Entomology

Newsletter 2023-2024

(Blue Doctor, *Rhetus dysoni*, courtesy of Joseph Spencer)

Department of Entomology
University of Illinois Urbana-Champaign

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MESSAGE FROM THE HEAD

It's been a couple of entomologically eventful years since our last newsletter came out. Among other things in 2023, our statewide arthropod diversity increased by at least a couple of unwelcome species—on September 28, *Lycorma delicatula*, the spotted lanternfly, made its first documented appearance in Illinois (in Chicago: https://agr.illinois.gov/insects/pests/spotted-lanternfly.html) and the presence of the invasive tick species *Haemaphysalis longicornis*, or Asian longhorned tick, was confirmed in Illinois for the first time in spring 2024, bringing the total number of states where it has been reported to 20 (https://www.reconnectwithnature.org/news-events/the-buzz/asian-longhorned-tick-sighting-illinois/). And of course the most conspicuous insects in Illinois in 2024 were periodical cicadas, all seven species: Brood XIX, which includes four 13-year species, and Brood XIII, which includes three 17-year species (and the 2024 double-brood was a once-every-221-years occurrence). The Illinois cicada-palooza brought a number of alumni back to campus for a visit, mostly to see the insects in nearby Piatt County but many took the time to stop in at Morrill Hall; visitors included Christine Armer, Claire Rutledge, Lee Solter, and Lisa Carloye. Also coming to campus to talk cicadas with entomologists was Brooklyn (NY) chef Joseph Yoon, a celebrity chef and "Edible Insect Ambassador," excited at the prospect of collecting nymphs and testing recipes.

The years 2023-2024 saw quite a few changes within our faculty ranks. Andy Suarez, whom some alumni might recall was hired in 2003 with a 50 / 50 split appointment between Animal Biology and Entomology, which changed to 75% AB / 25% Ent in 2014 when he became Head of AB, and then, after AB became EEB, changed to 25% EEB / 75% Ent when he became Acting Head of Entomology while I was on a medical/sabbatical leave. Adam Dolezal also moved, but in rank, not departments—from assistant professor to associate professor with indefinite tenure in 2024. And our two long-time departmental systematists, Jim Whitfeld and Sydney Cameron, changed addresses after retiring and now spend part of each year in their new (but architecturally 234-year-old) home in Cornwall, UK.

Fortunately, LAS allowed us to conduct a search for a new assistant professor in 2021-22, which is how Dominic Evangelista, from Adelphi University in Garden City, NY, joined our department in 2022, taking over teaching IB468, Insect Classification and Evolution, in 2023. Xuguo "Joe" Zhou joined our faculty as the Kearns Metcalf and Flint Endowed Chair in Insect Toxicology after a long search (beginning when Barry Pittendrigh left UIUC in 2016). He's now ensconced in the newly remodeled fifth floor lab along with thousands of termites, which he brought with him from his previous digs (and here's hoping the termites remain ensconced in the fifth floor insectary). It didn't take long for Joe's research to attract press attention: his review on corpse management behavior in social insects (https://pmc.ncbi.nlm.nih.gov/articles/PMC3619097/) was featured in PCT Magazine (https://www.pctonline.com/article/flavipes-funeral/) and was cited in a New York Times article on animal awareness of death (https://rb.gy/n6690g). (By the way, for whatever it's worth, I don't recommend searching the New York Times archive with the term "corpse management".) In an unprecedented run of good luck, we were also allowed to recruit another assistant professor. As part of an effort to expand departmental capacity in microbiome work, we successfully recruited Matthew Doremus, who received his PhD from University of Arizona in 2022 on the manipulative symbiont *Cardinium* and from there worked as a postdoctoral scholar at University of Kentucky studying heritable symbionts in spiders. He started here in December 2024, settling in on the third floor of Morrill Hall and eventually bringing bugs of the microbial kind with him.

As for new affiliates, in 2023, Aron Katz, an insect systematist with interests in biodiversity and sustainability who received his PhD from UIUC, became our first affiliate from the Construction Engineering Research Laboratory (CERL) on the UIUC campus; we're looking forward to forging closer relationships with this unique institution, the mission of which overlaps ours in terms of emphasizing biodiversity conservation. In addition, Jason Bried at the Illinois Natural History Survey became an affiliate; his major research interests are in wetland ecology and assessment and insect conservation, with a focus on dragonflies and damselflies. In ACES, new Crop Sciences assistant professor Kacie Athey, whose interests

include natural enemies and biological control, became an Entomology affiliate faculty, as did assistant professor Nick Seiter; both Nick and Kacie are faculty extension specialists.

UIUC entomologists were also active in publishing books. In 2023, Jim Nardi published (and, as the book jacket states, "spectacularly illustrated") his sixth book, *The Hidden Company That Trees Keep; Life from Treetops to Root Tips* (Princeton University Press); he also married Joyce Scott and then retired (after more than 45 years at UIUC) and moved to Indiana (where there are presumably more trees to write about than in central Illinois). In 2024, alumni Christina Grozinger and Harland Patch published *The Lives of Bees: A Natural History of Our Planet's Bee Lif*e (Princeton University Press), which was very favorably reviewed by David Gascoigne in the Travels With Birds blog.

Our faculty, students, and alumni continue to receive awards and external recognition of all sorts. Assistant (now Associate) Professor Adam Dolezal received the Young Investigator Award from the MDPI journal *Insects* in 2023 and in 2024 was named the UI Centennial Bee Research Professorial Scholar. Gene Robinson continues to serve with distinction as a member of the Council of the National Academy of Sciences and the Executive Committee of the Governing Board of the National Academies of Sciences, Engineering, and Medicine. In 2023, postdoctoral alumna Hongmei Li-Byarlay (2008-2013), now at Central State University, was presented with the John V. Osmun Alumni Professional Achievement Award in Entomology from Purdue University. By the way, it has not escaped notice that these award-winners all work on the same species (i.e., *Apis mellifera*). Alex Harmon-Threatt, whose work is also bee-centric (albeit focused on a different set of bees), received both the LAS Award for Teaching Excellence and the Campus Award for Teaching Excellence in 2024.

With respect to our office staff, in 2023, our beloved Office Administrator Kim Leigh celebrated her 10th anniversary of joining our department. The first email message I received from Kim was sent 2/12/13 at 8:52 am, to which was attached Brian Allan's Comm.9 promotion document (assistant to associate). The second email she sent to me was to let me know that I had (inadvertently) left her email address out of a message I sent to the department announcing the date and time of the going-away party for Audra Weinstein, whom she was replacing (oops). Also in office news, on September 30, 2024, EEB/PEEC/occasional Entomology secretary Liz Barnabe retired.

In terms of outreach, the Insect Fear Film Festival often brings alumni back to campus, and the 40th and 41st festivals were no exception. Alumni who returned included Emerson Lacey, Josh Gibson, and of course festival stalwarts Nathan Schiff and Ellen Green. Other returnees included John Tooker, now on the faculty at Penn State, who returned as Alumni speaker, and Tugrul Giray, Interim Director of the Department of Biology, University of Puerto Rico, who came back to present a seminar in 2024 (the same year he served a term as Panel Manager for the USDA NIFA-EER program).

In building news, Morrill Hall celebrated its 60th birthday in 2023; I guess I commemorated the occasion with a medical diagnosis of atelectasis, a lung condition often associated with asbestos exposure. This was not necessarily a definitive diagnosis of asbestos-related disease, but it certainly raises the possibility that 216D Morrill, the office I've occupied for 43 years, might have an asbestos issue. In other news, because I took a brief medical leave in Fall 2024 (not for atelectasis!), Andy Suarez assumed some of the responsibilities for the position as Interim Head; thus it was that, for the first time since 1992, alumni at the EntSoc mixer had a meat choice on the menu; sadly, though, there was no chocolate fountain. No venue in recent years has offered one; I think the era of chocolate fountains has passed, possibly due to concerns about allergies or possibly sanitation (even I have to admit they could get messy). Speaking of serving as Head, I had my fifth fifth-year review in May 2024, with the committee comprising Francina Dominguez of the Department of Climate, Meteorology & Atmospheric Sciences and Alex Harmon-Threatt, M Alleyne, and Adam Dolezal from our Department. I haven't yet seen the committee's report, but no one has changed the lock on my office door, which I take as a good sign…

And one more thing—Andy, thank you from the bottom of my hear for taking on leadership responsibilities for Entomology on top of everything else you do! You're the best!

FACULTY AWARDS AND RECOGNITION

LAS Dean's Awards for Excellence in Undergraduate Teaching

"**Alex Harmon-Threatt** is a professor in the Department of Entomology. She has become one of the most engaged and sought-after instructors and research mentors in the School of Integrative Biology and has become known for eliciting high levels of engagement and participation even in large lecture courses. "I reflect on my experiences with her often when … consulting with my own students and research assistants, hoping to capture the same excitement and dedication that she demonstrated regularly," wrote a former student, Nicole Wonderlin." [https://las.illinois.edu/news/2024-02-02/college-las-announces-teaching-and-advising-awards]

MDPI *Insects* 2022 Young Investigator Award

"We are pleased to announce that the winner of the *Insects* 2022 Young Investigator Award is Dr. **Adam G. Dolezal**.

Dr. Adam G. Dolezal is an Assistant Professor of the Department of Entomology at the University of Illinois Urbana-Champaign, Urbana, United States. Dr. Adam G. Dolezal's research interests are in physiology, genes and behavior and honey bee biology. Dr. Adam G. Dolezal received his PhD in 2012 and has an outstanding publication record, comprising 42 publications in peer-reviewed international journals. Dr. Adam G. Dolezal's Scopus scientific citations number is 1195 and his Hirsch index is 21. He is clearly a rising star in the field of entomology. Please join us in congratulating Dr. Adam G. Dolezal for his outstanding achievements.

As the awardee, Dr. Adam G. Dolezal will receive an honorarium of CHF 2000, an offer to publish a paper free of charge before end of 2023 in *Insects* after peer review, and an electronic certificate." [https://www.mdpi.com/journal/insects/awards/1774]

ALUMNI AWARDS AND RECOGNITION

Entomological Society of America Eastern Branch Distinguished Achievement Award in Extension

"A special congratulations to **Eric Day** [MS 1986] for earning the Entomological Society of America Eastern Branch Distinguished Achievement Award in Extension!

