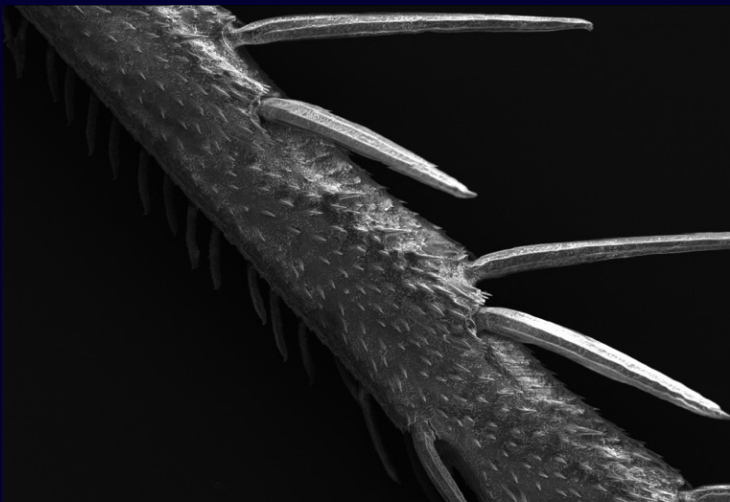


# SCHOOL OF INTEGRATIVE BIOLOGY



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



4/29/2021	dwell	HV	pressure	mag	WD	100 $\mu$ m
12:50:51 PM	10 $\mu$ s	8.00 kV	5.90e-6 Torr	600 x	8.4 mm	UF(DCPD)

## 2021-2022 Annual Newsletter

Education, collaboration,  
and research to solve the  
challenges of tomorrow



# WELCOME FROM OUR DIRECTOR AND HEADS OF DEPARTMENT



Dear Friends,

As we write this introduction to the newsletter for the 2021-2022 academic year, the 2022-2023 academic year is well underway. After several semesters of online and hybrid classes, we are back to in-person lectures, discussion, and laboratory courses at full classroom capacity. We learned a thing or two about our teaching during remote instruction, and many of our instructors have carried those changes forward into their face-to-face classes. Last spring, we were able to host our Spring Award Ceremony and Commencement in person. We also returned to our in-person distinction symposium. These are joyful occasions, and we were delighted to celebrate the successes of our talented students with their friends and families. More information about these and other student activities can be found on pages 9 and 10.

The theme of this year's newsletter is "Education, collaboration, and research to solve the challenges of tomorrow" and we only have space for a few examples of all the amazing work being conducted in this area. Our student-centered undergraduate curriculum seeks to provide students with both the knowledge and skills to be leaders in problem solving. Our graduate students are involved in this work as teaching assistants and mentors of independent undergraduate projects, while also learning how to design and implement their own independent research. Our students are also taking the opportunity to share their knowledge with the Champaign-Urbana community at events such as "Science at the Market" at the Urbana's Market at the Square and Genome Day sponsored by the Carl R. Woese Institute for Genomic Biology. Our faculty continue to conduct transformative research, which they integrate into their teaching and outreach. You can read more about some of the awards our faculty have received for this work on page 13.

The newsletter would not be complete without acknowledging the support we have received from our donors. We have both major gifts and smaller gifts that are combined into a larger "Alumni and Friends" fund that we provide to undergraduates as scholarship support. These gifts support activities such as student and faculty research, teaching initiatives and student travel for national and international conferences, workshops and research. Every gift is important, and we are so very grateful to all of the SIB friends and alumni that help support our efforts. As always, if you are ever in town, please come and visit us in 286 Morrill Hall. You can also contact us at: [sib.illinois.edu](mailto:sib.illinois.edu), or find us on social media (Facebook, Twitter, and Instagram) as @iBiollinois.

Sincerely,

Carla Cáceres

Director, School of Integrative Biology

## Table of Contents

<b>1</b>	<b>Welcome from Director and Heads of Department</b>
<b>4</b>	<b>New Faces in SIB</b>
<b>5</b>	<b>New Faculty and Faculty Promotion</b>
<b>6</b>	<b>Faculty News</b>
	<ul style="list-style-type: none"><li>- Not just CO2: Rising temperatures also alter photosynthesis in a changing climate</li><li>- Understanding the genomic modifications in transgenic papaya</li><li>- Beneficial arthropods find winter sanctuary in uncultivated field edges</li><li>- Thawing permafrost is roiling the Arctic landscape</li><li>- Avian brood parasites are about to have their adaptability tested</li><li>- Can parental care influence sperm-mediated effects in threespine stickleback?</li><li>- Solar farms could double as pollinator food supplies</li></ul>
<b>9</b>	<b>Student News</b>
<b>12</b>	<b>Career Connections</b>
<b>12</b>	<b>Plant Biology Conservatory</b>
<b>13</b>	<b>Faculty and Staff Awards</b>
<b>16</b>	<b>Student Awards</b>
<b>21</b>	<b>Impact of Giving</b>

## Department of Entomology – May Berenbaum



Happily, the 2021-22 academic year was far more normal than was the year it followed, but wild swings in COVID-19 prevalence made planning anything more than a week ahead of time a fraught process. That said, our faculty, students, and staff rose to every challenge with resilience, resourcefulness, and determination. In terms of teaching, our department portfolio continued to expand beyond entomology.

In Fall 2021, e.g., Brian Allan, freshly promoted Full Professor and Associate Director of Academic Affairs for SIB, offered IB230, Pandemics, an 8-week online course examining historical and modern pandemics from a biological, social, and political perspective.

In terms of research, faculty pursuing individual research projects brought in more than \$1 million in new funds and set records for participating in large multi-collaborator team science projects; assistant professor Adam Dolezal, e.g., is part of the NSF-funded Genomics and Evolution of Multi-Scale Symbiosis team and the DOE-Solar Energy Technologies Office project to evaluate economic, ecological, and performance impacts of co-located pollinator plantings at solar installations.

In another "return to normalcy," graduate and undergraduate students shared their research with the wider world in hybrid and in-person meetings, winning prizes on and off-campus in the process. Perhaps our most exciting news is that we've recruited a new assistant professor of insect biodiversity, restoring expertise in insect systematics and expanding our capacity to address global concerns about arthropod biodiversity decline (the "insect apocalypse").

Dr. Dominic Evangelista will join our faculty in January 2023. He specializes in cockroach evolution, molecular systematics, and tropical ecology and you can follow him on Twitter [@Roach\\_Brain](#). Finally, our department was undeterred by COVID in participating in public engagement; a highlight was the 39th Annual Insect Fear Film Festival, creatively conducted online, sharing content while conforming with copyright rules and reimagining insect petting zoos for Zoom, featuring venomous arthropods (far less scary when virtual!).

## Department of Evolution, Ecology, and Behavior – Becky Fuller



The Department of Evolution, Ecology, and Behavior had a banner year! Graduate Students, Faculty, and Alums received awards from multiple scientific societies and from the University of Illinois. These included endowed professorships for both of our leaders: Dr. Andy Suarez (Jeffrey S. Elowe Professor of Integrative Biology) and Dr. Carla Cáceres (G. William Arends Professor of Integrative Biology). Multiple people received awards from the Animal Behavior Society. Most notably, Alison Bell received the Quest Award for an Outstanding Seminal Contribution in Animal Behavior.

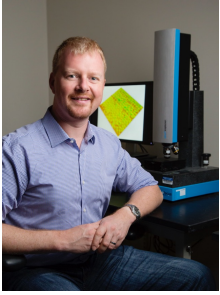
Additionally, two graduate students from Mark Hauber's lab were featured in the Allee Award competition (Shelby Lawson 2021, co-winner; Nick Antonson 2022, honorable mention) and

Ruel Hanlan (Cáceres and Fuller Labs) received honorable mention for best undergraduate poster (2022). Graduate student Angel Rivera Colón from the Catchen lab participated in the Hamilton Award Competition for best graduate student talk at the Evolution Meetings in Summer 2021.

Our assistant and associate professors also won awards with Dr. Phil Anderson receiving the Helen Corley Petit Award for a highly meritorious tenure packet and Dr. Eva Fischer receiving the LEAP (Lincoln Excellence for Assistant Professors) Award. Finally, our alums flourished with Dr. Kate Laskowski (Bell Lab alum) winning the Outstanding New Investigator Award from the Animal Behavior Society, and Dr. Rachel Moran (Fuller Lab) receiving the Young Investigator Award from the American Society of Naturalists. Again, it was an excellent year!

More importantly, 2022 saw a slow return to 'normal' after the pandemic. EEB holds a weekly colloquium where we hear speakers and talk about our work. These meetings were largely face-to-face. Nearly all of our courses were taught face-to-face. After a year staring at screens, we welcomed these opportunities to interact with our colleagues. Birds, fish, frogs, Daphnia, mosquitos, ants, bats, and plants! They all have interesting stories, particularly through the lens of ecology, evolution, and behavior.

## Department of Plant Biology – Andrew Leakey



While the world has not completely returned to “normal”, I am very happy to report on many positive events that have occurred in the life of the Department of Plant Biology this year. We are delighted to welcome Steven Burgess as our newest Assistant Professor working to study synthetic biology and engineering of photosynthesis.

