Department of Mechanical Science and Engineering working as an Inventory Specialist and then transitioning into the Facilities Operations Coordinator role. I have been a part of multiple lab clean outs and remodels and a 40-million-dollar renovation and addition to the Mechanical Engineering Building.



Manny Cain – Office Support Specialist - Hey! I'm Manny, the new Office Support Specialist in SIB. A little about me, I was born in Chicago Il, then moved here to Urbana Il where I attended UMS and UHS. I'm an avid Cubs, Bulls, and Bears fan. I graduated from Eastern Illinois University with my Bachelor of Applied Science in Business Management focusing on Human Resource Management. After I graduated, I worked for AT&T Mobility where I became a Sales Team Manager and headed several initiatives for new hire training and diversity and inclusion groups. I am also pursuing my MBA in Applied Management and Research Management at Eastern Illinois University. When I'm not working, I enjoy playing basketball, ultimate frisbee, videogames, reading and spending time with family, friends, and of course my wife.

Jon Irle – Accounting Assistant - I lived in Mahomet for about 25 years and eventually moved to C-U and have lived here since. This is my first time working at the U of I and am really excited to join the SIB team. My current role has me working as accounting support, which handles the bulk of iBuy and PCard orders submitted into SIB purchasing. This includes purchasing the products submitted and consolidating purchase orders and credit card transactions as they come through. I'm sure that is just the beginning as I continue to work and grow into this role. Outside of work, I enjoy playing games with my wife and friends (both board and video variety). My wife plans on opening a bake shop at some point, so I'm a part time guinea pig for her various tasty creations. When not at home, I'm usually trying out various restaurants in the area or kayaking.

Nagaveni Kamath – Accounting Assistant – I have been living in Champaign for the past 15 years and am excited about my new position with the School of Integrative Biology (SIB). I hold a Bachelor's Degree in Accounting and have previous experience as an Extra Help in the Department of Molecular and Cellular Biology for one year. I have also worked with the Champaign Public Library. In my free time, I enjoy spending time with my daughters, listening to music, traveling, and tending to my flower garden. In my role at SIB, my responsibilities include providing transaction-level support, ensuring compliance with University policies and procedures for purchasing, reviewing purchase requests for completeness and appropriateness, and verifying the availability of funds.

New Faculty: Nicholas Anderson – Lecturer and Academic Advisor - Nick transitioned to his new role as a Lecturer in SIB in spring 2023 after his graduate and postdoctoral training in Dr. Alex Harmon-Threatt's lab. His research explored new aspects of native bee ecology, including pesticide exposure for ground-nesting bees, the effects of habitat fragmentation and patch shape on bee movement, and the role of predators in shaping bee communities. One of his primary focuses has been creating opportunities for undergraduate researchers. Several of his published and upcoming manuscripts have undergraduate co-authors, including multiple undergraduate-first-authored manuscripts. He plans to continue this work in his new position. As a Lecturer, Nick teaches Genetics (IB 204; with Dr. Steven Burgess), Ecology and Human Health (IB 361; Dr. Brian Allan teaches on odd-numbered years), Sustainability and Global Change (IB 532), and Evolutionary Biology (IB 536). Nick will also provide academic advising for undergraduate students in the school. Learn more: **NickLAnderson.com.**

New Faculty: Dominic Evangelista – Assistant Professor of Entomology – Dominic is a native New Yorker, did his university education in New Jersey, and did two post-docs while living in Paris, France from 2016-2018. Starting in spring 2023, Dominic Evangelista joined SIB from Adelphi University in Long Island. He is excited to begin teaching Evolution, and Insect Classification & Evolution in the coming year. He calls his lab The Roach Brain Lab because "we use our brains to study biodiversity through molecular systematics". His research focuses on everything from phylogenetic methods, tropical insect biodiversity, and macro-evolutionary patterns." While growing his lab here at UIUC, Dominic is also raising a toddler at home, reading fantasy novels, and listening to heavy metal. Dominic's trusted lab members are: Johanna Schwartz (PhD student) who is studying insect wing-evolution; Jared Martin (MS student) who is studying taxonomic bias in applications of divergence dating methodology; and recent graduate Kim Drager PhD who as lending her experience towards furthering lab goals. Learn more: **www.roachbrain.com.**

FACULTY PROMOTION

Phil Anderson - Associate Professor of Evolution, Ecology, and Behavior - A major area of study in Dr. Phil Anderson's lab is exploring the mechanics of cutting and puncture in nature. This involves experimental testing of different biological tools used to inflict damage (teeth, spines, claws) as well as the resistance of various biological tissues to cutting or puncture. Dr. Anderson's work utilizes a range of experimental, theoretical and analytical methods from biology, paleontology and engineering to address a variety of topics, including experimental failure mechanics, high speed kinematics, theoretical modeling of cutting and puncture, and comparative biomechanics. At the core of work in the Anderson lab is the idea that the fundamental laws of physics have influenced evolutionary processes over the last billion years, and we can learn a great deal about modern biodiversity by exploring the relationship between physics and biology.

Katy Heath – Professor of Plant Biology – Dr. Katy Heath's research focuses on the evolution of mutualisms, which are most generally defined as species interactions that increase the fitness of both (or all) partners. Thought mutualisms might appear tightly coevolved, instead they may be characterized by temporal and spatial heterogeneity, cheating, even evolutionary instability. Dr. Heath takes a multidisciplinary approach and uses diverse methods from the fields of quantitative genetics, population genetics, molecular biology, and ecology to understand multiple aspects of mutualism evolution. Her work current work examines the i) the conditions (abiotic and biotic) that cause mutualisms to evolve, remain stable, or break down, ii) the phenotypic and genetic variability of mutualistic interactions, including how and why such variation is maintained, and iii) the genetic components driving mutualism and coevolution.

Allison O'Dwyer - Assistant Director for Academic Affairs - Allison assists with all things courses and curricula for the School, including facilitating the new SIB Paid Undergraduate Classroom and Research Assistantships. In addition to her role as Senior Instructor, she also serves as Director of Graduate Studies for the Online Master of Science Teaching Biology (OMST) program and the MS in IB program, which recently celebrated the convocation of its first cohort of students. The new IB in Vienna study abroad opportunity was also recently developed under Allison's oversight as Director of Study Abroad for SIB. Her background includes research in algal ecology as well as serving as a K-12 Biology educator.