Eric Day is the manager of our Virginia Tech Insect Identification Lab, and his work covers almost every corner of the insect world in Virginia. In addition to identifying insects for the public and Virginia Cooperative Extension offices all over the state, he is also at the forefront of the battle against invasive insect pests throughout Virginia. Eric leads entomology citizen science projects, authors Extension fact sheets, and is frequently interviewed by the media for insect related topics."
[https://www.facebook.com/photo.php?fbid=817372236867615&id=100057845372051&set=a.498890428715799]

John V. Osmun Alumni Professional Achievement Award in Entomology

"On September 29, 2023, Dr. **Hongmei Li-Byarlay** received the John V. Osmun Alumni Professional Achievement Award in Entomology! John V. Osmun was Head of the Department of Entomology from 1956 - 1972. Upon retirement from the Purdue Entomology faculty in 1987, an award fund, The John V. Osmun Alumni Professional Achievement Award in Entomology, was established in his honor. The award is in recognition of John Osmun's long career, professionalism, and great respect for Entomology alumni.

Dr. Hongmei Li-Byarlay obtained her BSc from Tianjin Normal University (China) in 1999, her MS from Nan Kai University (China) in 2002 and her PhD from Purdue Entomology in 2007. She subsequently completed postdoctoral fellowships at the University of Illinois (2008-2013) and the University of North Carolina (2014-2017). Since 2017 she has been a professor at Central State University, a historically black college and university and a new 1890 land grant institution in Wilberforce, Ohio, achieving tenure and promotion to Associate Professor in 2022.

Dr. Li-Byarlay's research focuses on honey bee genetics and genomics, balancing both fundamental research into bee genetic processes and applied research supporting bee health. Her recent work has been strongly supported by NSF and USDA grants across a range of programs, many of which develop under-represented undergraduate student scholars while addressing industry and public needs for pollinator protection. She is a prodigious mentor with over 40 student mentees across her time at Central State.

Congratulations Dr. Li-Byarlay!"
[https://ag.purdue.edu/news/department/entm/2023/10/dr-hongmei-li-byarlay-receives-2023-john-osmun-award.html]

ALUMNUS MAURICE TANQUARY AND THE CROCKER LAND EXPEDITION

The year 2023 is the 110th anniversary of the Crockerland Expedition, a member of which was our alumnus **Maurice Tanquary**, who led an exciting life worthy of inclusion in the Entomology newsletter. The text below is from Wikipedia [https://en.wikipedia.org/wiki/Maurice_Cole_Tanquary].

Tanquary in 1913*

"He was born and raised in Lawrenceville, Illinois, grew up on a farm and attended local public schools. He furthered his education at Vincennes University, where he played an active role in the Tau Phi Delta society, contributing to its initial constitution and by-laws. In 1903, he graduated from Vincennes University and subsequently taught at Lawrence County's public schools for four years. Pursuing higher education, he sought degrees at the University of Illinois, obtaining his AB in 1907, MA in 1908, and PhD in 1912. During his time at the University of Illinois, Tanquary worked as a part-time assistant to the State Entomologist of Illinois [Stephen A Forbes] between 1908 and 1909. He also undertook summer studies at Harvard University in 1910 and served as a field agent for the State Entomologist of Minnesota in 1911. Notably, Tanquary played an active role in campus life, founding the Ionian Literary Society and becoming a charter member of the Acacia fraternity. He served as the national treasurer of Acacia from 1908 to 1909.

After earning his doctorate he became a professor of agriculture at Kansas State Agricultural College in 1913 where he was given leave to join the Crocker Land Expedition as a zoologist later that year.

Crocker Land Expedition

As the zoologist for the expedition, Tanquary was not involved in the final push to find the island from the village of Etah in northern Greenland. Instead, he and fellow Illinois alumnus Walter Elmer Ekblaw [geologist, ornithologist, botanist for the expedition] were stationed at a Danish trading post 120 miles to the south. They became stranded there after Ekblaw was struck with snow blindness and almost ran out of food in 1914. They were rescued just in time in August and returned to Etah.

In December 1914 Tanquary and Donald Baxter MacMillan set off by dogsled for southern Greenland in an attempt to send out word that Crocker Land did not exist and that they would need a rescue ship in 1915. During the trip they became lost for ten days in temperatures as low as -50F. Running low on provisions, they had to eat several of their dogs. As luck would have it, they happened upon an Eskimo settlement. MacMillan decided to return to Etah and have Tanquary complete the journey with a Danish trader and an Eskimo guide. After making it to the mail station in southern Greenland, Tanquary made the 400 mile trip back to Etah. Along the way, Tanquary removed his boots and pieces of raw, bleeding skin and flesh fell off his rotting toes. Despite the frostbite, Tanquary managed to drive his dog team to Etah, where his big toes were amputated. Ekblaw described Tanquary's dash back to Etah as 'the grittiest exploit of the expedition.'

Tanquary's message for help was received and a rescue ship was sent. Unfortunately, the ship became entrapped in ice and Tanquary had to make another trip to the southern tip of the island. The trip began on December 16, 1915, from Etah and ended on April 20, 1916. He was able to catch a ride on a ship going to Copenhagen, Denmark which he reached on May 20, 1916. He promptly cabled New York asking for a second relief ship to be sent to the party and he made arrangements for his return to the U.S.. The second rescue ship, sent in the summer of 1916, also became stuck in the ice and the expedition was not rescued until 1917. Journals from Tanquary, Walter Ekblaw, Donald and Mirriam MacMillan are available online at the George J. Mitchell Department of Special Collections & Archives website. Digitization of materials at Bowdoin College related to the Crocker Land Expedition funded by the Gladys Krieble Delmas Foundation in 2016. He returned to Kansas State Agricultural College in 1916 as an assistant professor before becoming as associate professor in 1919. Later in 1919, he became the chief of entomology at the Texas Agricultural Experiment Station and was named Texas' state entomologist.

In 1920 he made a trip to Mexico to study the pink bollworm which infested cotton crops.

Tanquary was interested in apiculture and resigned in 1923 to enter professional beekeeping in North Dakota. He joined the University of Minnesota College of Agriculture as an entomologist in 1928 and remained there until 1944. While in Minnesota he devoted much of his time to the study of bees. He was also known as a good teacher who could apply experimental ability to practical manner."

[*Photo by Internet Archive Book Images - https://www.flickr.com/photos/internetarchivebookimages/17972424218/Source book page: https://archive.org/stream/americanmuseumjo13amer/#page/n201/mode/1up, No restrictions, https://commons.wikimedia.org/w/index.php?curid=43433867]

STUDENT NEWS

List of Outstanding Teachers in Entomology Department at UIUC
(*faculty underlined; * - The instructor ratings were outstanding.*)

Spring 2023
Brian Allan* (361), Miles Arceneaux*, Elizabeth Bello*, Morgan Brown, Erinn Dady, Adam Dolezal* (202, 432), Edward Hsieh, Aaron Mleziva, Esther Ngumbi* (496), Jonathan Tetlie

Fall 2023
Brian Allan (199, 230), Elizabeth Bello, Morgan Brown, Erinn Dady, Jared Martin*, Vincent Prayugo, Sreelakshmi Suresh*, Anupama Udayakumar, Annaliese Wargin, Cariad Williams*

Spring 2024
Brian Allan* (453), Tristan Barley, May Berenbaum, Erinn Dady, Adam Dolezal (432), Edward Hsieh, Esther Ngumbi (497), Kylee Noel

Fall 2024
Tristan Barley*, Morgan Brown, Yutao Chen, Erinn Dady, Adam Dolezal* (546), Larry Hanks (401), Cariad Williams

Campus awards
Undergraduate Entomology Research Award – Madeleine Shapiro (2023); Elijah Davis and Camden Kiefer (2024)
Ellis MacLeod/DuPont Award for Outstanding Teaching – Jonathan Tetlie (2023); Elizabeth Bello and Erinn Dady (2024)
John G. & Evelyn Hartman Heiligenstein Outstanding Teaching Assistants – Aaron Mleziva and Lincoln Taylor (2023)
Harley J. Van Cleave Research Award – Tristan Barley, Siti Fauziyah, Edward Hsieh, Samantha Mowery (2023); Quanquan (Chan) Liu, Samantha Mowery (2024)
William H. Luckmann Award – Wen-Yen Wu (2024)
Francis M. & Harlie M. Clark Research Support Grants – Vincent Prayugo, Jonathan Tetlie (2023); Tristan Barley, Erinn Dady, Vincent Prayugo, Timothy Wayman (2024)
Fred H. Schmidt Summer Scholars Award – Miles Arceneaux, Xavier Carroll, Phillip Hogan, Jared Martin (2023); Satinderpal Kaur, Vincent Prayugo, Timothy (Timo) Wayman (2024)
Entomology Summer Stipend Award – Elizabeth Bello, Kaitlyn Coburn, Erinn Dady, Siti Fauziyah, Phillip Hogan, Vincent Prayugo, Srelakshmi Suresh, Cariad Williams (2023); Elizabeth Bello, Xavier Carroll, Erinn Dady, Anugerah Fajar, Edward Hsieh, Quanquan (Chan) Liu, Rachel Rusen (2024)
Graduate College Conference Presentation Award – Siti Fauziyah, Phillip Hogan, Edward Hsieh, Vincent Prayugo (2023);
Ember Clodfelter, Anugerah Fajar, Satinderpal Kaur, Johanna Schwartz (2024)
Graduate College Dissertation Travel Grant – Quanquan (Chan) Liu (2024)
Beckman Institute Graduate Fellowship – Siti Fauziyah, Wen-Yen Wu (2023); Wen-Yen Wu (2024)

National/international awards for students
Entomological Society of America Annual Meeting – Tristan Barley (2nd place–student talk competition), Morgan Brown (2nd place–student poster competition), Ember Clodfelter (1st place– SysEB, Phylogenetics) (2023); Samantha Mowery (1st place–P-IE, Apiculture), Minxing Zhu (2nd place–P-IE, Chemical Ecology and Behavior), Edward Hsieh (2nd place–PBT, Apiculture), Ember Clodfelter (2nd place–SysEB, Phylogenetics and Behavior), Kylee Noel (MUVE section award winner for the Rising Stars of Entomology Award Symposium) (2024)
George C. Eickwort Student Research Award from the North American section of the International Union for the Study of Social Insects – Edward Hsieh (2024)
William L. and Ruth D. Nutting Research Grant from the International Union for the Study of Social Insects, North American Section (IUSSI-NAS) – Chan Liu (2024)
USDA NIFA Predoc Fellowship – Jonathan Tetlie (2023, 2024)
Alumnus Scott Clem received a USDA AFRI grant (2023) to bring to Illinois State, where he is now on the faculty of the Department of Biology ("Addressing key limitations to capitalizing on hover fly (Diptera: Syrphidae) pollination and biological control services" after receiving a USDA NIFA postdoctoral fellow under Dr. Bill Snyder in the Department of Entomology at the University of Georgia.