We also celebrated Katy Heath being promoted to Professor and elected as a Fellow of the American Association for the Advancement of Science for her cutting-edge research on the evolution of plant-microbe symbioses in legumes. Please see the later pages of this newsletter for the five other faculty members who also won prestigious awards for their teaching and research!

I’m sure everyone in the department will agree with me how grateful we are to be benefiting from the wonderful services now provided by Heather Lash as our new Greenhouse Manager and Ellen Lindsey as our new Office Manager.

We have also seen notable improvements to our greenhouse in terms of improved plant growth conditions and a reduced carbon footprint as a result of using a “Investment for Growth” grant from the University to start replacing the old lighting system with LEDs. We hope this will be just the first step towards upgrading the greenhouse into a newly cutting-edge research environment.

I particularly want to thank friends and alumni who have made gifts this year to invest in our students, faculty and research enterprise. Most significantly this year, Michael and Lalana Fortwengler made a major gift to the Tom L. Phillips Memorial Fund for paleobotany. Their generosity is enabling a major new research initiative by Associate Professor Surangi Punyasena and her students to study the Phillips Coal Ball collection. The collection is owned and managed by the department as a globally unique collection of fossils that contain troves of information about ecosystems that existed ~300 million years ago during the Carboniferous period.

## 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)

## SIB BY THE NUMBERS

### 2021-2022 Academic Year

#### STUDENTS

*Undergraduate* - 368  
○ Out-of-state – 7%  
○ International – 3%

#### *Graduate* – 130

○ Entomology – 30  
○ EEB – 25  
○ Plant Biology – 24  
○ PEEC – 37  
○ OMST – 14

#### DEGREES AWARDED

Bachelor of Science - 165  
Minor – 26  
Master of Science – 21  
Doctor of Philosophy – 14

#### FACULTY

Professors - 19  
Associate Professors – 9  
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](mailto:rkeane3@illinois.edu)  
Tina Lamb, Assistant to the Director

## NEW FACES IN SIB



**Tina Lamb – Assistant to the Director** – Tina Lamb has worked much of her career on the University of Illinois Urbana-Champaign campus. During her 32 years of service, she has worked in several departments on campus which include the University of Illinois Press, Veterinary Teaching Hospital, College of Law, Department of Chemistry and currently as an Administrative Aide who is the Assistant to the Director in the School of Integrative Biology.

Her responsibilities include supporting the Director with school, program, and event coordination as well as the day-to-day business for the school. In her spare time, Tina enjoys spending time with her husband, three daughters, four grandsons, one granddaughter (with grandchild number six expected to arrive in March 2023) and Goldendoodle, Griffin. She also enjoys growing flowers and enjoying nature.



**Heather Lash – Plant Biology Greenhouse Coordinator** – Heather Lash has been a fixture in the Plant Sciences Laboratory since starting her undergraduate program in Ornamental Horticulture in 1995 and then returning several years post-graduation to pursue a Master’s Degree in NRES. Prior to her new role as the Plant Biology Greenhouse Coordinator in SIB, she was a Research Greenhouse Specialist at the ACES Plant Care Facility for 16 years. Heather has the unique experience of having been a student employee at the Plant Biology Greenhouse during her undergraduate program. She is excited to have come full circle all these years later to manage the facility that sparked her fondness for research and education greenhouses.

In addition to a love for plants, Heather is passionate about utilizing biological control as a means of reducing pesticide applications in the greenhouse and could chat about “good bugs” all day. Heather and her student employees have been hard at work since starting in 2021 and are proud to have reopened the Plant Biology Conservatory and Collections to the public. Learn more on p. 12!



**Ellen Lindsey – Office Manager for Plant Biology** – Ellen Lindsey is the office manager and graduate contact for the Department of Plant Biology. In all, she has spent 24 years working for the University of Illinois Urbana-Champaign in a variety of capacities, but she has been a visitor to campus throughout her life.

Ellen works with graduate students who are applying and here studying, doing everything from managing student information and assisting them as they progress to graduation, to arranging speakers to campus with all travel arrangements, to helping new students with questions about campus, and helping set up funding for the summer with the fellowship office. Ellen is passionate about inclusion and special needs and has worked with the special education classes on projects and mentoring. Her inspiration is her son, Joe. She loves to talk about him. She lives with her son and her Aunt in Southeast Urbana.

## NEW FACULTY



### **Steven Burgess – Assistant Professor of Plant Biology –**

Steven is an Assistant Professor in the Plant Biology department based in Morrill Hall 283. Research in the Burgess lab investigates the efficiency of photosynthesis using synthetic biology and

and plant physiology. Originally from the UK, he moved to CU in 2018 as a Carl R. Woese Fellow, drawn by the long history and world class researchers studying photosynthesis at UIUC. He is deeply concerned about climate change and is interested in adapting today's crops to future environments as well developing biological solutions to energy security. Most importantly, he is passionate about open science and developing young researchers to pursue their goals. In his spare time he enjoys running and has taken an interest in developing a native plants garden and birdwatching since living in Urbana. He is honored to be joining the department and excited to get to know everyone!

Learn more: [agsynbiolab.com](http://agsynbiolab.com).



### **Daniel Miller – Assistant Professor of Evolution, Ecology, and Behavior –**

Dan Miller earned his Bachelor's degree at Saint Louis University, obtained a Master's degree from George Washington University, and defended his doctoral

research at Vanderbilt University. He has received postdoctoral training at the Yale School of Medicine as well as more recently at the University of Western Ontario before joining EEB for the Fall of 2021. The Miller lab uses an integrative strategy that combines measurements from multiple scales of organization to investigate the evolution and plasticity of the fundamental building block of the mammalian cerebral cortex, the cortical column. Researchers in the Miller lab are interested in understanding the fundamental organization of the cerebral cortex as a laminated aspect of the mammalian brain. Their work to develop and validate biomarkers of brain organization are needed to identify diseased or damaged from healthy tissue, and to map evolutionary processes over time.

Learn more: [sib.illinois.edu/profile/millerdj](http://sib.illinois.edu/profile/millerdj).

## FACULTY PROMOTION



### **Brian Allan – Professor, Entomology; Associate Director for Academic Affairs, SIB –**

Dr. Brian Allan's research focuses on the consequences of human-mediated global change, such as climate change and human land-use, on the risk of exposure to parasites and pathogens carried by

wildlife. Research in the Allan lab utilizes a broad array of tools in approaching these questions, including molecular technologies, remote sensing applications, and theoretical modeling.

Dr. Allan served as Acting Associate Director for Academic Affairs for the '21-22 academic year, in recognition of his leadership and excellence in undergraduate education.

Learn more: [publish.illinois.edu/ballan](http://publish.illinois.edu/ballan).



### **Julian Catchen – Associate Professor of Evolution, Ecology, and Behavior –**

Trained as a computer scientist, Dr. Julian Catchen brings the fundamentals of computer science to biology and population genetics where his lab explores questions on the

structure, function, and evolution of genomes.

Some of the current projects in the lab include 1) understanding how Antarctic notothenioid fish, which are highly specialized to live in the cold Southern Ocean, have adapted secondarily to warmer climates, and 2) examining how the architecture of the Alaskan salmon genome has changed over a 2000-year time transect. He currently teaches Programming for Genomics, a course that introduces graduate students to computation and programming as well as the 300-level IB Evolution course.

Learn more: [catchenlab.life.illinois.edu](http://catchenlab.life.illinois.edu).

## FACULTY NEWS



### Not just CO<sub>2</sub>: Rising temperatures also alter photosynthesis in a changing climate

Agricultural scientists who study climate change often focus on how increasing atmospheric carbon dioxide levels will affect crop yields. But rising temperatures are likely to complicate the picture, researchers report in a 2021 review of the topic.

Published in the *Journal of Experimental Botany*, the review explores how higher temperatures influence plant growth and viability despite the greater availability of atmospheric CO<sub>2</sub>, a key component of photosynthesis.

“Historically, there’s been a lot of focus on rising CO<sub>2</sub> and the impact that it has on plants,” said co-author Carl Bernacchi, USDA plant researcher and professor of plant biology and of crop sciences. “And it is an important factor, because we are changing that carbon dioxide concentration enormously. But it’s a small part of the bigger story. Once you throw changing temperatures into the mix, it completely messes up our understanding of how plants are going to respond.”

Excessive heat can reduce the efficiency of enzymes that drive photosynthesis and can hinder plants’ ability to regulate CO<sub>2</sub> uptake and water loss, the researchers write.

Structural features can make plants more – or less – susceptible to heat stress. Ecosystem attributes – such as the size and density of plants, the arrangement of leaves on plants or local atmospheric conditions – also influence how heat will affect crop yields.

Learn more: [go.illinois.edu/notjustco2](https://go.illinois.edu/notjustco2).



### Understanding the genomic modifications in transgenic papaya

The transgenic papaya “SunUp” was developed in the 1990s and was widely publicized because of its ability to resist the papaya ringspot virus. Although researchers from Ray Ming’s lab group had identified the genomic sequence of SunUp by 2008, it was unclear where the transgenic insertions were and what effect they had. A 2022 study has now identified these changes and how they influence the transgenic plants.