FACULTY NEWS

DOE renews Center for Advanced Bioenergy and Bioproducts Innovation for five more years

The U.S. Department of Energy (DOE) has announced a five-year extension of funding for the Center for Advanced Bioenergy and Bioproducts Innovation (CABBI), to a total of $262.5 million for the period from 2017 to 2027. Andrew Leakey (center), professor and head of plant biology, will continue as director of CABBI. "Energy independence has become an increasingly important security issue, and CABBI will continue to provide breakthroughs toward a new generation of sustainable, cost-effective biofuels and bioproducts that will replace fossil fuel-based products," Leakey said. During Phase II, CABBI researchers will continue to develop fuels and products by integrating three highly interconnected DOE priority areas – feedstock production, conversion, and sustainability."One of the best ways for our nation to strengthen our competitiveness with the rest of the world is to enhance the brilliance that already exists right here in Illinois," U.S. Sen. Tammy Duckworth, D-Ill., said in the DOE news release. "I'm pleased that CABBI […] will support groundbreaking research on clean energy, create jobs, address climate change and further secure Illinois' place as a global leader."

Additional SIB faculty conducting research as part of CABBI include: Li-Qing Chen (assistant professor of plant biology), Evan H. Delucia (professor emeritus of plant biology), Angela Kent (PEEC director and professor of natural resources and environmental sciences), Stephen Long (professor of crop sciences and plant biology), Amy Marshall-Colon (associate professor of plant biology), Don Ort (professor of plant biology), and Wendy Yang (associate professor of plant biology).

Read more about the renewal: **go.illinois.edu/CABBI-Renewal**

FACULTY NEWS

Corn genetic heritage the strongest driver of chemical defenses against munching bugs

Recent research explores the factors that contribute to corn plants' chemical signaling capacity, comparing how different corn varieties respond to herbivory in the presence or absence of a soil bacterium known to promote plant health. Esther Ngumbi (left), professor of entomology, led the research with natural resources and environmental sciences professor and PEEC Director Angela Kent (right) and Ph.D. candidate Sierra Raglin (center).

The researchers grew six varieties of corn in live or sterile soil in a greenhouse experiment. Some of the corn seeds were inoculated with the bacillus before planting. After four weeks, the scientists subjected the corn plants to corn earworm larvae and analyzed the volatile compounds the plants produced. Results revealed that the six corn varieties the team tested responded differently to munching bugs. Some varieties produced more or a greater diversity of volatile compounds than others. The presence or absence of the bacterium appeared to make little difference to those responses. Only one type of maize seemed to respond to the soil microbe by increasing its overall production of volatile compounds. More research is needed to determine whether this enhances its defenses, the researchers said.

Read the full story: **go.illinois.edu/Ngumbi-Kent**

Cowbird chicks do best with two warbler nest mates, study finds

Brown-headed cowbirds are generalist brood parasites, laying their eggs in the nests of many other bird species and letting the host parents raise their young. A new study seeks to understand the strategies cowbird chicks use to survive in prothonotary warbler nests when they hatch with different numbers of warbler nestlings. The study reveals that a cowbird chick does better with two than with four or zero warbler nest mates.

If a cowbird ends up in a prothonotary warbler nest with four host chicks, the cowbird either perishes or the number of warbler chicks drops, usually to two, the study found. This suggests that cowbirds engage in what the naturalist Charles Darwin called "niche construction," modifying their environment to enhance their own survival, the researchers said. "Brood parasites like brown-headed cowbirds lay their eggs in the nests of so many different species, we wanted to know about one really important aspect of how they make a go of it in a world that, when they hatch, could be any one of 200 different scenarios," said Nicholas Antonson, a Ph.D. graduate who led the study with Mark Hauber, professor of EEB.

Read the full story: **go.illinois.edu/Antonson-Hauber**

New model calculates the energetics of natural biological weapons – fangs!

Researchers have created a model that can calculate the energetics involved when one organism stabs another with its fangs, thorns, spines or other puncturing parts. Because the model can be applied to a variety of organisms, it will help scientists study and compare many types of biological puncturing tools, researchers said. It also will help engineers develop new systems to efficiently pierce materials or resist being pierced. To develop a model that can be applied to a variety of systems, EEB professor Phil Anderson and postdoctoral researcher Bingyang Zhang determined the key factors that must be included in any calculations of the energetics involved. These include changes in the kinetic energy as the puncturing tool is used, but also take into account the material properties of the target tissue.

Anderson is deploying the new model to aid his studies of puncturing organisms like viper fangs, stingray spines and parasitoid wasp ovipositors. "If we know the morphology or the shape of the damage created by a puncture tool, we can use this model to predict how much energy was expended during a puncture scenario," Zhang said. "Or we can predict different aspects of the material's property, for example, how it will fracture, which will be useful in both engineering and biological applications."

Read the full story: **go.illinois.edu/Anderson-Zhang**

FACULTY NEWS

U of I experts share perspectives on food production and climate change on PBS NewsHour special event "Tipping Point"

The University of Illinois hosted the special event "Feeding a Heating Planet" — the third and final edition of the PBS NewsHour series "Tipping Point: Agriculture on the Brink." The program explored possible solutions for a sustainable future, such as biotech approaches, to make farming more climate-resilient; the role remote sensing, data analysis, modeling, and artificial intelligence can play in planting smarter; crop diversification as a strategy for making agriculture carbon negative; erosion and water quality issues that can be addressed by relatively simple techniques like reduced or no-tillage and cover cropping; and the role the federal government could play in creating incentives for change in the 2023 Farm Bill.

Andrew Leakey, head of plant biology and professor of crop sciences, and head of the Center for Advanced Bioenergy and Bioproducts Innovation (CABBI), discussed research aimed at developing crops with improved water-use efficiency. Stephen Long, professor of plant biology and crop sciences and director of the Realizing Increased Photosynthetic Efficiency (RIPE) project, delved into efforts to identify and intervene at the genetic level to enhance crop resilience to high temperatures.

Read the full story: **go.illinois.edu/PBS-Tipping-Point**

Icefish species underwent major genetic changes as it migrated to temperate waters

Many animals have evolved to tolerate extreme environments, including the ability to survive crushing pressures of ocean trenches, unforgiving heat of deserts, and limited oxygen high in the mountains. These animals are often highly specialized to live in these specific environments, limiting them from moving to new locations. Yet, there are rare examples of species that once lived in harsh environments but have since colonized less extreme settings. Angel Rivera-Colón (left), a former graduate student now postdoc in the lab of Julian Catchen (right, associate professor in EEB), explores the genetic mechanisms underlying this anomaly in Antarctic Notothenioid fish.