POLLINATARIUM NEWS 2023 and 2024
By Lesley Deem

POLLINATARIUM VISITORS & COLLABORATORS

2023:

As in past years, group tours included community and campus groups. In September we kicked off autumn at the Pollinatarium with a CEIBA (Central Eastern Illinois Beekeepers Association) potluck and meeting. It was good to catch up with everyone and to exchange concerns and pointers for good beekeeping. The meeting ended with Rena Wilson-Jones (of Rena's Honey Bee Haven) making sure everyone received a useful gift to take home. CEIBA members returned for a second visit later in the Fall for a look at honey bees up close, under microscopes and in the observation hive. The Student Sustainability committee came for a tour.

Also in 2023, WILL (Illinois Public Media) sponsored a Project Head Start Book Mentor Family Night at the Pollinatarium. One of the featured books was on beekeeping--*The Beeman* by Laurie Krebs and Valeria Cis. Visiting families viewed the observation hive, ate pizza, played games, and made beaded bees.

Throughout the year, people stopped in to ask about plants to add to their home landscapes to provide nectar, pollen and plant parts for all kinds of pollinators, in habitats ranging from grassy backyards to prairies and wooded areas.

2024:

Visitors in 2024 included Clark-Lindsey Village residents who came for a tour at the end of May. In June, two groups of fifth- to seventh- graders from the University Laboratory High School (Uni High) Nature Summer Camp came to visit, for a tour and a craft-making session. I also worked with the 4H Clovers Club, which had applied for and received a grant to create a pollinator garden. We met for the first time in February so I could teach them about prairie plants to include in their garden and met again in March so that the Clovers could build their plant list. Throughout May and June, they returned to the Pollinatarium to plant the garden around a concrete pad west of the "flight tunnel house" and to install stepping-stones and logs to serve as chairs; a wooden cable spool served as a table. The plants thrived and the garden looked very good for a first-year garden.

Community Collaboration 4H Clovers

Stepping Stones

Wooden Cable Spool Table

At the end of March, the Pollinatarium hosted the Teatime for CoffeeGals group from the Prairie Research Institute. During June, National Pollinator Week was recognized at an event, and, in connection with the Beespotter program at the University of Illinois, we held a Bee Blitz at three locations: the Pollinatarium, Meadowbrook Park, and the UI Forestry area.

Individuals and families also stopped in during the year to visit the bees and to learn about beekeeping, native bees, and non-bee pollinators (the most misidentified "bee" was a yellowjacket!).

Many also came for information on planting habitat for pollinators. In July the Pollinatarium was included in the Urbana Amble (a casual garden walk typically held every third weekend in July in Urbana, Illinois.) (https://publish.illinois.edu/urbana-amble/). In addition to the gardens, we had a bean bag toss and ring toss set up in the yard. We finished out the month with a tour for members of the Champaign-Urbana Herb Society (https://cuherbsociety.org/) .

MASTER GARDENER'S GARDEN WALK DAY

June is always our busiest month. At the beginning of the month, I worked with the Master Gardener volunteers to finish planting the demonstration beds and the flower bed around our metal honey bee sculpture. The planning and plant selection started in the Fall, and bed prep and planting began as soon as the weather warmed up in the Spring. There was a lot of poison hemlock and other weeds to tackle before the beds were ready to be planted. On June 14, the day before the Garden Walk, we had all-day prep session, with volunteers weeding, mowing, weed-whacking, and putting up signage with plant species names and lists and maps for the demonstration beds. It truly was an "all hands on deck" affair--thank you, everyone who helped out. June 15 dawned bright and sunny for UI Extension Master Gardener's Garden Walk Day!!! By the end of the day, more than 500 visitors stopped by!

We had pollinator host plants identified in the prairie and the demonstration beds south of the building and in the large flowerpots in front of the building. Visitors could find their favorites and then plant the same species back in their own gardens. We wanted to encourage people to increase habitat available for pollinators and other wildlife while offering species combinations that people could enjoy, too. Specialized beds featured vegetables and herbs, plants that require dry to regular soil, moist to regular soil, and wet to moist soil, plants that grow best in partial shade, and two beds with mixtures of annuals, perennials, and herbs. The bee sculpture bed has native plants mixed with Lamb's Ear and zinnias, planted in part by a visiting class.

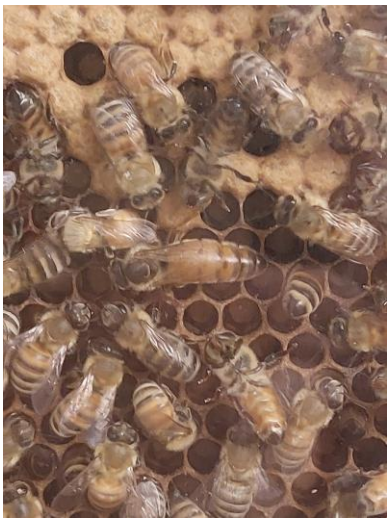
I wanted to send a big THANK YOU!! out to the Master Gardeners that were helpers and hosts for the Garden Walk. Core group members included Jill Taylor, Kathryn Weisbaum, Julia Freeman, and Cassie Carroll. A special thank you to Sam Taylor for building and installing a shade trellis for one of the demostration beds. Thank you to everyone who came during the week of the Garden Walk and pitched in!

CLASS FIELD TRIPS TO POLLINATARIUM

Our Fall 2023 field trips started with department alumnus Christian Millan-Hernandez bringing his biology classes from University Laboratory High School to carry out pan trap experiments in different habitats and to learn the history of the Pollinatarium from Dr. Berenbaum. Subsequent field trip visitors ranged from preschool through university classes. Second and third grade classes came from Countryside School in Champaign and graduate student Annaliese Wargin brought Dr. Hank's Integrated Pest Management class. The House Homeschool group came for a microscope lesson with prairie seed heads and insects and explorations of the prairie. In October, Hidaya Academy School kindergarten and first graders visited. Activities included playing "bug bingo" and bee anatomy games and making beaded bees indoors and outside yard time that featured searching for butterflies and skippers on the zinnias in the Bee Sculpture bed and flowers and on flowering plants in the prairie. Students from the Montessori School of C-U ranging from nine to eleven years old visited from Savoy. At the end of Fall semester Heidi Leuszler brought her Parkland General Education Biology and Environmental Biology classes for coffee and conversation.

In Spring 2024, the Home School Co-op brought students for lessons and crafting. In early April, Parkland's Introduction to Plant Biology class came for hot drinks and discussion time, and in the last week of April there were three field trips from Parkland College, including the Environmental Biology classes and the Horticulture class. On May 2, the Deen Homeschool group arranged a field trip to Pollinatarium. Eleven days later, Nathan Beach, UI Bee Research Facility technician, helped me install the bees and queen provided to us by Dr. Gene Robinson's lab group into the glass-fronted observation hive. Later that week, five second grade class groups came from Yankee Ridge Elementary school in Urbana for a visit, and the Master Naturalists were our volunteer helpers. At the end of May, another home school group stopped by for a field trip.

In the first week of June, University of Illinois Family and Graduate Housing group brought a dozen children ages 3 to 5. On June 24 through June 26, Illini Summer Academies Honey Bee Biology and Beekeeping Class was held at the Pollinatarium. It is a hands-on class using two outdoor hives and the (always popular) glass-fronted observation hive.



Queen selecting a cell

Queen laying an egg

On two days in July, the Rantoul Community Center brought a group of 5-, 6-, and 7- year olds and a group of 4- and 5- year olds for a tour, story time, and crafts. Later in July. a dozen high school students visited from the Agricultural Education Camp, through the College of Agricultural Consumer, and Environmental Sciences. In the third week of July approximately 30 people in family groups came for a visit that included a tour, lessons, crafts, insect catching, a prairie walk, and honey tasting. Urbana's Girl Scout Troop 2222 also came for a visit.

ON THE ROAD

Outreach out in the community is always fun. I made beaded bees at the 2024 Pride Festival crafting table with the Champaign County Museum group; the people stopping by loved being able to pick their own colors to represent themselves.

Things slowed down during the winter as they usually do but on one icy night I gave an in-person presentation to the Cooperative Extension Master Gardeners on pollinator-friendly practices in lawns, landscapes and gardens. There were not many people in the live audience but many joined us on Zoom.

March started off with the third Annual Monarch Fair at McKinley Foundation co-sponsored by McKinley Foundation and the Prairie Group Sierra Club. Visitors to the Pollinatarium tables made monarch butterfly puppets and learned more about monarch biology, host plant needs, and migration. In the first week of April, I did a presentation at Prairie Gardens in west Champaign on "Planning and Planting for Butterflies, Bumble Bees and Other Pollinators in the Morning". I was happy to answer questions about choosing plants for home gardens for pollinators and then to pick out and purchase a few more plants to add to the Pollinatarium's gardens. I gave an evening presentation, Planting for Pollinators," for the Rantoul Garden Club at the Rantoul Library. At the end of April, I brought a one-frame observation hive of live honey bees to Martin Luther King Jr. Elementary School in Urbana for a presentation. On May 4, I gave to presentations, one in the morning and a second in the afternoon at Native Plant Day at Parkland Community College. The event was attended by many native plant vendors. In mid-May, the Pollinatarium was represented by a table at GardenFest in Decatur, IL,

featuring "Planting for Pollinators (Bumble Bees and Butterflies)". I recommended rugosa roses and native prairie roses in addition to the usual perennials I suggest for people interested in planting pollinator gardens (Decatur is the home of the Stephen Decatur Rose Society, https://www.decaturrosesociety.com). During the third week of May, with Pollinatarium assistant Cariad Williams, I visited classes at Yankee Ridge elementary school with beads and ribbons so that classes could make beaded bees. At the end of May, Cariad and I went to three preschool classes at the University of Illinois Early Child Development Laboratory in Urbana to talk about the bumble bee life cycle story and to make bumble bee/insect headbands for each student to take home. As well, after taking a tour of the Pollinatarium, the Clark Lindsey Village retirement community invited me to give a talk on butterfly host plants for residents there. Finally, in mid-July, I gave a presentation and directed a craft project on bumble bees for elementary school-age kids in the Science Monday Kids Program at the Allerton Public Library in Monticello, IL.