Researchers developed the transgenic papaya SunUp by using a technique called particle bombardment-mediated transformation. Gold particles were covered with the coat protein gene of the virus and shot into the cells of the non-transgenic papaya “Sunset” using a gene gun. SunUp therefore contained gene sequences of the virus and was protected from infection via RNA-mediated gene silencing.

The group discovered that SunUp had an insertion of 1.6 million base pairs. Surprisingly, even though there is such a large insertion, the transgenic manipulation did not cause any change in gene expression.

“We looked at every gene sequence and there is no impact on the genome function. When we compared SunUp and Sunset, they only have 20 genes that are differentially expressed, which are due to transposon-mediated rearrangements and not from the genetic manipulation done by particle bombardment-mediated transformation,” said Ray Ming, professor of plant biology. Transposon-mediated rearrangements occur naturally and lead to gradual changes over time, which is expected since SunUp and Sunset have been growing and diverging for 30 years.

Read more: [go.illinois.edu/transgenicpapaya](https://go.illinois.edu/transgenicpapaya).

## FACULTY NEWS



### Beneficial arthropods find winter sanctuary in uncultivated field edges

Many species of ground-dwelling beetles, ladybugs, hoverflies, damsel bugs, spiders and parasitic wasps kill and eat pest species that routinely plague farmers, including aphids and corn rootworm larvae and adults. But the beneficial arthropods that live in or near cropped lands also are susceptible to insecticides and other farming practices that erase biodiversity on the landscape.

A 2021 study reveals that beneficial arthropods are nearly twice as abundant and diverse in uncultivated field edges in the spring as they are in areas that are cropped – if those field edges are rich in an array of flowers and other broad-leaved plants and not just mowed grass. The findings are reported in the *Journal of Insect Science*.

Former graduate student Scott Clem, who led the research with entomology professor Alexandra Harmon-Threatt, captured the beneficial bugs as they emerged from the soil in early spring. The study focused on overwintering arthropods in organic farm fields and field edges in Illinois, as the use of pesticides may wipe out many of the beneficial creatures, said Clem, who earned a Ph.D. in May 2022. “We were able to determine that these field edges are important for maintaining natural enemies of pest species in the landscape,” Clem said.

“This research supports the idea that these uncropped areas – whether you want to call them field borders, field margins or even ditches – are really beneficial for insects and other arthropods,” Harmon-Threatt said. “Preserving some land that is not cultivated and not mowing your field edges might make a big difference for insect conservation, but it’s probably also making a difference in controlling pests in farm areas, which is also super-important for meeting our other goals of feeding a growing population.”

Learn more: [go.illinois.edu/arthropodfieldedges](https://go.illinois.edu/arthropodfieldedges).



### Thawing permafrost is roiling the Arctic landscape

Thawing permafrost is roiling the Arctic landscape, driven by a hidden world of changes beneath the surface as the climate warms.

Permafrost is perennially frozen soil that covers about a quarter of the land in the Northern Hemisphere, particularly in Canada, Russia and Alaska. Much of it is rich with the organic matter of long-dead plants and animals frozen in time. These frozen soils maintain the structural integrity of many northern landscapes, providing stability to vegetated and unvegetated surfaces, similar to load-bearing support beams in buildings.

As temperatures rise and patterns of precipitation change, permafrost and other forms of ground ice become vulnerable to thaw and collapse. As these frozen soils warm, the ground destabilizes, unraveling the interwoven fabric that has delicately shaped these dynamic ecosystems over millennia. Wildfires, which have been increasing across the Arctic, have been increasing the risk.

When the ground thaws, microbes begin feasting on organic matter in soils that have been frozen for millennia. These microbes release carbon dioxide and methane, potent greenhouse gases. As those gases escape into the atmosphere, they further warm the climate, creating a feedback loop: Warmer temperatures thaw more soil, releasing more organic material for microbes to feast on and produce more greenhouse gases.

Mark Lara, an assistant professor in plant biology and geology, is studying these dynamic landscape interactions and documenting the ways permafrost-driven landscape change has accelerated over time.

Learn more: [go.illinois.edu/permafrostthaw](https://go.illinois.edu/permafrostthaw).



## FACULTY NEWS



### Avian brood parasites are about to have their adaptability tested

The future of parasitic birds, which lay their eggs in other nests, is totally dependent on their hosts' ability to adjust to climate change. Scientists' early insights into how they may fare as climate change progresses suggest that many, though not all, of these species are about to have their adaptability tested. Some hosts are moving to new areas or breeding sooner as global temperatures warm, and their parasitic dependents are starting to show signs that they might struggle to keep up.

Research from the Hauber Lab suggests some brood parasites may fare better than others. Generalists that hedge their bets by dropping eggs into the nests of multiple host species may have an advantage—Brown-headed Cowbirds, for instance, can colonize the nests of hundreds of species.

In a 2021 study, graduate researcher Nick Antonson and three other scientists examined environmental conditions for 84 species of avian brood parasites as well as for their hosts. They found that parasites that live in areas where temperatures fluctuate widely tend to use more host species than those that inhabit stable climates.

In an unstable climate, distributing eggs among a variety of hosts may ensure that if one set of adoptive parents fails to breed due to poor conditions, eggs raised by a more resilient host may still survive. Specialists, such as the Channel-billed Cuckoo, tightly linked to just a few host species may struggle to adapt. They have put all their eggs in one basket, literally, so their future relies on their hosts' success adjusting to climate change.

“When you specialize in one species for a long time, it may be hard to jump to another species,” Antonson says.

Learn more: [go.illinois.edu/broodparasiteadaptation](https://go.illinois.edu/broodparasiteadaptation).



### Can parental care influence sperm-mediated effects in threespine stickleback?

Animals can influence their offspring through multiple signals starting from fertilization to after birth. However, researchers have seldom looked at how these different signals work together to influence behavior. In a 2021 study, postdoctoral researcher Jennifer Hellmann in the Bell Lab investigated how changes in sperm and paternal care influence the offspring of threespine sticklebacks.

Epigenetic changes—reversible modifications in genes that are caused due to the environment—in the sperm have been shown to influence future generations in response to predators, pathogens, environmental toxins, and warming temperatures.

“Previous studies in the lab have shown that the stickleback fathers alter the amount of care they provide in response to predator risk, but it was unclear whether the changes that are induced by sperm-mediated effects can alter the ways in which parental care influences the offspring,” said Hellmann, EEB alum and now a faculty member at the University of Dayton.

In the presence of predators, male sticklebacks alter their parental care and produce offspring that are more timid, potentially leading to higher survival against predators. The reason might be because the offspring learn antipredator skills from their fathers early in life.

In the study, the researchers observed that the offspring of predator-exposed fathers were less active and also seemed to be less stressed when they are exposed to a simulated predator attack. Interestingly, the effect was present whether their fathers provided care or not. “We found that parental care did not seem to affect the sperm-mediated effects, at least for the traits that we measured,” Hellmann said.

Learn more: [go.illinois.edu/paternalsticklebackcare](https://go.illinois.edu/paternalsticklebackcare).

## FACULTY NEWS



### Solar farms could double as pollinator food supplies

Pollinator habitats and solar farms may seem like ecologically great neighbors, but we still don't understand very much about that relationship. Normally, solar facilities are surrounded by grass or gravel. Adding a pollinator habitat could simply be a better, more efficient use of the land and ideally increase pollinator numbers, which could have a positive impact on surrounding ecosystems. A team of researchers from the Dolezal Lab published a 2021 paper surveying the ins and outs of keeping solar production alongside the kinds of plants that pollinators like bees and butterflies love.

Currently, Illinois, Vermont, Maryland, Michigan, Minnesota, Missouri, New York, and South Carolina have enacted legislation to promote the creation of pollinator habitats alongside solar developments. These eight states have also developed scorecards to determine if a site is ideal for a habitat. Illinois, one of the first states to pursue the practice, developed its own scorecard around four years ago.

The results suggest the addition of native, perennial flowering vegetation will promote wild bee conservation and more sustainable honey beekeeping. The findings also suggest that a third party should be involved in assessing the health of the systems. The scorecards need to have strict enough criteria to get results—but also provide enough leeway so developers will pursue the goals. “We should be interested in trying to see the most efficient way to improve pollinator health, while still being consistent with what the realities of the developments are,” said Adam Dolezal, assistant professor of entomology.

Learn more:

[go.illinois.edu/solarpollinatorfood](https://go.illinois.edu/solarpollinatorfood).

## STUDENT NEWS

### Edward Huang selected as 2021 Mayo Clinic Summer Undergraduate Research Fellow

Each year, Mayo Clinic invites around 180 undergraduates from across the nation to participate in their Summer Undergraduate Research Fellowship (SURF) program. This 10-week program gives undergraduates a chance to work in the laboratories of Mayo Clinic faculty on small research projects or as part of ongoing investigations, attend weekly seminars, and get to test their inclinations toward a career in biomedical research.

Edward Huang (Class of '22), was selected for 2021. Edward is interested in the discovery of antimicrobial systems in nature and how such mechanisms paired with genetic-engineering techniques can inspire tenable solutions for the looming antibacterial-resistance crisis. He plans to pursue an M.D.-Ph.D. in immunology. At Mayo Clinic, Edward worked with Dr. Adrian T. Ting, who is conducting research on tumor necrosis factor (TNF) and developing its potential as a revolutionary immunotherapy for cancer treatment.