Antarctic notothenioids, or cryonotothenioids, have evolved to live in the freezing waters around Antarctica, where most fish would otherwise freeze. However, cryonotothenioid fish survive in these waters due to antifreeze glycoproteins they produce in their cells. One species, the pike icefish *Champsocephalus esox*, has escaped Antarctica and is now found in warmer, less oxygenated, South American waters. After analyzing their DNA sequences, researchers found that while their genomes are similarly organized to that of closely related Antarctic species, certain regions of the genome in pike icefish populations show genetic alterations associated with the physiological changes required to transition from polar to temperate environments.

Read the full story: **go.illinois.edu/RiveraColon-Catchen**

In Florida study, nonnative leaf-litter ants are replacing native ants

A new look at decades (1965-2019) of data from museum collections and surveys of leaf-litter ants in Florida reveals a steady decline in native ants and simultaneous increase in nonnative ants – even in protected natural areas of the state. Nonnative ants represented 30% of ground-dwelling species detected across the state in later years. Nonnative ants are most likely arriving with goods transported to Florida from around the world, and the findings point to a potential future where nonnative species outnumber native ants throughout the state. "These native ants rely on the litter that accumulates under trees and other plants," said Andrew Suarez (left), professor of EEB and entomology. "These communities are sensitive to habitat loss, especially the loss of canopy trees," he said. "They also are very susceptible to heat and water stress, as they require humid environments."

Read the full story: **go.illinois.edu/Suarez-FloridaAnts**

FACULTY NEWS

Honeybees prosper with quality, not quantity, of food

Honey bee workers collect pollen and nectar from a variety of flowering plants to use as a food source. However, much of the modern landscape consists of agricultural fields, which limits the foraging options for honey bees in these areas, especially when crops decline at summer's end. Adam Dolezal (right, assistant professor of entomology) and Ashley St. Clair (left, postdoctoral researcher) examined how agricultural landscapes can impact the type of food the honey bees bring in, and if this food then affects the queen's production of eggs. Their study involved two components. The first involved placing honey bee colonies across differing agricultural vs wildflower prairie landscapes, and measuring the species and amount of pollen collected, as well as the number of eggs laid by the queen. For the second part of the study, the researchers used small microcolony honey bee boxes to test the question of nutritional impacts on egg laying in a controlled laboratory setting, the first study replicate a field experiment in this way. In line with what was found in the field, queens laid more eggs under the prairie diet compared to those under the crop or primrose diet. The results from both the field and lab components of the study suggest that honey bee colonies do better when given a diverse diet, as would be found in a field of prairie flowers, compared to a less diverse diet of crops.

Read the full story: **go.illinois.edu/StClair-Dolezal**

Understanding cooperation and conflict in plant symbionts

The traditional idea of symbiosis—long-term interactions between two organisms—is that the participants mutually benefit each other. Genomic sequencing research from the Heath lab (conducted by Katy Heath, professor of plant biology, and Rebecca Batstone, former postdoctoral fellow at the IGB) examines whether the genes that benefit symbionts may benefit or cost the hosts they inhabit. In their study, the researchers examined naturally occurring 191 strains of the microbial symbiont Sinorhizobium meliloti (bacteria), paired with its host Medicago truncatula, a clover-like plant native to the Mediterranean region. The goal of the study was to determine, at the genomic level, how much alignment there is between hosts and symbionts versus how much conflict. The researchers paired each microbial strain with an individual plant and also used a mix of different strains and infected the same plant, a competitive situation that often occurs in nature. Using a technique called genome-wide association, they were able to compare which bacterial genes are associated with plant growth. When they compared how many symbiont genes align with the host's interest, they found that almost 80% of the genes that they identified seemed to be associated with alignment. Results show that even though the symbionts are not evolving in order to benefit their hosts, it often pays for them to be beneficial.

Read the full story: **go.illinois.edu/Batstone-Heath**

Interdisciplinary team receives college funding for Student Success Initiatives

Lily Arias (Faculty Director of the SIB Merit Program) was part of a team of colleagues from chemistry, mathematics, SIB and MCB that received funding from the College of LAS to provide additional mentoring and co-curricular work experiences to underrepresented students across the college. Funding for the LAS Student Success Initiatives was granted for ideas that led to innovative and inclusive curricula and/or pedagogy, took advantage of new technologies and lessons from the pandemic to enhance ways of learning, created and supported diverse student experiences, increased access and opportunities for historically underserved students, and addressed the recruitment and retention of first-generation students and historically underrepresented ethnic and racial minority students. The LAS Merit Programs are proposing to establish a second eight-week fall course and full semester spring course that includes both a majors-based mentoring network and professional development for LAS Merit students, and sponsorship of paid major-related co-curricular experiences for LAS Merit students, including but not limited to undergraduate research, teaching, and other laboratory experiences.

Read the full story: **go.illinois.edu/LASMerit-StudentSuccess**

FACULTY NEWS

Researchers prove bioengineering better photosynthesis increases yields in food crops

A collaborative team led by the University of Illinois has transgenically altered soybean plants to increase the efficiency of photosynthesis, resulting in greater yields without loss of quality. Photosynthesis, the natural process all plants use to convert sunlight into energy and yield, is a surprisingly inefficient 100+ step process that RIPE researchers have been working to improve for more than a decade. The group up-regulated the VPZ construct (three genes that help in the photoprotection of plants) within the soybean plant to improve photosynthesis and then conducted field trials to see if yield would be improved as a result. The researchers first tested their idea in tobacco plants because of the ease of transforming the crop's genetics and the amount of seeds that can be produced from a single plant. Once the concept was proven in tobacco, they moved into the more complicated task of putting the genetics into a food crop, soybeans. "Having now shown very substantial yield increases in both tobacco and soybean, two very different crops, suggests this has universal applicability," said Stephen Long, study co-author, Ikenberry Endowed University Chair of Crop Sciences and Plant Biology, and RIPE Director. "Our study shows that realizing yield improvements is strongly affected by the environment. It is critical to determine the repeatability of this result across environments and further improvements to ensure the environmental stability of the gain." Steven Burgess, assistant professor of plant biology, was also a co-author on the study.