FACULTY

Brian Allan. It's been another busy/fun/exciting/hectic couple of years for the Allan Lab! I have been keeping busy serving as the Associate Director for Academic Affairs in SIB. I also taught IB 453 Community Ecology for the first time in Spring 2024 and remembered how much work it is to prep a new course! I'll be returning to my true love, teaching IB 361 Ecology and Human Health, in Spring 2025. The four current graduate students in the lab, Derek McFarland (PhD, PEEC), Fahren Zackery (PhD, PEEC), Maria Munoz (PhD, PEEC), and Caylee Chan (MS, PEEC), are being highly productive with their thesis research related to ticks, mosquitoes, and microbiomes. The lab recently attended the Ecological Society of America meeting in 2024 in Long Beach (see photo from Fahren's presentation), but is planning to attend the Entomological Society of America meeting in 2025 in Portland. Brian is especially looking forward to reconnecting with UIUC friends and alumni in Portland!

Marianne Alleyne. By now I feel I have become an Illinois "institution". I arrived in 1995, and, look, I am still here 30 years later! This place grows on you. My lab, the Alleyne Bioinspiration Collaborative (ABCLab) continues to grow and the work done is having an impact. I advise four entomology graduate students (Elizabeth Bello, Siti Fauziyah, Xavier Carroll, and Yutao Chen), one PEEC graduate student (Naomi Cobb), one MechSE graduate student (Liyuan Zhang), and many wonderful undergraduate students both in SIB and Engineering. We study bioinspired design of multi-functional materials and the biomechanics involving cicadas, dragonflies, flies, click beetles, and leafhoppers, focusing on wettability, antimicrobial properties, friction characteristics, reflectivity, and iridescence.

Back row: Marianne Alleyne, Christina Nordholm
Bottom row: Christine Armer, Lisa Carloye, Claire Rutledge, Lee Solter

2024 was a big year for entomologists in Central Illinois. Two Magicicada broods emerged in our area. This meant visits from some of you! Let's not wait 13-, 17-, or 200+-years until we do that again. I also was honored to have a magicicada-model made in my honor and hung in my front-yard, by local artist Sasha Rubel.

Magicicada-model by local artist, Sasha Rubel

I completed my time in the Presidential Line and on the Governing Board of the Entomological Society of America. Not sure what I am going to do with all those leadership skills I have developed during my time in leadership. It is not often an Assistant Professor gets to create a new strategic plan, overhaul governance of a non-profit, write new ethics policies, or write a code of conduct.

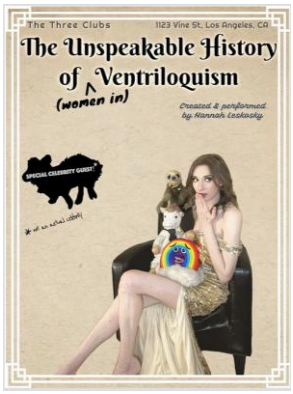
I still teach a popular online course on Bioinspiration (=using biology as inspiration for new technological innovations). I also still teach the core Insect Physiology course, which is my favorite course to teach.

On the personal front, Andrew and I are still making the long-distance relationship work with him being at the University of Minnesota and me unwilling to leave my wonderful colleagues and students here at Illinois. Our son Harmen graduated from Illinois-SIB and now lives in Chicago and works part-time at the Brookfield Zoo. Our other son Willem is a Mechanical and Aerospace Engineering Junior at Princeton; I think he'll be all right.

May Berenbaum. Most of my lab members are continuing their work on honey bees and bee-adjacent arthropods and microbes. Postdoctoral associate Shengyun Li is working on hive pesticide resistance in the greater waxworm and research associate Ling-Hsiu Liao and graduate student Wen-Yen Wu are characterizing honey and pollen phytochemistry and the honey bee bee myco- and micro-biomes. Graduate student Sam Mowery is studying resin composition of propolis as well as a beebread strain of *Aspergillus flavus* discovered by former postdoc/now-instructor Daniel Bush that thrives in the inimical beehive environment. Co-advised student Ed Hsieh completed a masterful (doctorate-full?) dissertation with a great chapter on insecticide tolerance in honey bee queens and is off to a postdoc in the USDA Baton Rouge bee lab. Undergraduates in the lab have included Zainub Ahmad, Vicente Aldunate, and Kenneth Chuang. Not pictured is Plant Biology graduate student Lance Jones, who bravely brought parsnip webworms and wild parsnips back to the lab, to find out how much they've changed over the past two decades.

Berenbaum Lab

Extending my tradition of missing meetings I was supposed to attend, I didn't get to the 27th International Congress of Entomology in Kyoto, Japan, after missing the 26th in Helsinki in 2022. I did attend the 2024 National Academy of Sciences meeting in DC (see photo of NAS-ILL-INI) as well as part of Entsoc 2024, but, because I left Phoenix early to take Richard for a corneal transplant, I ended up missing the symposium I co-organized with Tom Sheehan of University of Georgia, thus never giving the talk I prepared on pronunciation of scientific names as well as a talk for Taiwanese entomologists on Asian arthropod fear films. In the meantime, go see *Abyssal Spider* (2020) if you can! https://www.youtube.com/watch?v=22D3OhCBvm4/. I don't know how reliable the captions are—the blurb accompanying the trailer, e.g., says, "There are unknown creatures coveting under the water." Fortunately, no captions are needed for long stretches of the film; screams of terror sound pretty much the same in any language. By the way, the corneal transplant was a success!



On the family front, Hannah and her puppets are still entertaining Hollywood audiences and she even had a one-woman (but many-character) show in the 2024 Hollywood Fringe Festival, "The (Unspeakable) History of Women in Ventriloquism," despite performing with a broken foot and (talking) scooter. She also had an exciting travel schedule accompanying her friend Nevin Sastry (co-writer and co-producer of "Tipsy," by Shaboozey, which topped the Billboard Hot 100 for 19 weeks) to the Country Music Assoc. awards in Nashville and the 2025 Grammy awards. In the fall, my visit to Rochester, MN, to the Mayo Clinic for some tests provided an opportunity to visit Beetle's Bar and Grill, where I was disappointed to learn that that there was no coleopteran connection—"Beetle" was the bar owner's nickname. Finally, my first sabbatical in 36 years began in Spring 2025, during which I'm supposed to write a book about the Insect Apocalypse…I better hurry before they all disappear!

Adam and Ed; photo by Michelle Hassel

Adam Dolezal. The 2023-2024 years have seen a lot of transitions in my lab, with many students and postdocs wrapping up and moving on to greener pastures. Ben Chiavini, Lincoln Taylor, Sreelakshmi Suresh, Vincent Prayugo, and Sam Mowery all completed MS degrees in this window. Sam and Vincent stayed for Ph.D.s and the others all moved on to positions in the field. Alexandria Payne and Ashley St. Clair both completed very productive postdocs and moved on successfully as well. I also had my first Ph.D. student (Ed Hsieh) successfully defend his doctorate. I've realized this is one of the WORST parts of my job – developing ties with great researchers only to have them leave! But overall, I am so excited for all of them and feel thankful that I had the opportunity to help them in their journeys. At the same time, we have some new faces, with Elena Gratton joining us as lab manager, Rachel Manweiler as bee lab manager, and Luke Settles as an MS student. The lab continues to grow as we plan to start several new projects next year. With the help of all these great folks, I was promoted to Associate Professor, too!

These years have been quite productive for the lab, with about 10 new publications and several grants funded. We continue to be split between more lab-based work on bee pathology/interactive stresses and applied conservation studying bee habitats in agricultural landscapes. In the bee pathology side, we've had some very interesting results regarding how diet, pesticides, and pathogens interact and some new discoveries in how bee viruses can affect host behavior and development. On the habitat side, we continue our work studying habitat in solar facilities and plan to continue this work for several more years through new collaborations seeking to improve how we monitor habitats.

On the home front, I continue to spend most of my free time with my 3 kids (9, 6, 2), staying busy watching them do a lot of neat activities like rock climbing, ice skating, learning to play musical instruments, etc.

Dominic Evangelista. The Roach Brainiacs did a lot this year! In December Johanna and Dominic went to Cameroon to collect a rare and endemic blattid, but we also collected new friends, and experiences. This trip happened to be one of the most physically challenging experiences of our lives, but it all worked out in the end. Then Johanna, Jared, and Dominic went to Peru for a broader collection effort and to work with our newest lab member. In addition to an incredible catch of various undescribed and otherwise understudied taxa, we discovered our shared love of Pokemon, and forged begrudging friendships with a troop of spider monkeys. The most important catch of all was our new lab member Emmy! Emmy (PEEC) is an insect ecologist who will be studying endemism and conservation of Odonata and Blattodea.

Johanna, Jared, and Dominic

Spider Monkey

Other than collection efforts, a lot of research happened in the lab in 2023 and 2024. In an international collaboration, the whole lab wrote an extensive review of cockroach systematics and biodiversity, which will be published in *Insect Systematics and Diversity* in the upcoming months. Lab manager Kim Drager helped coordinate a study of cockroach diets, which will help us better understand evolution of a key taxon and the evolutionary precedents of xylophagy. Dominic published a big cockroach phylogeny in *Molecular Phylogenetics and Evolution*

and did work with collaborations ranging from phylogenetics of all insects, to diversity of students in entomology, and divergence dating methodology.

Speaking of divergence dating, Jared will defend his thesis on that topic in Fall 2024. His results show that (surprise, surprise) insects are poorly sampled in the fossil record compared to other organisms. We are looking forward to publishing his results. Johanna has been diligently expanding our knowledge of cockroach wings. As she brings new expertise on morphological techniques into the lab, we hope to learn more about the very base of the wing, and the very tip of the wing. She will be presenting her research at SICB in January. Emmy has been adjusting to life in Urbana and the US. She has been learning new methods in niche modelling, and developing numerous projects, not least of which, is a review of insect monitoring studies in the Neotropics.

The undergraduates in our lab have been super productive too. Our team has curated almost 3000 specimens over the last year, including photographing, and dissecting many specimens. Our top research assistant, Katie, has grown into her role as lab taxonomist, and is now in the process of describing new species (and maybe even some new genera).