Learn more: [go.illinois.edu/mayoedwardhuang](https://go.illinois.edu/mayoedwardhuang).

### ABC Lab students receive 2021 Beckman Institute Fellowships

Supported by funding from the Arnold and Mabel Beckman Foundation, the fellowship offers University of Illinois students the opportunity to pursue interdisciplinary research at the institute.

Shreyas Rajagopalan is a junior majoring in integrative biology honors and clinical psychology. Elizabeth Bello is pursuing an M.S. in entomology with advisors Marianne Alleyne (entomology) and Charles Schroeder of materials science and engineering and chemical and biomolecular engineering.

Both Rajagopalan and Bello work in the Alleyne Bioinspiration Co-Lab-orative (ABC) studying leafhopper brochosomes, which are intricately structured microscopic granules the insects secrete. The brochosomes are a promising material believed to have structural and material properties that could aid in development of synthetic coatings with antireflective and hydrophobic behavior.

Learn more:

[go.illinois.edu/beckmanshreyasrajagopalan](https://go.illinois.edu/beckmanshreyasrajagopalan)  
[go.illinois.edu/beckmanelizabethbello](https://go.illinois.edu/beckmanelizabethbello)

# STUDENT NEWS

## Award-winning Research Images

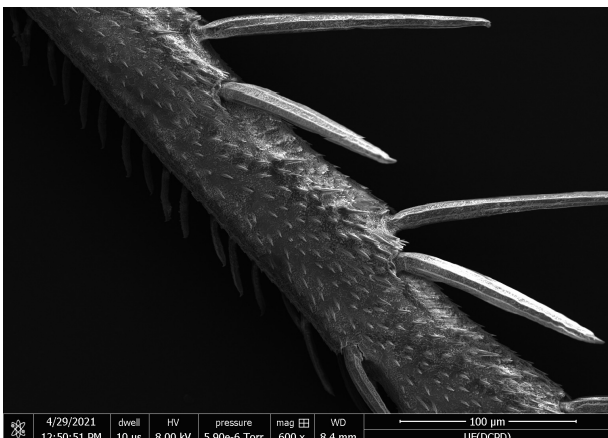
Nicholas Antonson, graduate student in EEB, was a winner of the College of LAS 2021 Image of Research contest for his image “Fracas at the Nest.”

His image depicts three prothonotary warblers nestlings and a brown-headed cowbird nestling calling for food in a nest box at one of his study sites in southern Illinois. Upon noticing the nestlings were “particularly active” that day, he took the photo with his phone through the front of the nest box. Antonson is a PhD candidate researching how brood parasitic young survive when they are raised in highly variable rearing conditions.

Learn more: [go.illinois.edu/antonsonlasimage](https://go.illinois.edu/antonsonlasimage).

Shreyas Rajagopalan, undergraduate student in the ABCLab, was a winner of the 2021 Beckman Institute Research Image contest for his scanning electron microscope image of a leafhopper. The image of the tibia of the Emocasca leafhopper allows for a better understanding of its topography, and the small spikes may represent sensory receptors that help the leafhopper detect vibrations.

Learn more: [go.illinois.edu/shreyasbeckmanimage](https://go.illinois.edu/shreyasbeckmanimage).



## 2022 SIB Distinction Symposium

SIB students, faculty, and staff were able to gather in person this year for the undergraduate research symposium. Held April 7<sup>th</sup>, 2022, the symposium included presentations from 17 students on the independent research they have undertaken at Illinois. Students receive a distinction, high distinction, or highest distinction on their transcript after graduation.

The students presented on a wide range of topics, including the impacts of insecticides and nutrition for bees (Bridget Dwyer and Hannah Salzberg with the Dolezal lab), water flea immune trait variance in fungal parasite systems (Grace Westphal with the Cáceres lab), the H1N1 influenza virus (Joanna Droppo with the Brooke lab), neotropical catfish (Megan Ray and Alexis Alvey with the Tan lab), and much more.

Photos of the event are available on Instagram: [instagram.com/ibioillinois](https://instagram.com/ibioillinois).

## 50-million-year-old fossil assassin bug has unusually well-preserved genitalia

Daniel Swanson, entomology graduate student, co-led research published in 2021 on an ancient assassin bug fossil. Working with Sam Heads, paleontologist at the Illinois Natural History Survey.

The fossil is remarkable because the bug’s physical characteristics are clearly visible and well-preserved. Recovered from the Green River Formation in present-day Colorado, the fossil represents a new genus and species of predatory insects known as assassin bugs.

Learn more: [go.illinois.edu/swansonassassinfossil](https://go.illinois.edu/swansonassassinfossil).



# STUDENT NEWS



## 24<sup>th</sup> Annual Graduates in Ecology & Evolutionary Biology (GEEB) Symposium

The 24<sup>th</sup> Annual GEEB Symposium took place March 4<sup>th</sup>, 2022, 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 Alaskan land cover change (Aiden Schore), the wettability of leaf hopper wings (Liz Bello), poison frog phenotypic plasticity (Lisa Surber), salamander skulls (Hannah Darcy), and much more.

The winners of the 2022 GEEB Symposium are:

### Best Poster:

Winner: Aiden Schore

Runner up: David Vereau Gorbitz

### Master Lightning Talk:

Winner: Elizabeth Bello

Runner up: Fahren Zackery

### Pre-Prelim Lightning Talk:

Winner: Lisa Surber

Runner up: Ratna Karatgi

### Post-Prelim Lightning talk:

Winner: Hannah Darcy

Runner up: Joseph Edwards

Learn more about GEEB: [life.illinois.edu/geeb](https://life.illinois.edu/geeb).



## 39<sup>th</sup> Annual Insect Fear Festival

The 39<sup>th</sup> “Venomous” Annual Insect Fear Film Festival (IFFF) was held February 26, 2022. Hosted by the Entomology Graduate Students Association (EGSA) in the Department of Entomology, this year’s festival was online, as in 2021. Held every spring, the festival is an opportunity to see movies focused on insects, interact with the insects in the EGSA petting zoo, and dispel some fears of these incredible, fascinating creatures!

This year’s festival featured a special presentation from Justin Schmidt of the famous Schmidt sting pain index, along with a virtual insect petting zoo, venomous insect Bugscope, a virtual tour of the Illinois Natural History Survey insect collection, bee ventriloquism, insect crafts, and a virtual gallery of the annual IFFF art contest featuring insect-themed artwork by local K-12 students.

The film portion of the program featured animated and live short films and clips from feature-length films and were shown in three groups.

- i. Stings as exaggerated comic plot elements;
- ii. Reactions to stings, including anaphylaxis, as humorous, dramatic, or horrific highlights; and
- iii. Shorts revealing the scientific reality of venom and venomous insects, including potential beneficial uses of arthropod venom.

Attendees learned that venom usage among arthropods can vary greatly - honey bee workers sting to protect themselves or their colony, while predatory wasps use their venom to paralyze their prey to feed to their larvae. Information on how to access the clips, make the arts and crafts, or the festival overall, please visit the Insect Fear Film Festival website.

Learn more: [go.illinois.edu/egsa-iff](https://go.illinois.edu/egsa-iff).

## CAREER CONNECTIONS



Career Connections is now in its second year, bringing together students and alumni from all different career paths to share mentorship, perspective, or advice on their professional goals. The Career Connections is a resource hub for students and alumni alike to find information about career development, resume writing, graduate or professional school, and to share their experience with those interested in similar fields. We offer everything from individual consultations and personalized resources to community career support groups and workshops.

Resources from the program are also available on the Career Connections Discord server. In this online space, our community members connect with each other in threads on all kinds of career and professional development topics. Since launching in August 2020 out of the Alumni Mentoring Program, it has already become an integral resource for our community with over thirty alumni, 15 faculty and staff, and 250 students! We have gotten very positive feedback from the students about how much they are gaining from the resources and connections available now.

Please consider taking advantage of the Career Connection resources available to you, both as an alum with valuable perspective to offer and as a member of our community to whom we might offer support. Our graduates have gone on to do amazing things in such a wide variety of careers and industries – we’d love to hear your story and help you connect with others!

Learn more: [go.illinois.edu/SIBCareerConnections](https://go.illinois.edu/SIBCareerConnections).

If you have questions, please contact:



**Christina Swanson**  
Director of Career Connections  
Academic Advisor  
[alumnimentor@sib.illinois.edu](mailto:alumnimentor@sib.illinois.edu)

## PLANT BIOLOGY CONSERVATORY

The Plant Biology Conservatory and Collections have been full of activity and changes the past year! One of the changes that visitors can enjoy is the repair of the Conservatory pond and waterfall that now provides the calming sounds of a babbling brook. The epiphyte tree in the center bed also underwent repairs over the summer and we are “planting” the cork bark. Various epiphytic plants have been added throughout the beds in places that you would find them growing in nature- on tree trunks, lava rocks and logs.