Read the full story: **go.illinois.edu/Long-Burgess-Photosynthesis**

STUDENT NEWS

Following in the footsteps of early 20th century naturalist Elizabeth Kerr

With an all-female team of Colombian ornithologists, PEEC graduate student Juliana Soto follows in the footsteps of early 20th century naturalist Elizabeth Kerr, who collected wild bird specimens in Colombia. "When preparing for this expedition, I discovered that Elizabeth Kerr, a naturalist and collector, had visited Colombia in the early 20th century and contributed significantly to the knowledge of birds and mammals from this part of the world. She worked, mostly alone, at a time when women had very limited access to education and scientific expeditions. For me and my female colleagues in ornithology, the discovery meant a lot. Kerr's contributions had been lost, forgotten, hidden in history. Today, our team of female ornithologists is reviving her memory by following in her footsteps."

Read Juliana's full account: **go.illinois.edu/Soto-Kerr**

Get to Know: Colby Behrens, EEB PhD Student

It would be challenging to find someone who became interested in animal behavior at a younger age than Colby Behrens. Growing up on a dairy farm in northeast Iowa, Behrens says he learned early on the importance of understanding the behavioral cues of animals. "If you're going to be around cattle, you have to know when it's safe to stand behind them, or which direction they'll move, or if they're ok with people approaching them. So, I became very interested in behavior when learning about the behavior of our farm animals and how to interact with them properly." Behrens' doctoral research in the Bell lab looks specifically at two different populations of Gasterosteus aculeatus, the three-spined stickleback: The common morph and white morph. These two populations are genetically very similar, and often overlap in the habitats they preside in, but they display drastically different parental behavior. These differences make stickleback fish an excellent system to test the interplay between genomics and behavior. Using transcriptomics and QTL mapping, he can measure expression of genes in the brains of the fish, and then associate genotypes with phenotypic behaviors. The two populations of fish can also interbreed in the lab, which allows Behrens to see how changes in parental care across generations changes with the mixing of genotypes from the two species.

Read more from Colby: **go.illinois.edu/Profile-ColbyBehrens**

STUDENT NEWS

25th Annual Graduates in Ecology & Evolutionary Biology (GEEB) Symposium

The 25th Annual GEEB Symposium took place February 3rd, 2023, and was jointly sponsored by GEEB, the Program in Ecology, Evolution, and Conservation Biology (PEEC), and the departments of Ecology, Evolution, and Behavior (EEB); Entomology; Plant Biology; and Natural Resources and Environmental Sciences (NRES).

GEEB is a registered student organization (RSO) at the University of Illinois, consisting of graduate students conducting research related to the disciplines of ecology and evolutionary biology. The fundamental goal of this organization is to coordinate and unite graduate students from various departments through their interests in ecology and evolutionary biology.

At the symposium, graduate researchers presented on their work through posters and talks, covering topics such as poison frog hormones and cannibalism (Lisa Surber), sexual dimorphism in killifish (Kasey Brockelsby), pesticidal protein effects on small hive beetle mortality (Benjamin Chiavini), *Daphnia* disease dynamics (Jeannette Cullum), and much more.

The winners of the 2023 GEEB Symposium are:

Best Poster:
Winner: Jeannette Cullum
Runner up: Abby Weber

Pre-Prelim/Master's Lightning Talk:
Winner: Kasey Brockelsby, Benjamin Chiavini
Runner up: Kat Soto

Post-Prelim Lightning Talk:
Winner: Lisa Surber
Runner up: Kevin Ricks

Learn more**: www.life.illinois.edu/geeb**

Twitter: **@GEEBatUIUC**

40th Annual Insect Fear Festival

For the past 40 years, the U of I Entomology Graduate Student Association has been working to ameliorate some of the negativity associated with insects by hosting the annual Insect Fear Film Festival (IFFF). The festival's tagline is "scaring the general public with horrific films and horrific filmmaking."

The theme for the 40th annual IFFF, held in person for the first time since 2020, was **Living Fossils**. The festival featured an art exhibition by local K-12 students and a question-and-answer session with Jacob Lenard, creator of Pike's Lagoon (one of the screened shorts). Guests enjoyed several living fossil related films, including the 2021 horror/comedy "Crabs!" and the 1957 film "The Monster that Challenged the World," about a giant velvet worm.

The living fossils included cockroaches and dragonflies, which are insects, and horseshoe crabs and velvet worms, which are not. Horseshoe crabs are not really crabs either, but ancient relatives of spiders. They and other featured creatures look identical to fossils dating from 350-450 million years ago.

An insect petting zoo was also included. Guests were able to touch real, live horseshoe crabs and cockroaches alongside several other insects. "Personally, I find it very rewarding to show off living insects in the insect petting zoo," said Edward Hsieh, graduate student in entomology and EGSA president. "It's very cool to see people hold a tarantula for the first time." The event also featured insect-related crafts and a Bugscope, a scanning electron microscope at the Beckman Institute, which showed magnified images of fossils. The Funk ACES Library hosted a display of 40 years of festival memorabilia, including posters, t-shirts, and other artifacts from previous Insect Fear Film Festival

Visit the Insect Fear Film Festival website:
go.illinois.edu/egsa-ifff.

Read the article about this year's festival:
go.illinois.edu/40th-IFFF

ALUMNI NEWS

Dr. Larry Page and Ambassador Eric Whitaker receive LAS Achievement Award

Currently the curator of fishes at the Florida Museum of Natural History, Lawrence M. Page (MS, '68; PhD, '72, zoology) has dedicated his career to describing and protecting biodiversity, particularly freshwater fishes. He conducted research and taught at the University of Illinois for more than 30 years, publishing more than 200 papers and nine books.

Ambassador Eric P. Whitaker (BS, '78, biology; MS, '81, health education) devoted his career to public service, serving in various roles with the U.S. Foreign Service and Department of State and as U.S. Ambassador to Niger from 2017 to 2021.

Learn more: **go.illinois.edu/2023LASAlumniAwards**

Joseph Frumkin with the Lincoln Park Zoo shares his thoughts with LAS

Joseph Frumkin is the guest engagement coordinator with Lincoln Park Zoo. From designing public education presentations to managing the fellowship program, Frumkin has found that informal education diving into animal care and conversation combines skills that he honed while studying at Illinois.
"Many classes I took had components that focused on group discussion and collaboration. I use these skills daily in every role I have ever held. Classes like field ecology, herpetology, insect ecology, and more all encouraged group learning through collaborative labs and research projects. These opportunities were perfect in allowing me to both share my passions with my peers, but also to learn from their interests.