Larry Hanks. At the time of this writing I'm nearly done teaching Intro to Ento, perhaps my second-to-last time. Yes, I'm still threatening to retire. This of course will bring the department to its knees, but it can't be helped. I'm ready to move on to full-time whittling, and I have accumulated every thing I need: some wood, a knife...I guess that's it. Jean is still working on campus and will retire at about the same time. Rebecca is still working for a non-profit up in Chicago, which gets us up there regularly for expensive dining, and two concerts this year, Metallica and the B52s. Mason is finishing up at Parkland with a travel abroad course to Ireland in spring. We all were there during summer and had a great time.

Alex and colleagues in the field in Czechia

Alex Harmon-Threatt. Time seems to really fly when you're having fun. At the start of 2023, Alex was finishing up her Fulbright sabbatical in Prague and learning a lot about ground-nesting bees. She hopes to get back to the Czech field site in the coming few years to begin a new project there.

Immediately upon her return we finished up the last of five continuous years of sampling at Phillips Tract on a USDA-funded project and we've begun sifting through a mountain of data on how restoration affects bee communities. We've also been excited to host 10 new undergraduates in the last two years and several community college students also. Several graduate students have finished degrees (Marissa Chase PhD NRES and Annaliese Wargin MS Entomology). While several more have started new degree programs (Timo Wayman MS in Entomology, Adrien Seabloom PhD in PEEC, and Annaliese Wargin PhD in Entomology). They all have some exciting new areas of research and we can't wait to see how their projects develop. We managed a lot of new publications, some presentations, a few grants, and in general try to enjoy ourselves. We recently started the new lab tradition of "labsgiving" where we can just enjoy and remember how great it is to be doing science with wonderful students and colleagues.

In other news, Alex welcomed a second son at the end of summer 2024. Her older son (3) is now capable of counting pretty high and greatly loves bugs so he will be field-ready in no time!

Lasioglossum sp. swarming my Fulbright bag

Field crew from 2023

Labsgiving 2023

Esther Ngumbi. Reflecting on 2024: A Year of Growth and Accomplishments for the Ngumbi Lab

2024 was truly memorable for the Ngumbi Lab, filled with research milestones, personal achievements, and cherished moments. Here's a look back at some of the highlights that defined our year:

Flooding team 2023

Advancing Research: Research-wise, we completed our second field season for our USDA-funded study investigating the complex interactions between flooding, plants, microbes, and insects. My Ph.D. student, Satinder, led this endeavor, supported by an exceptional team comprising Michael Somerville, Pete Macasaet, Bow, and Estefani Cabrera. Their dedication and hard work made this field season a success. Beyond the scientific work, we strengthened our camaraderie by sharing meals and celebrating our collective efforts throughout the summer.

Mentoring the Next Generation: Our lab was delighted to host several students over the summer, fostering their interest in research and scientific discovery. During the fall semester, we welcomed three IB 390 students who enthusiastically embraced every step of the research process. Watching their growth and excitement reaffirmed the joy of mentoring.

National Recognition and Presentations: November allowed some team members—Satinder, Erinn, Michael, and Minxing—to travel to Phoenix, Arizona, for the annual Entomological Society of America meeting. This event was particularly special as Minxing, a dedicated lab member since the Fall of 2022 and a current Master's student, won second prize for her poster presentation. Earlier in the year, we celebrated Satinder's recognition with the prestigious "Impact Award" at the Graduate School Research Live competition.

Ngumbi Lab in Arizona

Celebrating Publications and Scholarly Contributions: This year saw several publication milestones. My review paper was published in Trends in Plant Science, and Aaron, a former Master's student in our lab, had his work published in Physiologia Plantarum. Three of our exceptional undergraduate student—Michael, Emma, and MZ—made significant strides with their manuscript, which they are currently revising–thanks, reviewer number 2, literally. Additionally, I enjoyed contributing several opinion pieces and non-peer-reviewed articles to engage a wider audience.

Learning from Challenges and Sharing Knowledge through Invited Talks: Success often comes hand in hand with failure, and our lab wholeheartedly embraced this duality. We celebrated failed experiments and sought to learn from every setback, reinforcing our resilience and commitment to growth. I was privileged to deliver invited talks at various universities and academic events.

Personal Highlights, Travels, and Service to the Entomological Society of America: I travelled to Kenya in 2023 and 2024, and really enjoyed it. I enjoyed visiting family and savoring traditional Kenyan dishes like ugali, nyama choma, kachumbari, and sukuma wiki. Finally, it was fulfilling to serve in the

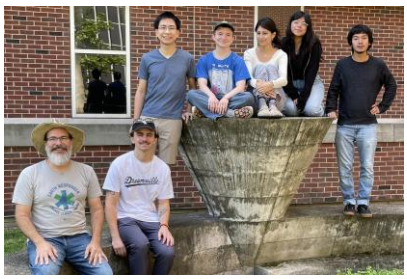
Entomological Society of America, specifically, serving as a Co-Chair of the Program Committee under President-Elect, Dr. Alleyne.

Looking Ahead with Gratitude: As winter sets and my favorite holiday, Christmas Day, approaches, I feel profoundly blessed. I am grateful for the memories, achievements, and experiences shared this year with the Ngumbi Lab family. Here's to a year of growth, resilience, collaboration, and an even brighter 2025. Cheers, happy holidays, merry Christmas, and a happy New Year!

Gene Robinson, Amy Ahmed

Gene Robinson. Warm greetings to all our alums, I'm glad to be able to connect again with you. Here are some high points from the past year. I was delighted to learn that lab manager Dr. Amy Ahmed (BS '2001, MS '2003) won a prestigious Chancellor's 2024 Staff Excellence Award. Amy's dedication, superb bench skills, and great teaching abilities contribute so much and make it possible for our lab to thrive as I continue serving campus as director of the Carl R. Woese Institute for Genomic Biology. We also reached an important milestone at the Bee Research Facility, which I established in 1990 and have directed ever since: Professor Adam Dolezal was appointed as co-director. The "bee lab" supports both of our research programs, so it made sense to do this now that Adam recently earned promotion and tenure and is an associate professor. Adam's research expertise in bee health is especially welcome as we confront ongoing challenges managing the bee lab's research colonies in the face of the infamous Four Ps—pesticides, parasites, pathogens, and poor nutrition. On the research front, we continue to embrace new "omics" technologies, the latest two being single cell and spatial transcriptomics, methods that provide unprecedented resolution to the study of gene expression. Both promise to revolutionize our understanding of the brain, starting with the observation that these methods identify thousands of molecularly unique cell types. That's one or two orders of magnitude greater than the number of classical anatomically defined cell types in the brain! Which perspective will prevail? It will be exciting to track this emerging issue in neuroscience, as well as its implications for understanding the relationship between genes and behavior. Our work creating an automated lab-based bee-producing "factory," initiated with a grant from the Department of Defense's DARPA program, continues to progress, now mostly under the auspices of a start-up I launched two years ago. ForgeBee Inc. is run superbly on a day-to-day basis by Chief Technology Officer and former lab member Adam Hamilton (PhD. Neuroscience, 2018), and is making steady progress on the vision to provide new tools for the bee industry to support bee health and pollination. My last update is that I am in the third and final year of my term on the Governing Council of the National Academy of Sciences. I have learned a great deal about the central role that NAS plays in helping to set the science agenda of the country and it has been a privilege to serve. I wonder what I'll do with the extra time!


Robinson Lab


Suarez lab members (L to R): Andy, Kevin, Wilfred, Cam, Rebecca, Daisy and Harrison

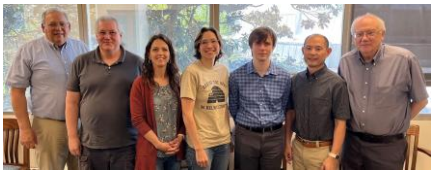
Andy Suarez. Despite my best efforts, I keep being drawn into administrative roles. I was Acting Director of the School of Integrative Biology while Carla was on sabbatical last Spring semester, and I am currently Acting Head of Entomology while May takes a sabbatical. Both roles were tag team efforts with regular meetings to make sure nothing slipped through the cracks. I keep telling myself that I will return to my normal teaching and research load soon but am haunted by that famous quote from Godfather 3 - "Just when I thought I was out, they pull me back in".

The lab turned over quite a bit this past year with lots of new faces. Rebecca Carranza and Wilfred Tang both joined the lab last year through the Department of Evolution, Ecology and Behavior. Both went to their first Entomology meeting this past November and each won a student award for their presentations. Rebecca received first place for her talk on ant-treehopper associations in Illinois and Wilfred second place for his poster on systematics of North American ants in the genus *Strumigenys*. It was really a great meeting, and it was the first Ent Soc that felt 'back to normal' since the pandemic.

In addition to Ent Soc, Wilfred and I attended the National Conference on Urban Entomology in Mobile, Alabama, where we saw lots of introduced ants. The port in Mobile is famous (at least to me and my ant colleagues) for being the first detection site of red imported fire ants. There are now many other introduced ants that are spreading in North America that may have been first established in that area. Notably, a large trap-jaw ant from Argentina, *Odontomachus haematodus*, is now quite common in southern Alabama.

We also had many new undergraduates join the lab working on many things including treehoppers, ant behavior, and measuring bite force in harvester ants (What is this? A bite force sensor for ants?). Our lab took a new research direction this year with a collaboration with former Hanks' lab alum John Tooker at Penn State. We received a grant from the USDA to look at the beneficial role of ants in no-till agriculture. It turns out when you stop disturbing the soil, ant abundance can increase, which may have a positive effect on plants through a variety of above- and below-ground processes. Our team also includes Anthony Yannarell from NRES at Illinois and Christian Krupke from Entomology at Purdue.

Xuguo (Joe) Zhou. 2024 feels like a flashback to 2008, the year I first arrived in Lexington, KY, to build a lab from scratch. Although I left the University of Kentucky at the end of 2023, the Insect Integrative Genomics lab continued to thrive, culminating in Austin Merchant successfully defending his dissertation and graduating in May 2024. Now, with a Postdoctoral Fellowship from the Japan Society for the Promotion of Science, Dr. Merchant has joined Dr. Kiyoto Maekawa's group at the University of Toyama in Japan, continuing his work on termite soldiers.