Make finding the epiphytes throughout the Conservatory a fun challenge during your next visit! One of nature’s amazing examples of plant adaptations is the carnivorous Pitcher Plant. They help with pest management in the Conservatory and can be found hanging around the beds. Sadly, the beloved *Bougainvillea* vine growing on the west wall had to be cut down as it was causing structural damage to the greenhouse, trellis and floor. In the future, a Purple Passion Flower will call the trellis home. The Collections and Teaching rooms have also undergone a facelift after an extensive transplanting and reorganization project.

Next steps for the Conservatory and Collections are to inventory plants and create an interactive experience for visitors. In the collections rooms, labels and a plant database will be created so a list of the plants and their location can be shared with instructors to assist with their greenhouse lab assignments. In the Conservatory, labels will be updated and include QR codes for enhanced learning.

The Plant Biology Conservatory and Collections continues to be a powerful resource for teaching, learning, and inspiring future generations of plant scientists and enthusiasts. Since the Conservatory re-opened to the public this year it has been utilized by local schools and a variety of classes on campus in IB, NRES, Crop Science, Art and Engineering. A meaningful collaboration with Crop Science was trialed in spring to utilize the Conservatory as a mental health space for students. We even had a student record a portion of his short film in the Conservatory!

Please come visit us Monday through Friday, 8:30am-4:30pm, and stay tuned for our website and Instagram! If you have questions, please contact Heather Lash: [hek@illinois.edu](mailto:hek@illinois.edu).

# FACULTY AWARDS

## **USDA-ARS and plant biology researcher Lisa Ainsworth named USDA Distinguished Senior Research Scientist of the Year**



Lisa Ainsworth, a research plant physiologist with USDA-ARS and professor of plant biology and crop sciences was named the 2021 Distinguished Senior Research Scientist of the Year by the United States Department of Agriculture

(USDA) for her scientific achievements. Ainsworth was recognized for her research on how crops are impacted by pollutants such as ozone and carbon dioxide.

## **Professor of entomology Brian Allan appointed inaugural IGB Director's Faculty Fellow**



Brian Allan, professor of entomology, was appointed an inaugural IGB Director's Faculty Fellows for 2021-2022. His joint project with co-fellow William Barley (associate professor of communication) seeks to better understand the dynamics of team

science, the potential benefits or barriers to research progress, and how these factors may enable or hinder research productivity.

## **EEB professor Phil Anderson named College of LAS Helen Corley Petit Scholar**



Phil Anderson, professor of evolution, ecology, and behavior, was named a Helen Corley Petit Scholar by the College of Liberal Arts & Sciences. This named position is for early career scholars and recognizes his contributions in

education and research at the University of Illinois.

## **EEB professor Alison Bell elected fellow of the ABS and named recipient of the Quest Award**



Alison Bell, professor of evolution, ecology, and behavior, was named a fellow of the Animal Behavior Society (ABS) in 2021. The ABS is dedicated to promoting and advancing the scientific study of animal behavior; Bell's research is focused on understanding

why individual animals behave differently from each other. In 2022, she received the Quest Award from the ABS in recognition of outstanding seminal contributions in animal behavior.

## **Head of entomology May Berenbaum named Director of the Center for Advanced Study, named to the President's Committee on the National Media of Science, and receives the Executive Officer Distinguished Leadership Award**



In 2021, May Berenbaum, professor and head of entomology, was named the Director of the Center for Advanced Study at the University of Illinois. She has been a member of the Illinois faculty for more than 40 years and has served as Department

of Entomology for 30 years. In 2022, May Berenbaum was named to the President's Committee on the National Medal of Science, a committee of scientists and engineers appointed by President of the United States to evaluate nominees for the Award. Also in 2022, May received the Executive Officer Distinguished Leadership Award from the Office of the Provost. The award recognizes outstanding academic leadership and vision by an executive officer.

## **EEB professor and SIB Director Carla Cáceres named G. William Arends Professor**



Carla Cáceres, professor of evolution, ecology, and behavior and director of the School of Integrative Biology, was named by the University of Illinois the G. William Arends Professor. Research in the Cáceres lab

focuses on community ecology of disease, the ecology of stormwater habitats, and microbial symbioses.

## **Entomology associate professor Alex Harmon-Threatt named Fulbright Scholar**



Alex Harmon-Threatt, an associate professor of entomology, has been named a Fulbright U.S. Scholar for 2022-2023. Fulbright Scholar Awards are prestigious and competitive fellowships that provide unique opportunities for scholars to teach and conduct research abroad.

# FACULTY AWARDS

## **EEB professor Mark Hauber elected fellow of the AAAS, receives Alexander von Humboldt Research Award, and named associate for Center for Advanced Study**



Professor of evolution, ecology, and behavior Mark Hauber (Harley Jones Van Cleave Professor of Host-Parasite Interactions) was elected a 2021 Fellow of the American Association for the Advancement of Science (AAAS).

Provided by the Alexander von Humboldt Foundation, the award allows the recipient to conduct research in collaboration with specialist colleagues in Germany. He was also named an associate of the Center for Advanced Study at the University of Illinois.

## **Associate professor of plant biology Katy Heath elected fellow of AAAS and named LAS Dean's Distinguished Professorial Scholar**



Katy Heath, associate professor of plant biology, was elected a 2021 fellow of the American Association for the Advancement of Science (AAAS). She was also named a Dean's Distinguished Professorial Scholar by the College of Liberal

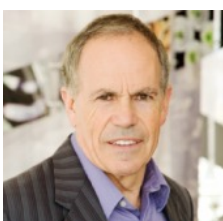
Arts & Sciences. This named position recognizes her contributions in education and research at the University of Illinois.

## **Associate professor of plant biology Amy Marshall-Colon receives the Friedrich Wilhelm Bessel Award**



Amy Marshall-Colon, associate professor of plant biology, received the Friedrich Wilhelm Bessel Award from the Alexander von Humboldt Foundation. The award recognizes outstanding research achievements of renowned researchers from abroad.

## **Plant biology professor Steve Long named to the Clarivate Analytics Highly Cited Researchers List**



Professor of plant biology and crop sciences Steve Long was named to the Clarivate Analytics Highly Cited Researchers List. The list recognizes leading researchers in the sciences and social sciences from around the world.

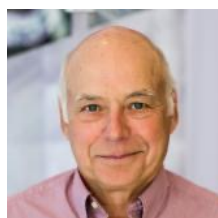
## **Entomology assistant professor Esther Ngumbi receives Excellence in Public Engagement Award and named Difference Maker of the Year in Engineering & Technology Innovation Award**



Assistant professor of entomology Esther Ngumbi has been selected to receive a University of Illinois Campus Excellence in Public Engagement Award. The award recognizes contributions not only to the Illinois mission, but also to the broader Illinois and global

communities. Esther has been named Difference Maker of the Year by the Institute of Engineering and Technology. Ngumbi and her parents founded the Dr. Ndumi Faulu Academy, a school for children in Kenya, in 2012. In 2014, she created Oyeska Greens, a startup that teaches smallholder farmers how to use updated technologies and methods in agriculture.

## **Plant biology professor Don Ort receives lecture scholarship from ISPR and named to the Clarivate Analytics Highly Cited Researchers List**



Professor of plant biology Don Ort received the Jalal Aliyev Lecture Scholarship from the International Society of Photosynthesis Research (ISPR), which recognizes extraordinary achievements in photosynthesis research,

particularly in applied environmental and ecological aspects of photosynthesis. Don was named to the Clarivate Analytics Highly Cited Researchers List. The list recognizes leading researchers in the sciences and social sciences from around the world.

## **Professor of entomology Gene Robinson elected member of the American Philosophical Society and appointed to NRC Governing Board**



Gene Robinson, Swanlund Chair and professor of entomology, was elected a Member of the American Philosophical Society, the oldest learned society in the United States, founded in 1743 by Benjamin Franklin for the purpose of "promoting useful knowledge."

Gene was appointed to National Research Council Governing Board and the Governing Board's Executive Committee. The NRC is the operating arm of the National Academies.

## FACULTY AWARDS

### Plant biology associate professor Wendy Yang receives Dean's Award for Excellence



Wendy Yang, associate professor of plant biology, received the College of LAS Dean's Award for Excellence in Undergraduate Teaching for outstanding contributions to the college in teaching.

## STAFF AWARDS

### Kim Leigh named recipient of Graduate College Excellence Award



Kim Leigh (entomology) is the winner of the 2021 Graduate College Excellence Award for Graduate Contacts. The award recognizes staff members whose service has exceeded expectations in enhancing graduate students' experiences and has positively impacted their graduate program or department's operations.

## TEACHING AWARD

### Cody Jones receives LAS Awards for Excellence in Undergraduate Teaching for Graduate Teaching Assistants



Cody Jones, graduate student researcher in Evolution, Ecology, and Behavior, was named one of the 2022 recipients of the Campus Award for Excellence in Undergraduate Teaching. In the words of one of the nominators, the award recognizes Jones' "ability to convey complex

concepts in an easy to understand way, and his willingness to go beyond the call of duty."

### Andrew Debevec named recipient of LAS Impact Award



Andrew Debevec (IT) was named a recipient of the College of Liberal Arts & Sciences Impact Award. The award recognizes individuals and teams in the college that demonstrated a spirit of service and sacrifice that went beyond expectations to serve our community during the COVID-19 crisis.



### May Convocation: Congratulations to the SIB Class of 2022!

This past May marked the first in-person convocation event we were able to hold since 2019, and all our faculty and staff join you in celebrating your achievements.