Learn more: **go.illinois.edu/LASatWork-Frumkin**

Get to Know Tanya Josek, microscopist with the Beckman Institute

Tanya Josek (right), is a microscopist in the Microscopy Suite of the Beckman Institute, training individuals on equipment like the environmental scanning electron microscope, or ESEM. They are also one of the individuals who is in charge of our outreach program, Bugscope, where K-12 classrooms send in insects and virtually view them on our ESEM. The Beckman Institute recently profiled Tanya as part of their Get to Know Beckman series. Tanya graduated from the U of I with a B.S. in Entomology and Chemistry, an M.S. in Entomology, and a Ph.D. in Entomology.

Learn more: **go.illinois.edu/Beckman-Josek**

2023 Alum Aynur Namik receives U.S. Department of State Critical Language Scholarship

Aynur Namik (James Scholar) received a U.S. Department of State Critical Language Scholarship to study foreign languages this summer. The scholarship program is part of an initiative to expand the number of Americans studying and mastering critical foreign language and cultural skills to enable them to contribute to U.S. economic competitiveness and national security. Aynur will study Korean at Pusan National University, Republic of Korea. She will begin dental school at the University of Illinois Chicago this fall with the goal of providing care to Korean populations.

Learn more: **go.illinois.edu/CriticalLanguageScholarship-Namik**

FACULTY AWARDS

USDA-ARS and plant biology researcher Lisa Ainsworth and plant biology professor Don Ort named to the Clarivate Analytics Highly Cited Researchers List

Lisa Ainsworth (research plant physiologist with USDA-ARS and professor of plant biology and crop sciences) and Don Ort (Robert Emerson Professor of Plant Biology and Crop Sciences) were both named to the Clarivate Analytics Highly Cited Researchers List. The list recognizes leading researchers in the sciences and social sciences from around the world who have produced multiple papers ranking in the top 1% by citations for their field.

EEB professor Alison Bell received the 2023 Campus Award for Excellence in Guiding Undergraduate Research

Alison Bell, professor of evolution, ecology, and behavior, received the 2023 Campus Award for Excellence in Guiding Undergraduate Research. The award is designed to foster and reward excellence in involving and guiding undergraduate students in scholarly research. Dr. Bell has provided undergraduate research opportunities through multiple venues, including her lab, her teaching, and a Research Experiences for Undergraduates grant.

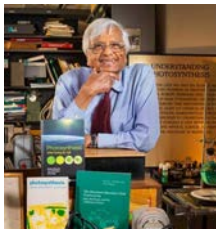
Entomology assistant professor Adam Dolezal named winner of the 2022 Young Investigator Award by journal *Insects*

Adam Dolezal, assistant professor of entomology, received the 2022 Young Investigator Award by the journal *Insects*. The award recognizes ground-breaking research and significant contributions to the advancement of entomology. Dr. Dolezal's research interests are in physiology, genes and behavior and honey bee biology.

EEB assistant professor Eva Fischer named a 2022 Lincoln Excellence for Assistant Professors Scholar

Assistant professor of EEB Eva Fischer received a LEAP Scholar award from the College of LAS. The award is granted to faculty early in their career based on scholarly productivity and contributions to the educational mission of their departments and the College of LAS.

Plant biology professor emeritus Govindjee receives Lifetime Achievement Award



Plant biology professor emeritus Govindjee is a recipient of a Lifetime Achievement Award from the International Society of Photosynthesis Research for pivotal discoveries into the mechanisms that drive photosynthesis in plants and algae.

Plant biology assistant professor Mark Lara receives Early Career Award from the American Geophysical Union

Mark J. Lara, assistant professor of plant biology and geography & geographic information science, received the 2022 Global Environmental Change Early Career Award from the American Geophysical Union. The award recognizes outstanding contributions in research, educational, or societal impacts in the area of global environmental change. Dr. Lara received the award in recognition of his work advancing knowledge of the causes and consequences of past and projected global carbon climate feedbacks from thawing permafrost.

FACULTY AWARDS

Plant biology professor and head of department Andrew Leakey named a 2022-2023 President's Executive Leadership Program Fellow

Andrew Leakey, plant biology professor and head of department, was named a 2022-2023 President's Executive Leadership Program Fellow. The program designed to broaden participants' understanding of higher education issues and to strengthen their leadership skills related to overseeing a public institution at the university or system level.

Associate professor of plant biology Amy Marshall-Colon has project selected for Environmental Molecular Sciences Laboratory's Exploratory Call

Amy Marshall-Colon, associate professor of plant biology, was selected by the Environmental Molecular Sciences Laboratory from its annual Exploratory Call. Her project seeks to expand our understanding of stem cell types and the metabolic dynamics between them.

Plant biology associate professor Surangi Punyasena named Fellow of the National Center for Supercomputing Applications

Surangi Punyasena, associate professor of plant biology, was named a Fellow for the 2022-2023 year by the National Center for Supercomputing Applications. The program provides seed funding for new collaborations. Her project aims to develop an intelligent web-accessible palynology image analysis platform (PALYIM) integrating high-throughput high-resolution imaging and computer vision to tackle the long-standing problem of fossil pollen identification.

CAMPUS NEWS

A woolly mammoth tribute to Illinois history arrives on campus

A new mammoth sculpture is rearing its head on the same ground where real mammoths wandered 30,000 years prior. That's even older than the neighboring Natural History Building (NHB), built in 1892, from where the sculpture draws inspiration.

The sculpture is designed to depict and communicate in a realistic, naturalistic, or even abstract way, an aspect of the geological and biologic history of Illinois.

Learn more: **go.illinois.edu/Mammoth**

Plant Biology Graduate Contact Ellen Lindsey highlighted by LAS

Ellen Lindsey, the office manager and graduate contact for plant biology, has spent 24 years working for the U of I in a variety of capacities, but she has been a visitor to campus throughout her life. The College of LAS interviewed Ellen and her experience as part of their Staff Spotlight series.

Read the interview: **go.illinois.edu/Ellen-Lindsey**

Altgeld Hall renovations begin transformation of historic campus landmark

Restoration work has begun on Altgeld Hall. This includes structural repairs to the exterior—including the bell tower, which will be closed temporarily for the work—and rebuilding a glass dome over the library in the same style as the original that was taken down in 1942.