Austin's dissertation defense; Austin is the third from right

My 15.5-year tenure at the University of Kentucky concluded with the graduation of both JZ Shi and Austin Merchant in 2024, marking the end of an important chapter of my life. It's a bittersweet moment, blending fond memories with excitement for the opportunities that lie ahead. While I am deeply grateful for the friendships and strong foundation this place provided, I'm ready to embrace new opportunities and collaborations. The prospect of working with theme-based interdisciplinary teams at the University of Illinois Urbana-Champaign (UIUC) and embarking on fresh learning experiences is stimulating, marking the start of an exciting new chapter.

Termite Room–505MH (L to R): Joe, Chan, Fajar

Back in 2008, it was a solo journey, navigating uncharted waters. Now, the experience feels more enjoyable, with Chan and Fajar by my side as we embark on this new adventure together. The warmth and kindness of people here—Kim, Manny, Tina, Devin, Penny, and Cassie, to name a few—have made the transition much smoother. Chan and Fajar have adapted well to their new school, and our work at UIUC has already started on a strong note.

Collecting termites on campus and settling them into their new home in MH 505 has been a rewarding milestone. With our lab renovation now complete, we are more than ready to embrace the challenges and opportunities ahead as proud members of the Fighting Illini.

518MH (L to R): Chan, Devin, Fajar

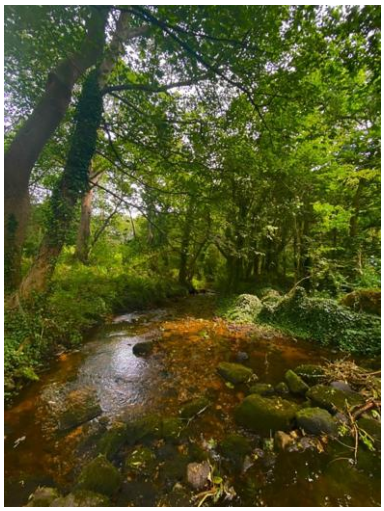
EMERITUS FACULTY

Sam Beshers. Although I am formally retired, I am still actively working and writing about division of labor in social insects. This year I have published one paper, with at least one more in the works, and spoken at a social insect conference. Looking forward to great progress in 2025.

My wife Lynn and I have no more children at home so we are staying young by traveling and trying new things to challenge ourselves. The latest new thing was moving from Urbana to Urbana, while downsizing the number of stairs in the house. Our golden retriever puppy is almost three years old and will settle down any year now.

Sydney Cameron and Jim Whitfield. Near the end of our third year of retirement, we are still scientifically active, as Sydney completes two research projects: one on the effects of pathogens, neonicotinoid pesticides, and their interaction on bumble bee gene expression, and a second on a reference genome of *Nosema bombi*, a bumble bee parasite considered important in the decline of certain North American bumble bee species. Jim is continuing revisionary taxonomic and phylogenomic studies of braconid wasps. As we continue to settle into our new environment in along the coast of southwestern Cornwall, UK, we intend to spend more time doing field natural history studies that aid in bee and wasp conservation. England is a great place for this kind of work as its interest in and support of natural history remains strong after several hundred years.

Over the last two years we have spent increasing amounts of time in our Cornish cottage purchased in 2023. The cottage sits in a narrow valley of lush temperate rainforest, fed by a stream that runs down to a cove at the end of our lane. On either side of the cove the South West Coast Path runs up and down the coast of Cornwall for more than 600 miles– we've met numerous walkers along the path who have walked its entire length, some more than once!



The location is truly spectacular, with sea cliffs inundated with waves of wildflowers in spring and summer, ancient (Neolithic) stone circles and a multitude of other archeological sites not far from the cottage, and friendly neighbors and entomological colleagues nearby. We plan to live permanently there once Sydney acquires British citizenship, but at the moment we split our time between Cornwall and Champaign-Urbana.

Goals for 2025 include building a garden studio where Sydney can work and write. We've completed renovations in the cottage for Jim's study.

Last summer we spent several weeks engaged in a natural history study, observing the nesting and foraging behavior at a small (4 m x 3.5 m) clifftop aggregation of remarkably diverse bees and wasps. Overall, we observed 20 species nesting together in this tiny space. A descriptive paper on this work was recently published in the *Biodiversity Data Journal*– our first publication from a study in our new home!

Jim has most recently been occupied with organizing and shipping to various collections tens of thousands of his braconid specimens accumulated over a career of taxonomic work. He just returned from a trip to the Canadian National Collection in Ottawa, Canada where he delivered a van full of specimens to one of his current collaborators. No need to worry during the trip about theft of this invaluable collection! Together, we drove to Buffalo, whereupon Jim headed north to Ottawa and Sydney hopped a train south to visit a friend in the New York Hudson River Valley, with its rolling hills rimmed by the Catskill and Adirondack Mountains.

May you all have a wonderful 2025!

Fred Delcomyn. If you have read my recent Newsletter entries, this will undoubtedly seem like more of the same. That's because, in broad strokes, it is – mostly a travelogue.

As I mentioned in the last newsletter, Nancy and I planned a trip to New Zealand in December/January 2022/2023 to visit Julia, Hamish, and their two daughters. It's amazing to me that Thea became a teenager this year, with Leona only two years behind her. The trip went off without a hitch and it was wonderful to be able to spend time with the girls before the teen years actually hit.

We don't get to see them too often, but fortunately this year Nancy planned a gargantuan family reunion in Denmark. All of our three "kids" and their families were able to join us, along with a couple of cousins. A great time was had by all. After that event, Julia and family came to the US for Julia's best friend's wedding. She and Hamish attended wedding-related events for a couple of days while we looked after the girls.

In addition to these trips, Erik and I took a father-son two-week trip to Brazil in October this year. We spent a little time in Rio de Janeiro, then flew on to visit Iguazu Falls and then the Pantanal. The Pantanal, located in western Brazil bordering Bolivia and Paraguay, is one of the largest wetlands in the world. It shrinks considerably during the dry season, so we timed our visit to just at the end of that season, thinking that with the wetlands at their lowest size, interesting animals would be concentrated around the remaining water, making them easier to see.

And see them we did. I had hoped (but was prepared to be disappointed) to see jaguars. We saw not just one, but nearly a dozen, including a mother and cub. Not only that, we saw other big mammals, like giant river otters, giant anteaters, and Brazilian tapirs, all of which I had previously seen only in zoos. Believe me, it's much more exciting to see a jaguar hunt river otters or carrying a caiman it had killed than any imaginable zoo exhibit.

When I'm not gallivanting around the globe, I keep busy by volunteering for the Master Naturalists, a University of Illinois Extension program, and Grand Prairie Friends, a local conservation organization, and writing nature articles for the *News Gazette*, *The Harbinger* (the newsletter of the Illinois Native Plant Society) and *Illinois Audubon* magazine. Articles have appeared in the latter two publications just in October.

Stay tuned for more adventures in the next newsletter. Nancy and I have begun discussing our next trip, and Julia and I are also in the planning stages of a father-daughter trip. If you plan your retirement carefully, life never gets dull!

AFFILIATES AND ASSOCIATES

Kacie in high tunnel

Kacie Athey. The Athey lab is continuing our research into applied specialty crops research. My first graduate student, George Oganda, successfully defended his Masters thesis! He is currently a research specialist at the University of Missouri. Two of my current graduate students, Karuna Kafle and Ellie Meys, were awarded CPSC departmental fellowships, and I recruited a PhD student, Salma Akter, who joined the lab in early 2024. 2024 was the year and the cicada and I was very busy with extension talks, podcasts, webinars, and interviews pertaining to these interesting insects. I was even able to take part in a cooking demonstration with periodical cicadas and I can attest that they are actually pretty tasty! Our lab continues to react to emerging insect issues in the state, including pest control in peaches, pumpkins, and high tunnel vegetable production. In 2024 I was also fortunate to participate in the inaugural ACES Extension Academy where I was able to go on a tour of the state and meet with extension educators throughout the state.

Lab photo 2024

Jason Bried. The Bried lab continues to work on all things odonate and select things in insect conservation, wetland assessment, and community ecology.

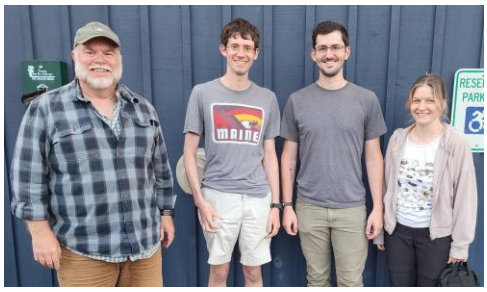
Travelling more than usual, and not just for fieldwork. I'm part of Team DRAGON trying to assess odonate population trends across Europe and develop new bioindicators. After two trips to Montpellier, France, and four more still to go, I think we're making progress, mixed with a lot of great food and libations. Also helped my wife (Dr. Suneeti Jog, INHS botanist) lead a conservation and culture study abroad to India through the College of ACES. After meeting on campus for six weeks, we took 13 students to the beautiful southern state of Kerala in May 2024. It was crazy hot, early monsoon, and most of us got sick, but the students still generally loved it, and being gluttons for punishment the trip leaders can't wait to go back!

DRAGON project team in Montpellier, France (February 2024)

ACES Study Abroad to Kerala, India (May 2024)

A couple journals have kept me busy with editor assignments, the Royal Entomological Society's *Insect Conservation and Diversity* and the Worldwide Dragonfly Association's *International Journal of Odonatology*. Both promised me no more than 2-3 papers per year, but it's been triple that during 2023-24, no doubt due to increasing submission traffic. C'est la vie.

Thanks to federal funding (EPA, USGS) I've had an awesome postdoc, Dr. Ayla Skorupa, working on responses and vulnerabilities of lotic invertebrates to Midwest climate change, and a PhD student starting in 2025 doing related work on Midwest wetland biodiversity. One of my NRES grad students, Rohini Vembar, finished in summer 2024, and another, Matt Finzel, should finish in 2025, knock on wood. Happy to have my first Entomology grad student, Aidan Garrett, working on survey methods for the endangered rusty-patched bumble bee. Also enjoyed mentoring several undergrads through the PRI Summer Research Opportunities Program and the IB 290 & 390 research experience courses, culminating in poster presentations: dragonfly community structure in the artificial pondscape, taxonomic surrogate detection of the rusty-patched bumble bee, and estimating pollinator conservatism to prioritize prairie sites.