We're so proud of all your hard work.



# STUDENT AWARDS

## UNDERGRADUATE STUDENT AWARDS

### **Robert H. Davis Undergraduate Research Prize**

2021: Thomas Parrish

2022: Aynur Namik

### **Robert H. Davis Undergraduate Research Scholarship**

2021: James Kosmopoulos

2022: Julia Gregorczyk

### **Delcomyn International Study in Biology Award**

2022: Amir Graupe

### **Camp Family Research Awards**

2021: Bridget Dwyer

Ndidiamaka Ojiako

2022: Damaris Miranda

Michael Tang

### **Spyros Kavouras Summer Research Award**

2021: Eric Arrendondo

2022: Ruel Hanlan

### **Joann Kavouras Memorial Scholarship**

2021: Aynur Namik

2022: Jelena Pejkoic

### **iBio Summer Internships**

2021: Carly Kallembach

Shreyas Rajagopalan

Anna Zallek

2022: Madison Caliendo

Shaw Kagawa

Madeleine Shapiro

### **Oliver J. Bell Merit Scholarship in IB**

2021: Shreyas Rajagopalan

2022: Antonio Pelayo

### **Judy Willis Scholarship**

2021: Anna Zallek

2022: Tara Pavithran

### **IBH Sophomore Achievement Scholarship**

2021: Valerie Shamshyna

2022: Emmanuelle Newlin

### **IBH Junior Achievement Scholarship**

2021: Edward Huang

2022: Faith Losbanes

### **Richard Ware Family Scholarship**

2021: Alexis Rhoades

2022: Anastasia Pasyukov

### **Mildred Parizek Zukor Award**

2021: Emily Terrill

2022: Yutao Chen

### **Dr. Kirk and Mrs. Shannon Moberg Scholarship**

2021: Alexis Alvey

2022: Thomas Parrish

### **Chester W. and Nadine C. Houston Scholarships**

2021: Meghan Blaszyński

Rebecca Ducay

Tara Entezar

Abigail Rich

Grace Westphal

2022: Bingting He

Shreyas Rajagopalan

Maha Syed

### **SIB Endowed Scholarship**

2021: Claire Chalkey

2022: Alexis Rhoades

Abigail Rich

### **SIB Alumni and Friends Award**

2021: Malika Basu

Jonathan Chan

Jessica Cuthbert

Haley Fuoco

Hayden Goldspink

Madison Goulooze

Jia Lin

Harsha Namburi

Jonathan Tinoco

Fahren Zackery

Klaudia Zwijacz

2022: Greta Keilman

Patrick Kozyra

Elizabeth Turchin

Ivan Valishev

Audrey Wong

### **SIB Alumni and Friends Research Award**

2022: Vi Aldunate

# STUDENT AWARDS

## GRADUATE STUDENT AWARDS

### **Robert Emerson Memorial Award**

2021: Amanda Curtis (Advisor: Eric Larson)

2022: Joseph Edwards (Advisor: Wendy Yang)

### **Isabel Norton Award**

2021: Nicholas Anderson (Advisor: Alex Harmon-Threatt)

Joseph Edwards (Advisor: Wendy Yang)

Hannah Scharf (Advisor: Mark Hauber)

Xiaodin Zhang (Advisor: Ray Ming)

2022: Manuel Flores (Advisor: Jim Dalling)

Hannah Scharf (Advisor: Mark Hauber)

Sarai Stuart (Advisor: Gene Robinson)

### **Lebus Graduate Scholars Awards**

2021: Lincoln Taylor (Advisor: Adam Dolezal)

Sarah Winnicki-Smith (Advisor: Thomas Benson)

2022: Lauren Otoloski (Advisor: Jim Dalling)

### **Harley J. Van Cleave Research Award**

2021: Nicholas Antonson (Advisor: Mark Hauber)

Colby Behrens (Advisor: Alison Bell)

Elizabeth Bello (Advisor: Marianne Alleyne)

Sulagna Chakraborty (Advisor: Brian Allan)

Manuel Flores (Advisor: Jim Dalling)

Kevin Neumann (Advisor: Alison Bell)

2022: Neal Benjamin, (Advisor: Al Roca),

Mac Chamberlain (Advisor: Mark Hauber)

Facundo Fernandez-Duque (Advisor: Mark Hauber)

Faith Hardin (Advisor: Eva Fischer)

Kenneth Jops (Advisor: James O'Dwyer)

Scott Lakeram (Advisor: Surangi Punyasena)

Derek McFarland (Advisor: Brian Allan)

Simran Singh (Advisor: Daniel Miller)

Sreelakshmi Suresh (Advisor: Adam Dolezal)

Emily Terrill (Advisor: Eva Fischer)

Jonathan Tetlie (Advisor: Alex Harmon-Threatt)

### **Francis M and Harlie M. Clark**

#### **Summer Fellowships**

2021: Marc-Elie Adaime (Advisor: Surangi Punyasena) Angel

Rivera-Colon (Advisor: Julian Catchen)

2022: Edward Hsieh (Advisor: Adam Dolezal)

Sarah Winnicki-Smith (Advisors: TJ Benson and Mark Hauber)

### **Francis M. and Harlie M. Clark**

#### **Research Support Grants**

2021: Kat Coburn (Advisor: Alex Harmon-Threatt)

Maria Cox (Advisor: Ripan Malhi)

Qihong Dai (Advisor: Cory Suski)

Luke Hearon (Advisor: Carla Cáceres)

Edward Hsieh (Advisor: Adam Dolezal)

Ratna Karatgi (Advisor: Becky Fuller)

Meghan Maciejewski (Advisor: Alison Bell)

Derek McFarland (Advisor: Brian Allan)

Jinjin Song (Advisor: Ray Ming)

Lisa Surber (Advisor: Eva Fischer)

Abbi Turner (Advisor: Mark Hauber)

Patrick Wilson (Advisor: Carla Cáceres)

2022: Tristan Barley (Advisor: Adam Dolezal)

Kasey Brockelsby (Advisor: Becky Fuller)

Jeannette Cullum (Advisor: Carla Cáceres)

Siti Fauziyah (Advisor: Marianne Alleyne)

Jennifer Feng (Advisor: Surangi Punyasena)

Sumashini Pagaldevatti (Advisor: Jim Dalling)

Sana Saboowala (Advisor: Ripan Malhi)

Lincoln Taylor (Advisor: Adam Dolezal)

Abby Weber (Advisor: Phil Anderson)

### **Mary F. Willson Graduate Research Fund**

2022: Kevin Neumann (Advisor: Alison Bell)

# STUDENT AWARDS

## ENTOMOLOGY AND ILLINOIS NATURAL HISTORY SURVEY (INHS) AWARDS

### **Entomology Undergraduate Research Award**

2021: Erinn Dady

2022: Yutao Chen, Bridget Dwyer, Jacob Tamarri

### **Herbert Holdsworth Ross Memorial Awards**

2021: Joseph Edwards (Advisor: Wendy Yang)

Jordan Holtswarth Hartman (Advisor: Eric Larson)

2022: Phillip Hogan (Advisor: Ed Dewalt)

Lance Jones (Advisor: Stephen Downie)

J. Adilson Pinedo Escatel (Advisor: Chris Dietrich)

Daniel Swanson (Advisor: Sam Heads)

Jacob Tamarri (Advisor: Sam Heads)

Jared Thomas (Advisor: Sam Heads)

Cariad Williams (Advisor: Sam Heads)

### **Phillip W. Smith Memorial Award**

2021: Sarah Douglass (INHS)

2022: Faith Hardin (Advisor: Eva Fischer)

### **William H. Luckmann Award**

2021: Emily Struckhoff (Advisor: Chris Stone)

2022: Siti Fauziyah (Advisor: Marianne Alleyne)

### **Fred H. Schmidt Summer Scholar**

2021: Tristan Barley (Advisor: Adam Dolezal)

Charles Dean (Advisor: May Berenbaum)

Phillip Hogan (Advisor: Ed Dewalt)

Joshua Gibson (Advisor: Andy Suarez)

2022: Miles Arceneaux (Advisor: Esther Ngumbi)

Siti Fauziyah (Advisor: Marianne Alleyne)

Sreelakshmi Suresh (Advisor: Adam Dolezal)

### **Entomology Summer Stipend Award**

2021: Elizabeth Bello (Advisor: Marianne Alleyne)

Kat Coburn (Advisor: May Berenbaum)

J. Matthew Flenniken (Advisor: Brian Allan)

Edward Hsieh (Advisor: May Berenbaum/Adam Dolezal)

2022: Elizabeth Bello (Advisor: Marianne Alleyne)

Kat Coburn (Advisor: Tommy McElrath)

Aaron Mleziva (Advisor: Esther Ngumbi)

Sreelakshmi Suresh (Advisor: Adam Dolezal)

Daniel Swanson (Advisor: Sam Heads)

### **Ellis MacLeod/Metcalf Award for Outstanding Teaching by a Graduate Student in the Department of Entomology**

2021: Rachel Skinner (Advisor: Chris Dietrich)

2022: Edward Hsieh (Advisors: Adam Dolezal/May Berenbaum)