Learn more and take a virtual tour of the renovated space: **go.las.illinois.edu/Altgeld-Renovation**

STUDENT AWARDS

UNDERGRADUATE STUDENT AWARDS

Delcomyn International Study in Biology Award
The 2023 Panama and Belize Study Abroad Courses

Robert H. Davis Memorial Award
Catherine La

Robert H. Davis Excellence Award
Chloe Zant

Camp Family Research Award
D.J. Thomas
Michelle Villalobos

Spyros Kavouras Summer Research Award
Jada Powell

Joann Kavouras Memorial Scholarship
Alexandra Johnson

iBio Summer Internships
Victoria Abuwa
Eliana Eng
Abby Stiefvater
Isabella Strohmeier

Oliver J. Bell Merit Scholarship in IB
Chase Schwartz

Judy Willis Scholarship
Lauren Moy

IBH Sophomore Achievement Scholarship
Emma Schwaiger

IBH Junior Achievement Scholarship
Ivan Valishev

Richard Ware Scholarship
Greta Keilman

Mildred Parizek Zukor Award
Carly Kallembach

Dr. Stewart D. Fordham Award
Hannah Caraway

Dr. Kirk and Mrs. Shannon Moberg Scholarship
Autumn Bush

Chester W. and Nadine C. Houston Scholarships
Grace He
Gabi Kulach
Emmanuelle Newlin
Donghyun (Noel) Seo

Alumni and Friends Awards:

Anderson-Robertson Scholarship
Dylan Kolak

Backas Scholarship in IB
Emmanuelle Newlin

Forte Scholarship in IB
Anastasia Pasynkov
Catherine Pavilionis
Donghyun (Noel) Seo

Hayes Scholarship in IB
Alyson Ficca
Max Garmon
Grace He

Keppler Scholarship in IB
Samantha Simmons
Maha Syed
Michael Tang

SIB Alumni and Friends Award
Autumn Bush
Destini Coleman
Varun Chovatia
Greta Keilman
Gabi Kulach
Alexandra Johnson
Michael Tang

SIB HONORS

Distinction
Evan Brown
Noellen Brown
Madison Caliendo
Julia Grezegorczyk
Faith Marie Losbanes
Kathleen O'Brien
Shreyas Rajagopalan
Alexis Rhoades
Anna Zallek

High Distinction
Harmen Alleyne
Nathan Brown
Damaris Miranda
Megan Ray
Abigail Rich
Alison Ross

Highest Distinction
Thomas Bludgen
Hannah Caraway
Shaw Kagawa
Thomas Parrish
Tara Pavithran
Madeleine Shapiro
Elizabeth Turchin

UNIVERSITY HONORS

Bronze Tablet
Hannah Caraway
Alexis Rhoades

Chancellor's Scholars
Hannah Caraway

James Scholars
Uma Basole
Carina Barillas
Evan Brown
Cherrie Camis
Hannah Caraway
Aynur Namik
Kathleen O'Brien
Tara Pavithran
Shreyas Rajagopalan
Alexis Rhoades
Alexander Wilson

Phi Beta Kappa
Hannah Caraway
Alexis Rhoades

STUDENT AWARDS

GRADUATE STUDENT AWARDS

Robert Emerson Memorial Award
Sulagna Chakraborty (Advisor: Brian Allan)

Isabel Norton Award
Jason Karakehian (Advisor: Andrew Miller)

Lebus Graduate Scholars Awards
Malika Venu (Advisor: Gene Robinson)

Harley J. Van Cleave Research Award
Tristan Barley (Advisor: Adam Dolezal)
Neal Benjamin (Advisor: Al Roca)
Rebecca Cloud (Advisor: Carla Cáceres)
Siti Fauziyah (Advisor: Marianne Alleyne)
Edward Hsieh (Advisor: Adam Dolezal)
Lance Jones (Advisor: May Berenbaum)
Meghan Maciejewski (Advisor: Alison Bell)
Derek McFarland (Advisor: Brian Allan)
Sam Mowery (Advisor: May Berenbaum)
Abbigail (Abbi) Turner (Advisor: Mark Hauber)
Patrick Wilson (Advisor: Carla Cáceres)

Francis M. and Harlie M. Clark Summer Fellowships
Lisa Surber (Advisor: Eva Fischer)
Scott Lakeram (Advisor: Surangi Punyasena)

Francis M. and Harlie M. Clark Research Support Grant
Kasey Brockelsby (Advisor: Becky Fuller)
Facundo Fernandez-Duque (Advisor: Mark Hauber)
Seldon Kwafo (Advisor: Justin McGrath)
Kevin Neumann (Advisor: Alison Bell)
Vincent Prayugo (Advisor: Adam Dolezal)
Simran Singh (Advisor: Dan Miller)
Katharina (Kat) Soto (Advisor: Eva Fischer)
Jonathan Tetlie (Advisor: Alex Harmon-Threatt)
Michelle Zambrano (Advisor: Lisa Ainsworth)

Mary F. Willson Graduate Research Fund
Ratna Karatgi (Advisor: Becky Fuller)

PROGAM IN ECOLOGY, EVOLUTION, AND CONSERVATION BIOLOGY (PEEC) AWARDS

PEEC Summer Stipend Award
Noah Brown (Advisor: Tony Yannarell)
Yutao Chen (Advisor: Marianne Alleyne)
Roberto Cucalon Tamayo (Advisor: Milton Tan)
Jonah Dominguez (Advisor: Mark Hauber)
Facundo Fernandez-Duque (Advisor: Mark Hauber)
Brian Graves (Advisor: Ripan Malhi)
Chuck Hyde (Advisor: Wendy Yang)
Ratna Karatgi (Advisor: Becky Fuller)
Derek McFarland (Advisor: Brian Allan)
Maria Muñoz (Advisor: Brian Allan)
Lauren Otolski (Advisor: James Dalling)
Fabian Pallo Rivadeneira (Advisor: Ken Paige)
Katharina (Kat) Soto (Advisor: Eva Fischer)
Malavika Venu (Advisor: Gene Robinson)
Sarah Winnicki (Advisors: TJ Benson & Mark Hauber)
Fahren Zackery (Advisor: Brian Allan)
Ilana Zeitzer (Advisor: Tony Yannarell)

PEEC Summer Research Grant
Noah Brown (Advisor: Tony Yannarell)
Yutao Chen (Advisor: Marianne Alleyne)
Rebecca Cloud (Advisor: Carla Cáceres)
Jonah Dominguez (Advisor: Mark Hauber)
Facundo Fernandez-Duque (Advisor: Mark Hauber)
Katheryn Fitzgerald (Advisors: Joy O'Keefe, Cory Suski)
Ratna Karatgi (Advisor: Becky Fuller)
Derek McFarland (Advisor: Brian Allan)
Kevin Neumann (Advisors: Andy Suarez, Alison Bell)
Lauren Otolski (Advisor: James Dalling)
Katharina (Kat) Soto (Advisor: Eva Fischer)
Malavika Venu (Advisor: Gene Robinson)
Ilana Zeitzer (Advisor: Tony Yannarell)