Edward DeWalt. The DeWalt laboratory at the Illinois Natural History Survey currently supports three graduate students, all working on stonefly (Plecoptera) taxonomy, phylogeny, biodiversity, and conservation. PhD student Phillip Hogan is working on assessing temporal changes in Plecoptera assemblages in a seven-state region, a molecular phylogeny of the 47 species in the winter stonefly genus *Allocapnia* (Capniidae) inhabiting eastern North America, and comparative post-glacial phylogeography of three *Allocapnia* species. MS student Theodore Cook is studying the stoneflies in West Virginia in an effort to assess the species inhabiting the state, the conservation status of several state imperiled species, determining which large drainages hold the highest diversity and why, and the taxonomy of two cryptic species inhabiting the state. MS student Lily Hart is reassessing the diversity of stoneflies inhabiting Arkansas by using new collecting and examination of museum specimens, building the first ever dataset of stonefly occurrences. This work will help assess the distribution and conservation status of several imperiled stoneflies and help Arkansas to purchase land that will benefit stoneflies and other aquatic organisms.

Chris Dietrich at Imugin Falls, Philippines, with UI Entomology alum Prof. Daniela Takiya of UF Rio de Janeiro

Chris Dietrich. The Illinois Leafhopper Lab continues our basic research on phylogenetics and evolution but, thanks to the addition of Valeria Trivellone, who began as a postdoc and is now Assistant Research Scientist at INHS, we are using specimens collected by lab members over the past 30 years to document the global diversity and ecological associations of phytoplasmas, bacterial plant pathogens mostly transmitted by leafhoppers that cause disease in numerous crops worldwide. Screening leafhopper DNA turns out to be the most efficient method for discovering new phytoplasmas and our specimens collected in natural areas worldwide indicate that phytoplasmas are ubiquitous and much more diverse than suggested by the known species and strains, nearly all of which were discovered by sampling diseased plants in agroecosystems. To obtain new specimens we recently traveled to central China, Italy, the Philippines, and Saudi Arabia. PhD co-advisees Guy Sinaiko at Tel Aviv University and Saad El-Sonbati at King Saud University in Riyadh successfully defended their dissertations focusing on phylogenomics and species delimitation in deltocephaline leafhoppers and UIUC MS student Morgan Brown completed a third (and final) year of fieldwork for their project focused on documenting change in Illinois prairie insect communities over the past 25 years.

Chris Dietrich, Valeria Trivellone, and Sicilian leafhopper expert, Vera D'Urso, on Mt. Etna, Italy, a few days before it erupted this past July

Sam Heads. The last few years have seen a flurry of activity in my lab and at the Illinois Center for Paleontology. Our move into the newly refurbished space in the Forbes Natural History Building was almost completely halted due to the COVID-19 pandemic but has now picked up apace. With the help of NSF, USGS, and institutional funds, we are now close to completing the move of the university's myriad fossil collections—some 3.5 million fossils—into the new collections range. This will be the first time in the history of the university that all the collections have been housed together under a single roof and will provide unlimited access to these important collections. The most important of these collections, of course, is the fossil insect collection (no, I'm not biased, what do you mean?) which continues to grow rapidly through our ongoing fieldwork efforts in Montana.

As far as lab-specific news, 2024 was particularly exciting as we saw the graduation of MS students Jared Thomas and Jake Tamarri. Their work—Jared's on Eocene tetrigids and Jake's on Oligocene ichneumonids—has been exemplary and has made me a very proud advisor indeed. They are both a credit to the department and it has been a pleasure working with them.

Last but not least, we launched the center's new open access journal, *Kentiana*, which is intended to disseminate paleontological research carried out at or in collaboration with scientists at U of I. The first paper was

published in October 2022 describing two new species of the elcanid orthopteran genus *Archelcana* from the Lower Jurassic of Luxembourg.

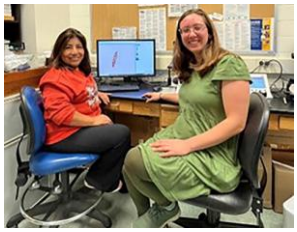
Kevin Johnson. The past two years have seen successful defenses of several students in the lab. Stephany Virrueta Herrera defended her PhD and Lorenzo D'Alessio defended his Masters, both in PEEC. After a successful Entomology Masters defense, Ember Clodfelter is continuing on in the PhD program in Entomology, focusing on the exciting topic of bacterial endosymbionts in feather lice. The lab also hosted a visiting scientist from the Czech Republic over the past two years, Dr. Tomas Najer, who focused on the mitochondrial genomics of lice and has recently returned home, but continues collaborations started in Illinois. This past year, I was deeply saddened by the passing of Kim Walden, who worked with Hugh Robertson in Entomology for many years and more recently, after his retirement, had been working with our group in research and training. Kim had an amazing knowledge and passion for research and was instrumental in training students in bioinformatics and genomics, passing on her knowledge. Her generosity in helping others made everyone's work much easier, and her positive outlook was an inspiration to us all. Many ongoing and future projects continue to benefit from Kim's help. She is sorely missed.

Tommy McElrath. The INHS Insect Collection continues to grow and change. We recently added the Mockford Psocoptera and Maxine Heath Cicada Collections, both of which add incredible research resources to the collection. Please contact me well ahead of time if you plan on donating your collection.

In research news, using a grant from the INHS Ross Fund, I was recently able to start sequencing monotomids for an in-progress molecular phylogeny, the first for the family, ever!

Our twin girls, Fern and Tavish, continue to grow and be our biggest source of joy and stress, sometimes simultaneously.

Brenda Molano-Flores. Affiliate Brenda Molano-Flores continues her plant-insect interactions research of rare plants across the USA. Recently, she and lab members have been working with the Texas prairie dawn-flower (*Hymenoxys texana*) a federally endangered endemic annual plant that grows in isolated patches within saline barrens. Brenda's graduate student, Julia Freeman (MS NRES), with the assistance of Entomology alumna, Dr. Doris Lagos-Kutz, is exploring the potential role of thrips as pollinators for this rare plant.



Dr. Doris Lagos-Kutz and NRES MS student Julia Freeman identifying thrips.

Jason Robinson. The Robinson lab has been working primarily, but not entirely, on imperiled insects in transportation corridors. The main thrust of recent work has been improving methods for habitat assessment and demographic surveys of the federally endangered rusty patched bumble bee (*Bombus affinis*), and to a lesser degree the federally endangered Hine's emerald dragonfly (*Somatochlora hineana*) and a few state-listed insect species (rattlesnake master stem borer moth *Papaipema eryngii*, red tailed leafhopper *Aflexia rubranura*). During this I have managed to maintain some activity working on my favorite insects, caddisflies.

In 2023, Alma Schrage successfully defended her MS thesis on the estimation of detection and occupancy probabilities for Rusty Patched Bumble Bee; Maria Niemerg (nee Repiscak) is writing up an inventory of imperiled insects in some protected areas in La Salle County. Moshe Piltz will be rejoining my lab for an MS project starting in January 2025, where he will be investigating aquatic invertebrate communities co-occurring in crayfish burrows. This Fall (2024) I led a graduate seminar on bumble bee landscape ecology that provided students with the opportunity to contribute to a paper recommending management strategies to limit impacts to bumble bees in transportation corridors. I personally have been finishing up a paper describing the females of the eastern species of *Agapetus* (Trichoptera: Glossosomatidae), a project I inherited from my late mentors David Etnier and Chuck Parker. I am also nearing completion of a collaborative description of a new and unusual

species of *Rhyacophila* (Trichoptera: Rhyacophilidae) from blackwater swamps in eastern NC, SC, GA, and FL. Most species in this genus inhabit small cold streams, springs, or rocky rivers. Curiously, this species is adapted for life in swamps. In March 2023, I led a workshop at Dixon Springs Ag Center training ILEPA, INDEM, and MO biologists to prepare for the Society of Freshwater Science exam certifying taxonomic proficiency in the eastern genera of orders Ephemeroptera, Plecoptera and Trichoptera. I will be doing this again in spring 2025 near Land Between the Lakes, KY. Finally, this spring we will explore some potential artificial structures designed to provide nesting habitat for bumble bees in several locations in central and northern Illinois. Successful nesting will be leveraged for studies of effects of landscape composition on colony patterns of minimum foraging distance by workers.

In the meantime, I have successfully reared a human to adulthood and taken on the task of dual shih tzu ownership. I have discovered a passion for teaching piano and guitar, and I expanded my CV to include "elected official" and church deacon. Along with a brother-in-law and some friends, in August 2024 I put on a music festival in Madison County, NC, that by all accounts was a success. I am *probably* retired from the music festival business.

Nick Seiter. My research and extension program is focused on integrated pest management of insect pests in corn and soybean. Over the last couple of years, we have wrapped up several projects studying the impacts of cereal rye cover crops on pest management in these crops. We recently began a series of field studies evaluating how frequently insect pests exceed economic thresholds in Illinois and when/if the often prophylactic use of insecticides in soybean pays off in terms of increased yield. Ongoing projects are evaluating alternative control tactics such as entomopathogenic nematodes for control of corn rootworms, which have increasingly developed resistance to Bt traits for their control.

Modeling fashionable attire for insect photography in Malaysian Borneo...leech socks are a must!

Joe Spencer. The last several years in my laboratory have seen a growing focus on western corn rootworm behavior, ecology and resistance. I'm broadly interested in the mechanisms behind insect-plant interactions; working with species of *Diabrotica* rootworm beetles continue to provide many avenues to study the topic in a hugely impactful pest complex. I'm investing significant effort each year into studies of western (and northern) corn rootworm resistance to *Bt* traits. There is one PhD graduate student in my laboratory, Sagnika Das (Dept. of Crop Sciences), who is studying entomopathogenic nematodes for corn rootworm management and investigating the potential to use unmanned aerial vehicles (drones) to visualize insects for IPM-based monitoring. I continue to collaborate with other Dept. of Entomology and Dept. of Crop Sciences entomologists on applied and basic research related to field crops. When not chasing corn rootworms or running bioassays, I can be found enjoying and photographing plants and insects in my prairie gardens and in a variety of natural areas around the state. Recent insect photography trips to Borneo and Ecuador were wonderful opportunities to see amazing creatures. I remain fascinated by the "stories" that insects can tell us when we pay attention to what their behavior and ecology are saying.