## EVOLUTION, ECOLOGY, AND BEHAVIOR AWARDS

### **Edwin M. Banks Memorial Award**

2021: Meghan Maciejewski (Advisor: Alison Bell)

Lisa Surber (Advisor: Eva Fischer)

2022: Abbigail Turner (Advisor: Mark Hauber)

Patrick Wilson (Advisor: Carla Cáceres)

### **Odum-Kendeigh Research Award**

2021: Angel Rivera-Colon (Advisor: Julian Catchen)

Hannah Scharf (Advisor: Mark Hauber)

Abbi Turner (Advisor: Mark Hauber)

Patrick Wilson (Advisor: Carla Cáceres)

2022: Colby Behrens (Advisor: Alison Bell)

Mac Chamberlain (Advisor: Mark Hauber)

Meghan Maciejewski (Advisor: Alison Bell)

Lisa Surber (Advisor: Eva Fischer)

### **Evolution, Ecology, and Behavior Summer Stipend Award**

2021: Colby Behrens (Advisor: Alison Bell)

Hannah Darcy (Advisor: Phil Anderson)

Cody Jones (Advisor: Ken Paige)

Alec Luro (Advisor: Mark Hauber)

Niraj Rayamajhi (Advisor: Julian Catchen)

Lisa Surber (Advisor: Eva Fischer)

Abbi Turner (Advisor: Mark Hauber)

Patrick Wilson (Advisor: Carla Cáceres)

2022: Nicholas Antonson (Advisor: Mark Hauber)

Kasey Brockelsby (Advisor: Becky Fuller)

Hannah Darcy (Advisor: Phil Anderson)

Faith Hardin (Advisor: Eva Fischer)

Giovanni Madrigal (Advisor: Julian Catchen)

Bradley Scott (Advisor: Phil Anderson)

Simran Singh (Advisor: Dan Miller)

Emily Terrill (Advisor: Eva Fischer)

### **Thomas Frazzetta Award for Outstanding Teaching in Evolution, Ecology, and Behavior**

2021: Bradley Scott (Advisor: Phil Anderson)

2022: Shelby Lawson (Advisor: Mark Hauber)

# STUDENT AWARDS

## PLANT BIOLOGY AWARDS

### **Harold C. and Sonja L. Labinsky Award**

2021: Dessiree Zerpa (Advisor: Ray Ming)

2022: Sumashini Pagaldevatti (Advisor: Jim Dalling)

### **John R. Laughnan Award**

2021: Georgia Seyfried (Advisor: Wendy Yang)

2022: Manuel Flores (Advisor: Jim Dalling)

### **Govindjee and Rajni Govindjee Award for Excellence in Biological Research**

2021: Manuel Flores (Advisor: Jim Dalling)

### **Plant Biology Summer Stipend Award**

2021: Manuel Flores (Advisor: Jim Dalling)

Kenny Jops (Advisor: James O'Dwyer)

Scott Lakeram (Advisor: Surangi Punyasena)

Jennifer Quebedeaux (Advisor: Andrew Leakey)

2022: Gabriel Beuchat (Advisor: Li-Qing Chen)

Manuel Flores (Advisor: Jim Dalling)

Karla Griesbaum (Advisor: Katy Heath)

Lance Jones (Advisor: Stephen Downie)

Kenneth Jops (Advisor: James O'Dwyer)

Sumashini Pagaldevatti (Advisor: Jim Dalling)

Scott Lakeram (Advisor: Surangi Punyasena)

### **Award for Outstanding Teaching in Plant Biology**

2021: Ceci Prada (Advisor: Jim Dalling)

2022: Kenneth Jops (Advisor: James O'Dwyer)

## TEACHING AND MENTORING AWARDS

### **John G. & Evelyn Hartman Heiligenstein Outstanding Teaching Assistants**

2021: Amanda Curtis (Advisor: Eric Larson)

Jennifer Quebedeaux (Advisor: Andrew Leakey)

Alex Riley (Advisor: Katy Heath)

2022: Faith Hardin (Advisor: Eva Fischer)

Edward Hsieh (Advisors: Adam Dolezal/May Berenbaum)

Katherine Strailey (Advisor: Cory Suski)

### **Sharon Gray Memorial Award**

2021: Siyu Gao (undergraduate) & Sulagna Chakraborty (graduate)

2022: Jamily Martin (undergraduate) & Jonathan Tetlie (graduate)

## PROGRAM IN ECOLOGY, EVOLUTION, AND CONSERVATION BIOLOGY AWARDS

### **PEEC Summer Research Grant**

2021: Sulagna Chakraborty (Advisor: Brian Allan)

Maria Cox (Advisors: Ripan Malhi/Jessica Brinkworth)

Amanda Curtis (Advisor: Eric Larson)

Joseph Edwards (Advisor: Wendy Yang)

Ratna Karatgi (Advisor: Becky Fuller)

Kira Long (Advisor: Jeff Brawn)

Kevin Neumann (Advisors: Alison Bell/Andy Suarez)

Kevin Ricks (Advisor: Anthony Yannarell)

Sarai Stuart (Advisor: Gene Robinson)

2022: Sulagna Chakraborty (Advisor: Brian Allan)

Jeannette Cullum (Advisor: Carla Cáceres)

Facundo Fernandez-Duque (Advisor: Mark Hauber)

Ratna Karatgi (Advisor: Becky Fuller)

Derek McFarland (Advisor: Brian Allan)

Kevin Neumann (Advisor: Andy Suarez & Alison Bell)

Lauren Otoloski (Advisor: James Dalling)

Sana Saboowala (Advisor: Ripan Malhi)

Katharina Soto (Advisor: Eva Fischer)

Sarai Stuart (Advisor: Gene Robinson)

Sarah Winnicki-Smith (Advisor: TJ Benson & Mark Hauber)

### **PEEC Summer Stipend Award**

2021: Alice Doucet Beaupre (Advisor: James O'Dwyer)

Sulagna Chakraborty (Advisor: Brian Allan)

Amanda Curtis (Advisor: Eric Larson)

Joseph Edwards (Advisor: Wendy Yang)

Kevin Ricks (Advisor: Anthony Yannarell)

Sarai Stuart (Advisor: Gene Robinson)

Nicholas Sutton (Advisor: James O'Dwyer)

Grace Tan (Advisor: Andrew Leakey)

Sarah Winnicki-Smith (Advisors: Mark Hauber/TJ Benson)

2022: Sulagna Chakraborty (Advisor: Brian Allan)

Jeannette Cullum (Advisor: Carla Cáceres)

Qihong Dai (Advisor: Cory Suski)

Facundo Fernandez-Duque (Advisor: Mark Hauber)

Isaiah Goertz (Advisor: Rachel Whitaker)

Ratna Karatgi (Advisor: Becky Fuller)

Derek McFarland (Advisor: Brian Allan)

Lauren Otoloski (Advisor: James Dalling)

Sana Saboowala (Advisor: Ripan Malhi)

Elle Sawyer (Advisor: Eric Larson)

Katharina Soto (Advisor: Eva Fischer)

Katherine Strailey (Advisors: Cory Suski/Piotr Cienciala)

# STUDENT AWARDS

## UNDERGRADUATE SCHOOL HONORS

The following students graduated in 2021 and 2022 with distinctions.

### **Distinction**

2021: Amira Alburei

Gabriel T. Harmon

Bryana M. Rivera

Katharine Hanna Stenstrom

Fahren R. Zackery

2022: Jonathan Wing-Heng Chan

Anna Eleonora Dec

Justine Anne Macalindong

Evi Lynn Malone

Hannah Taylor Salzberg

Madison Marie Stoltz

Armit Subbarao

Mariam Jihan Ouzidane

Omolabake Oluwaremilekun Oyetayo

### **High Distinction**

2021: Anil Justin Chakravorty

Mira Nichole McLain

Harsha Teja Namburi

Jacob Norbot

Emily Elizabeth Terrill

Jillian Zwierz

2022: Alexis Jenna Alvey

Yutao Chen

Joanna Maria Droppo

Bridget A. Dwyer

### **Highest Distinction**

2021: Daniel Luis Clark

Sarah Anne Gill

2022: Rebecca Lynn Ducay

James Constantino Kosmopoulos

Grace H. Westphal

## TEACHERS RANKED EXCELLENT

Rankings by students in Integrative Biology Courses Taught  
Spring 2021, Summer 2021, Fall 2021 and Spring 2022