STUDENT AWARDS

ENTOMOLOGY AND ILLINOIS NATURAL HISTORY SURVEY (INHS) AWARDS

Entomology Undergraduate Research Award
Madeleine Shapiro (Advisor: Adam Dolezal)

Herbert Holdsworth Ross Memorial Awards
Thomas McElrath
Tomas Najer
Juliana Soto Patiño (Advisor: Kevin Johnson)

Phillip W. Smith Memorial Award
K.C. Carter
Isabel Dalton

William H. Luckmann Award
Sagnika Das

Fred H. Schmidt Summer Scholar
Miles Arceneaux (Advisor: Esther Ngumbi)
Xavier Carroll (Advisor: Marianne Alleyne)
Phillip Hogan (Advisor: Ed DeWalt)
Jared Martin (Advisor: Dominic Evangelista)

Entomology Summer Stipend Award
Elizabeth Bello (Advisor: Marianne Alleyne)
Kat Coburn (Advisor: Tommy McElrath)
Erinn Dady (Advisor: Marianne Alleyne)
Siti Fauziyah (Advisor: Marianne Alleyne)
Phillip Hogan (Advisor: Ed DeWalt)
Vincent Prayugo (Advisor: Adam Dolezal)
Sreelakshmi Suresh (Advisor: Adam Dolezal)
Cariad Williams (Advisor: Sam Heads)

Ellis MacLeod/Metcalf Award for Outstanding Teaching by a Graduate Student in the Department of Entomology
Jonathan Tetlie (Advisor: Alex Harmon-Threatt)

TEACHING AND MENTORING AWARDS

John G. & Evelyn Hartman Heiligenstein Award
Colby Behrens
Aaron Mleziva
Lincoln Taylor

Sharon Gray Memorial Award
Roqaya Al-Dhufari & Jonah S. Dominguez
(Advisor: Mark Hauber)

EVOLUTION, ECOLOGY, AND BEHAVIOR AWARDS

Edwin M. Banks Memorial Award
Lisa Surber (Advisor: Eva Fischer)

Odum-Kendeigh Research Award
Mac Chamberlain (Advisor: Mark Hauber)
Meghan Maciejewski (Advisor: Alison Bell)
Simran Singh (Advisor: Dan Miller)
Patrick Wilson (Advisor: Carla Cáceres)

EEB Summer Stipend Award
Shriram Bhat (Advisor: Chris Cheng)
Jules Chabain (Advisor: Phil Anderson)
Siqi Hahn (Advisor: Dan Miller)
Julia Jehn (Advisor: Ken Paige)
Giovanni (Gio) Madrigal (Advisor: Julian Catchen)
Abbigail (Abbi) Turner (Advisor: Mark Hauber)
Abby Weber (Advisor: Phil Anderson)

Thomas Frazzetta Award for Outstanding Teaching in Evolution, Ecology, and Behavior Biology
Hannah Scharf (Advisor: Mark Hauber)

PLANT BIOLOGY AWARDS

Harold C. and Sonja L. Labinsky Award
Michelle Zambrano (Advisor: Elizabeth Ainsworth)
Sumashini Pagaldevatti (Advisor: Jim Dalling)

John R. Laughnan Award
Timothy Chen (Adviso: Stephen Burgess)
Jie Fu (Advisor: Amy Marshall-Colon)
Kenneth Jops(Adivsor: James O'Dwyer)
Seldon Kwafo (Advisor: Justin McGrath)
Dilkaran Signh (Advisor: Amy Marshall-Colon)

Govindjee and Rajni Award for Excellence in Biological Research
Seldon Kwafo (Advisor: Justin McGrath)

Plant Biology Summer Stipend Award
Lance Jones (Advisor: Stephen Downie)
Kenneth Jops (Advisor: James O'Dwyer)
Jason Karakehian (Advisor: Andrew Miller)
Sumashini Pagaldevatti (Advisor: Jim Dalling)
Aiden Schore (Advisor: Mark Lara)
Chen Zhang (Advisor: Liqing Chen

Award for Outstanding Teaching in Plant Biology
Caroline Ludden (Advisor: Mark Lara)

STUDENT AWARDS

TEACHERS RANKED AS EXCELLENT

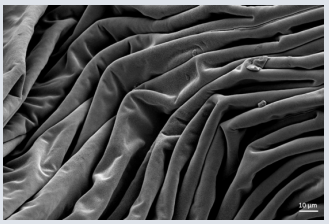
Rankings by students in IB Courses Taught in the Summer, Fall and Winter 2022 semesters.
** - indicates that the instructor received "outstanding" results.*

Summer 2022
Joanne Manaster
Allison O'Dwyer*

Fall & Winter 2022
Phil Anderson
Kieran Andreoni*
Nicholas Antonson
Miles Arceneaux*
Alison Bell
Gabriel Beuchat
Kasey Brockelsby*
Morgan Brown
Carla Cáceres*
Molly Carlson*
Jules Chabain*
Mac Chamberlain*
Benjamin Chiavini
Ben Clegg
Maria Cox
Chad Cremer*
Erinn Dady
Jim Dalling
Elsa De Becker
Adam Dolezal
Eva Fischer
Siqi Han*
Julia Jehn
Lance Jones*
Kenny Jops*
Jason Karakehian*
Ratna Karatgi*
Andrew Miller
Daniel Miller
Jonathan Mingione*
Aaron Mleziva
Lauren Otolski
Fabian Pallo Rivadeneira
Henry Pollock*
Vincent Prayugo
Michael Rivera
Katharina Soto
Tyler Stewart*
Andy Suarez*
Lisa Surber*
Daniel Swanson
Grace Tan
Lincoln Taylor
Jonathan Tetlie*
Wendy Yang

Kenny Jops receives the 2023 LAS Awards for Excellence in Undergraduate Teaching for Graduate Teaching Assistants

Kenny Jops, graduate teaching assistant in Plant Biology, received a 2023 Awards for Excellence in Undergraduate Teaching. Kenny is known for going the extra mile to help students not only succeed in a specific course but to also more broadly apply concepts and and tools and prepare for the next step in their college and career path. Over five semesters of teaching integrative bio courses, he has supported and encouraged students to meet a high bar in their learning.



Entomology graduate student Lizzie Bello wins Image of Research competition

Lizzie Bello, graduate student with the Alleyne BIoinspiration Col-LAB-orative (ABC Lab) won first prize in the 2023 Image of Research Competition. Organized by the University Library and the Graduate College, the competition is an annual event which celebrates the diversity and breadth of graduate student research at the U of I. *In the Fold* was captured through scanning electron microscopy (SEM) and reveals what the wing membrane of a cicada looks like prior to having fully functioning adult wings.

Students receive Graduate Research Fellowships from the National Science Foundation

Graduate students Eric Arredondo (IB) and Jeannette Cullum (PEEC) have both received research support from the NSF. According to Ken Vickery, director of Fellowships in the Graduate College, "This year's GRF cohort represents the next generation of STEM leaders who will tackle some of the most pressing problems of the day. Vivian Cheng (PEEC) received an honorable mention.

Seldon Kwafo selected as Future Food Leaders for Food & Agriculture Fellow

Seldon Kwafo, graduate student in Plant Biology, was selected as an FFAR Fellow for 2022-2025. The program offers leadership and and professional development training to PhD students studying food and agriculture-related sciences in the U.S. and Canada. Seldon's career goal is to contribute to mitigating agriculture's environmental footprint through sustainable soil health practices, and improving food security and nutrition in Sub-Saharan Africa.

Sreelakshmi Suresh receives Special Recognition in Graduate Student Leadership

Sreelakshmi Suresh, graduate student in Entomology, was honored by the Graduate College for exhibiting outstanding service outstanding service that has positively impacted the campus or wider Urbana-Champaign community. Sreelakshmi is the founder and president of Forging Unity, Solidarity, and Equity for QTPOC (FUSE), a student organization that creates a safe space for queer and trans students of color to destress and discuss topics centered around intersectional identities.

IMPACT OF GIVING

The scholarship of many of our students is made possible due to the generous support of our donors, alumni, and friends. We hope you enjoy these award highlights.

Award Highlight – Dr. Fakhri and Dr. Maarib Bazzaz Plant Biology Fund

This award was established to honor Dr. Fakhri and Dr. Maarib Bazzaz as academics, mentors, and cherished friends by supporting students in the Department of Plant Biology in at the University of Illinois. Dr. Fakhri Bazzaz completed both his M.Sc. (1960) and Ph.D. (1963) at UIUC under the supervision of Professor Lawrence Bliss and was a lecturer at Baghdad University for two years. Dr. Bazzaz returned to UIUC to an assistant professor position, rising through the ranks to full professor, head of the department of plant biology, and acting director of the School of Life Sciences.

Dr. Fakhri Bazzaz recognized that the process of species replacement was governed by the life history characteristics of individual species, transforming what had been a purely phenomenological line of inquiry into a predictive, hypothesis-driven science. He used field, glasshouse, and laboratory experiments to test hypotheses of how the underlying mechanisms by which plants compete for resources influence community interactions. He was the first to understand that plasticity is itself a trait under selection and to study how variation in allocation to roots, leaves, and especially reproductive structures influences competitive interactions.

Maarib Bakri met Fakhri Bazzaz at the University of Baghdad through friends. The two were married in 1958 in Baghdad. After working for one year as a research assistant at UIUC, she returned to Iraq, together with her husband, and taught Plant Biology for two years at the University of Baghdad, first as a teaching assistant and then as an instructor.

In the fall of 1966, Maarib returned to UIUC and entered the PhD Program in Plant Physiology (an interdisciplinary program in Life Sciences), working as a research assistant in Govindjee's photosynthesis research group. Dr. Maarib Bazzaz was an innovative and a highly inquisitive plant physiologist of her time. Her research achievements include exploitation of a highly productive mutant of maize (ON8147), of differences between mesophyll and bundle sheath chloroplasts of maize, and of chlorophyll (Chl) biosynthesis. Above all, she provided convincing scientific proof that, in addition to the usual monovinyl Chl *a* and monovinyl Chl *b*, divinyl Chl *a* (4-vinyl-4-desethyl-Chl *a*) and divinyl Chl *b* (4-vinyl-4-desethyl-Chl *b*) exist in plants.

Both Fakhri and Maarib were energetic and dedicated teachers, who inspired a generation of young scientists. Students remember them fondly as mentors both professionally and personally, always creating an environment that encouraged their students to be family-first. Their work, while groundbreaking in the fields of ecology and botany, took a backseat to their and their students' personal needs within academia.

2023 Recipient: - Ignacio Sparrow Munoz – Ignacio is a first-year graduate student in the laboratory of Dr. Steven Burgess in the department of Plant Biology. His research focuses on the relationship between structure, function, and evolution of photosynthesis enzymes, with an emphasis on Rubisco Activase.

Award Highlight - Dr. Stewart D. Fordham Award

This award, made possible by a generous donation by Dr. Fordham, supports an undergraduate scholarship for students who will complete their undergraduate degree program during the next academic year and are planning on attending medical school immediately after graduation.

2023 Recipient: Hannah Caraway - Hannah is dedicated to promoting healthcare equity and education in her future career as a physician. Throughout her time at the university, Caraway has been heavily involved in undergraduate research, publishing a study exploring alternative treatments for antibiotic-resistant bacteria as a first author, and presenting her work at the Undergraduate Research Symposium and the SIB Distinction Symposium.

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Urbana, IL 61801

Connect with SIB!

We would love to hear from you! Our website includes all our recent news, research updates, events and more, and can be accessed at **sib.illinois.edu.** Our alumni play an important role in helping to guide and mentor our undergraduate students through the SIB Alumni Mentoring Program. For more information about the program or to get involved, contact Christina Swanson, **sillima2@illinois.edu** or visit **sib.illinois.edu/alumni.**

SIB is also active on social media! Be sure to like and subscribe to stay up to date on all our news and events. For everything else, send us an email at **sib@life.illinois.edu**. We look forward to hearing from you and celebrating your success.

sib.illinois.edu **@iBioIllinois**

Giving to the School of Integrative Biology

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.

In addition to outright gifts, such as cash, stock, and retirement accounts, you can support the School of Integrative Biology as part of your overall financial, tax and estate planning with deferred gifts such as bequests, charitable trusts and annuities. We will work with you to arrange options most suitable to you. For more information, please visit: **sib.illinois.edu/alumni.**

For more information, please contact:

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