### **Spring 2021**

Nick Anderson

Phil Anderson

Colby Behrens

Gabriel Beuchat

Daniel Bush

Jules Chabain

Sulagna Chakraborty

Chris Cheng -De Vries

Ben Clegg

Kat Coburn

Amanda Curtis

Qihong Dai

Mark Davis

Charles Dean

Adam Dolezal

Stephen Downie

Joe Edwards

Matthew Flenniken

Caroline Friedmann

Mark Hauber

Edward Hsieh

Cody Jones

Kenny Jops

Alessa Laserna Cowal

Shelby Lawson

Kira Long

Alec Luro

Esther Ngumbi

Kylee Noel

Allison O'Dwyer

Tolulope Perrin -Stowe

Jennifer Quebedeaux

Cameron Schwing

Katherine Strailey

Andy Suarez

Lisa Surber

Christina Swanson

Lincoln Taylor

Andrew Wszalek

### **Summer 2021**

Joanne Manaster

### **Fall 2021**

Marc Elie Adaime

Brian Allan

Miles Arceneaux

Alison Bell

May Berenbaum

Carla Cáceres

Sulagna Chakraborty

Mac Chamberlain

Ben Clegg

Kat Coburn

Roberto Cucalon Tamayo

Eva Fischer

Matthew Flenniken

Caroline Friedmann

Anna Grommes-Yeager

Faith Hardin

Kenny Jops

Scott Lakeram

Alessa Laserna Cowal

Kira Long

Aaron Mleziva

Maggie Murphree

Allison O'Dwyer

Sumashini Pagaldevatti

Michael Rivera

Charles Roseman

Aiden Schore

Ivan Sosa Marquez

Katherine Strailey

Andy Suarez

Lisa Surber

Sreelakshmi Suresh

Christina Swanson

Daniel Swanson

Lincoln Taylor

Abbi Turner

Casey Wagnon

Jim Whitfield

Sarah Winnicki-Smith

### **Spring 2022**

Marc Elie Adaime

Brian Allan

Nicholas Antonson

Miles Arceneaux

Tristan Barley

May Berenbaum

Carla Cáceres

Mac Chamberlain

Chris Cheng-DeVries

Ben Clegg

Kat Coburn

Qihong Dai

Adam Dolezal

Joseph Edwards

Manuel Flores

Caroline Friedmann

Karla Griesbaum

Edward Hsieh

Cody Jones

Lance Jones

Kenneth Jops

Joanne Manaster

Aaron Mleziva

Esther Ngumbi

Kylee Noel

Surangi Punyasena

Simran Singh

Katherine Strailey

Andy Suarez

Lisa Surber

Christina Swanson

Daniel Swanson

Abbi Turner

Sarah Winnicki-Smith

# IMPACT OF GIVING

## Mary F. Willson Graduate Research Fund

The School of Integrative has established an endowed graduate research fund to honor Professor Mary F. Willson, our mentor, colleague, and friend.

Mary Willson was one of the early architects of the field of evolutionary ecology, a discipline which examines the origin and function of traits that contribute to organismal adaptations in nature. A hallmark of Mary's contribution to the field is the union of a strong conceptual foundation with an appreciation for the natural history of organisms.

During her long and distinguished career on the faculty at the University of Illinois (1966-1990), she moved the field forward by not being limited to the standard approach of asking "how" organisms behave a certain way, and instead asked "why" they do so. It is this perspective that inspired her students and colleagues to pursue studies of major unresolved questions in avian ecology, plant ecology, and plant-animal interactions, while embracing the rich diversity of nature.

The Mary F. Willson Graduate Research Fund will help cover the cost of supplies and travel associated with graduate student field research.



---

## Dr. Andrew Suarez named Inaugural Jeffrey S. Elowe Professor in Integrative Biology

We were honored to bestow upon Dr. Andy Suarez this past spring the *Jeffrey S. Elowe Professorship in Integrative Biology*.

This significant honor recognizes the achievements that Dr. Suarez has provided to the University and greater academic community. This endowed professorship provides generous funding to ensure his research and teaching efforts are further supported, enabling him and his students further opportunities within the classroom, laboratory, and field environment. Endowed professorships are one of the greatest honors that the University can bestow upon a faculty.

Dr. Suarez is a professor in the Department of Entomology, professor and former head of the Department of Evolution, Ecology and Behavior. He is an Illini alum himself, receiving his BS in Ecology, Ethology and Evolution (1991), and an MS in Biology (1994) before receiving his PhD from the University of California San Diego (2000).



Dr. Jeffrey Elowe (left) and Dr. Andy Suarez (right)

He returned to Champaign-Urbana in 2003 as faculty. His research program capitalizes on the developmental and ecological flexibility of ants to examine topics including the causes and consequences of biological invasions, the evolution of recognition systems, and the evolution of morphological specialization in trap-jaw ants.

This position was generously created by Dr. Jeffrey S. Elowe, BS in Biology (1985) from the University. Dr. Elowe founded The Laramar Group and its predecessor in 1989. Laramar is a nationally recognized investment and management firm that has been ranked in the 50 largest U.S. firms by the National Multi-Housing Council and has been named as one of the 'Best Places to Work' and 'Best Places to Work for Women' by Multi-Family Executive for the past two years. Dr. Elowe is chairman of the investment committee and is responsible for the company's overall strategic planning and growth. He is the former chairman of the board for the North Lawndale College Prep Charter Schools and a former board member of Chicago Jewish High School.

# IMPACT OF GIVING

The Department of Plant Biology has established a fund in honor of the late Dr. Tom Phillips. Generously funded by Mr. Michael and Mrs. Lalana Fortwengler, the Tom L. Phillips Memorial Fund for Paleobotany is designed to support research related to Tom’s lifetime work on a globally unique collection of fossil coal balls.

Tom Phillips was a classically trained plant morphologist, evolutionary biologist, and, later, paleoecologist. Throughout most of his career he focused on reconstructing the plant communities of ancient so-called coal swamps, the large, peat-forming wetlands that characterized much of the tropical world during the Pennsylvanian and Permian “Coal Age” time periods. This involved painstakingly identifying fossil plants preserved in remarkable detail – often down to the cellular level – in geological features known as “coal balls”. In doing so, he assembled a vast collection of coal balls from mining sites across the country. This formed the world’s pre-eminent collection of this key class of fossils, which store a record of what the world was like more than 260 million years ago, before dinosaurs became prevalent. For this exceptional work, he was elected to the National Academy of Sciences. He also meticulously catalogued the coal ball collection so future scientists could continue to reveal the many other remarkable stories of ancient worlds contained within it.

The fund has already supported three graduate students conducting paleobotanical research. Nine undergraduates have been able to work with the coal ball collection, including students conducting IB Honors Thesis research. A fifth undergraduate student was able to travel to the Smithsonian Tropical Research Institute’s Center for Tropical Paleocology and Archaeology. The fund will also support the development of an image analysis platform, so that the collection can enter the digital age and be made much more widely available to the paleobotanical community. Research results supported by the fund have been used to gain additional funding from the University of Illinois Research Board and National Center for Supercomputing Applications.

The School of Integrative Biology and the Department of Plant Biology are deeply appreciative of Mr. and Mrs. Fortwengler’s gift, which will continue this important work as we train future researchers. To learn more about Tom Phillips’ legacy, please visit: [go.illinois.edu/Tom-Phillips-Biography](http://go.illinois.edu/Tom-Phillips-Biography).



Left to right: Mark Taylor (Assoc. Professor, Architecture); Surangi Punyasena (Assoc. Professor, Plant Biology); Michael Fortwengler; Lalana Fortwengler.

## 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](http://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](mailto:sillima2@illinois.edu) or visit [sib.illinois.edu/alumni](http://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](mailto:sib@life.illinois.edu). We look forward to hearing from you and celebrating your success.

[sib.illinois.edu](http://sib.illinois.edu) @iBiollinois



## 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](http://sib.illinois.edu/alumni).

For more information, please contact:



### Paul Winterbotham

Associate Director of Development  
LAS Office of Advancement

[paulww@illinois.edu](mailto:paulww@illinois.edu) | (217) 300 9993

## School of Integrative Biology

University of Illinois  
286 Morrill Hall, MC-120  
505 S. Goodwin Ave.  
Urbana, IL 61801

# 2022 PHOTOGRAPHY COMPETITION

Congratulations to our 2022 winners! The categories were Nature: Landscape, Nature: Organisms, Biologists at Work, and Biological Imaging.

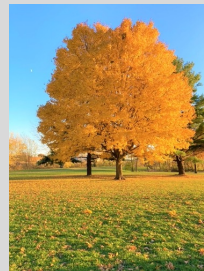
### Nature, Landscape:

1. Galapagos Sunset – Shelby Lawson
2. Daylight savings – Katharina Soto
3. Resting on the Laugayegur Trail – Lorenzo D’Alessio

### 1<sup>st</sup> Place



### 2<sup>nd</sup> Place

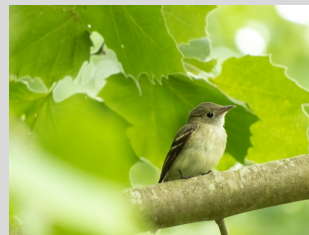
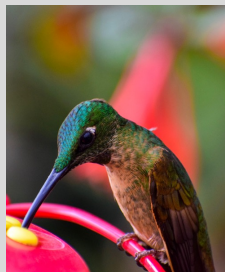


### 3<sup>rd</sup> Place



### Nature, Organisms:

1. Hummingbird Feeding – Alexandra Kuleszynski
2. Perching Peeper – Nicholas Antonson
3. Dad and Tad – Sarah Westrick



### Biologists at Work:

1. Downy – Melissa Singleton
2. Entomologists in Training – Christina Swanson
3. There’s a frog in my boot! – Hannah Scharf



### Biological Imaging:

1. On the Wing – Liz Bello
2. Twin Texas Salamanders – Hannah Darcy
3. Metschnikowia bicuspidate penetrates Daphnia magna gut – Patrick Wilson