Chris Stone and Jiayue Yan from the INHS Medical Entomology Lab

Chris Stone. This past year saw lots of activity in the Illinois Natural History Survey Medical Entomology Lab. Notably, Kylee Noel successfully defended her PhD dissertation this autumn and was invited to speak at the Rising Stars in Entomology Awards symposium at the most recent meeting of the Entomological Society of America, and will continue with us as a postdoctoral researcher next. With Jiayue Yan, an assistant research scientist in the lab, I had an opportunity to attend and present our research at the International Congress of Entomology in Kyoto.

Our lab space has undergone significant renovations, and we were able to expand our capacity through equipment previously used by the UIUC SHIELD program. This spring and summer we continued our

investigations on the ecology of Jamestown Canyon virus vectors in Illinois, with additional funding through the CDC Enhanced Laboratory Capacity program. We have also continued our citizen science project related to ticks and invasive mosquitoes and have launched a website for this in collaboration with colleagues at NCSA (www.bitemap.illinois.edu), through funding by the Department of Natural Resources and the Illinois Lyme Association. We were also awarded seed funding through the Center for Advanced Climate Solutions for an interdisciplinary project to disentangle the effects of climate, urban green space, and West Nile virus.

ACADEMICS / POSTDOCTORAL SCHOLARS / STAFF

Amy Cash Ahmed. I have been the Lab Manager for the Robinson lab since 2012, and our research and the bees certainly keep us all busy! We currently have projects ranging from honey bee gene editing to single cell analysis of honey bee aggression to studying olfaction in development to rearing honey bees in the laboratory! I love the research, but it's our wonderful lab members that make my job especially rewarding. This year I was honored to win the Chancellor's Staff Excellence Award. Outside of lab, my 11-year-old daughter, 9-year-old son, and husband keep me on my toes. We loved taking a cruise to Alaska this year!

Lesley Deem. I said goodbye to my favorite Bea this year, my dog Honey Bea (Beatrice). Great dog but terrible near a hive. Forever running up and sticking her nose right in the guard bees' faces. She did better as a watch dog for the groundhogs. I greatly enjoyed the time this year with the master gardeners as we planned and put in the demonstration beds at the Pollinatarium. Garden Walk in June was followed by Bee Class with high school 4H students and that is always fun. I am looking forward to that again in 2025.

Honey Bea

4H Bee class student having a good time as the honey Bear

With the Champaign County Museums Network, I write an Inside Out article for the News-Gazette about every 12 weeks—Inside Out articles, News-Gazette, Champaign (most recent to oldest):

Deem, Lesley. "*You have to work with your planning location*." News-Gazette, 14 July 2024 https://www.news-gazette.com/news/local/parks-recreation/inside-out-you-have-to-work-with-your-planting-location/article_82652958-3f02-11ef-8f48-a330f5b6d6ef.html

Deem, Lesley. "*Plants for a good view (beauty at the edges).*" News-Gazette 27 April 2024 https://www.news-gazette.com/news/local/parks-recreation/inside-out-plants-for-a-good-view-beauty-at-the-edges/article_6df6fac0-b4d0-51f8-a571-4ec3ec10538d.html

Deem, Lesley. "*The Lay of the Lawn."(Rethinking Your Lawn).*" News-Gazette, 11 February 2024 https://www.news-gazette.com/news/local/parks-recreation/inside-out-rethinking-your-lawn/article_0067dcc5-78ab-5713-b77c-79cfa3ad4aca.html

Deem, Lesley. "*Take a walk with me at the Pollinatarium.*" News-Gazette, 28 November 2023 https://www.news-gazette.com/news/local/parks-recreation/inside-out-take-a-walk-with-me-at-the-pollinatarium/article_fe954f3b-4a9d-59f2-aa6f-0f9d3bd2bba6

Deem, Lesley. "*More native plants for shady spots and pollinators.*" News-Gazette, 10 September 2023 https://www.news-gazette.com/news/local/parks-recreation/inside-out-more-native-plants-for-shady-spots-and-pollinators/article_71dc1592-740e-5710-858a-12dce372be0b.html

Elena Gratton. Elena Gratton is the Dolezal lab manager. She works on many of the projects in the lab and loves helping with field work. Elena grew up in Madison, Wisconsin, and did her undergraduate degree at Colorado State University. She got her master's at Penn State and joined the Dolezal lab in June of 2023. In her free time Elena spends time with her dog Toast and playing ultimate Frisbee.

Ling-Hsiu Liao. Over the past few years, my research has continued to focus on the overlap between toxicology, phytochemicals, pollinator health, and environmental factors. We've been studying how bees process nectar and pollen from different plants, and we've found that the unique mix of phytochemicals in their diet plays a key role in their health. For example, we've looked at how the identity and chemical makeup of nectar affect insecticide toxicity in pollinators, and also how pesticide-adjuvant combinations can affect honey bee olfactory responses. Beyond honey bees, we've broadened our research to include other species within the beehive environment. For instance, we've discovered that the phytochemicals of pollen affect the symbiotic fungi in bee hives. We've also looked at how the wax moth responds to miticides commonly used in hives and how the small hive beetle is attracted to different types of honey, with varying responses between males and females.

On top of the research, I have also been involved in advocacy work focused on improving pesticide regulations to better protect pollinators and have had the opportunity to co-author several publications calling for clearer, more thoughtful regulations that better take into account the health and needs of pollinators. I'm looking forward to continuing the work and making a difference for pollinator conservation in the years ahead.

STAFF

Todd Fulton. Throughout my 30 -plus years operating the Insectary, I continue to enjoy the challenge. I'm not sure when I'll be "done" with my time in Entomology, but I've certainly enjoyed myself... Thanks to all that make time here so satisfying.

Kim Leigh. I am just starting my 13th year working in the Entomology department. Now, as Administrative Aide for the department, I continue to see students and staff come and go, and I congratulate all the students who have graduated and moved on and welcome the new ones just coming in. On a personal note, this past year has been extremely difficult for me, and I just want to sincerely thank everyone for their support.

ILLINOIS ENTOMOLOGY ON CAPITOL HILL 2023

House AG Committee Staffers & ESA representatives

Senate AG Committee Staffers & ESA representatives

On November 9th, 2023, immediately following the Entomological Society of America Annual Meeting, representatives from the Illinois Entomology Department attended ESA's "Swarm the Hill Day" event, in Washington, DC. The Department of Entomology was represented by graduate students Erinn Dady (Ngumbi-lab) and Sam Dubbs (Dolezal/Berenbaum-labs), as well as Department faculty Adam Dolezal and Marianne Alleyne. The team met with staffers for Senators from both sides of the aisle who led the Senate Committee on Agriculture, Forestry, and Nutrition and those from the House's side that served on the Agriculture Committee. All were working hard on legislation, such as the Farm Bill. Erinn, Sam, Adam, and M also met with the congressional offices of Senator Durbin (D-IL) and Representatives Budzinski (D-IL) and Casten (D-IL) to share their science in the areas of food security, pollinator habitat conservation, and the bio-economy, and to advocate for entomological science in general. The team appreciates the support from the Department and Society to hone their science advocacy skills, which they hope to continue to develop and bring to the State governmental level.

ENTOMOLOGICAL SOCIETY OF AMERICA MIXERS

2023

2023 ENTOMOLOGY
November 5–8 | National Harbor, MD

Andy Suarez and Diana Cox-Foster

Scott Clem, Ling-Hsiu Liao, Wen-Yen Wu, Ceci Prada, Luke Zehr, Todd Johnson, Nathalie Baena, Ed Hsieh, Jon Tetlie, Daniel Pearlstein

Sam Mowery, Sara Wilson, Kylee Noel, Elizabeth, Satinder Kaur, Ember Clodfelter

Marianne Alleyne, Luann Wiedenmann

Tristan Barley, Alex Payne, Myra Dickey

Hongmei Li-Byarlay, Carol Anelli

Allison Gardner, Adam Dolezal, Clare Rittschof, Beryl Jones

Andy Suarez, J.E. McPherson

Bill Styer, Rob Wiedemann

Dominic Evangelista

David Denlinger

Reception room

2024

Aron Katz, May Berenbaum, Jo Holley

Josh Gibson, Andy Suarez

Joel Coats, Adam Dolezal

Brenna Decker

Scott Clem, Jon Tetlie, Ed Hsieh

Vincent Prayugo, Tristan Barley, Lincoln Taylor

Niko Artley, Erinn Dady

Tugrul Giray, Alex Harmon-Threatt

Marianne Alleyne, Naim Salahuddin

Ember Clodfelter, Sam Dubbs, Emily Struckhoff, Luke Hearon, Lizzie Bello

Anugerah Fajar

Christina Grozinger

Ling-Hsiu Liao, Hongmei Li-Byarlay

John Tooker

Lisa Knolhoff

Xianchun Li, Ling-Hsiu Liao, Wen-Yen Wu, Reed Johnson, May Berenbaum

COLLOQUIUM SPEAKERS

Spring 2023

Jan 23	**Silas Bossert** Washington State University	*The evolution and diversification of bees through a phylogenetic lens*
Feb 6	**Stelios Chatzimanolis** U of Tennessee, Chattanooga	*Systematics and natural history of Xanthopygina rove beetles*
Feb 13	**Jennifer Koop** Northern Illinois University	*Alien invaders! Studies on the ecology and evolution of invasive parasites*
Feb 20	**Eliza Grames** U of Nevada, Reno	*Insect biodiversity loss and conservation in the Anthropocene*
Mar 6	**Ainsley Seago** Carnegie Museum of Natural History	*Understanding living jewels: new perspectives on beetle iridescence*
Mar 20	**Aron Katz** US Army Corps of Engineers/PRI	*Big problems, tiny solutions: molecular tools for enhancing wildlife management*
Apr 10	**Sydney Cameron** UIUC	*A feeling for the organism*
Apr 17	**Jim Whitfield** UIUC	*A series of fortunate events: Development of a career in insect systematics*
Apr 24	**Michelle Smith** Corteva	*A field guide to entomology in the agriculture industry – Structure, growth and development and classification*
May 1	**Brian Lovett** USDA-ARS Cornell University	*Arthropod-killing fungi as a platform for innovative biotechnology*

Fall 2023

Sept 11	**Christopher Beatty** Stanford University	*Diversity, biogeography and evolution of a relict dragonfly group*
Oct 2	**Tanya Josek and Josh Gibson** Beckman Institute, UIUC	*Close encounters of the microscopic kind*
Oct 16	**John Tooker** Penn State University	*Who's in charge? Complex interactions between gall insects and their host plants*
Oct 30	**Ignacio Escalante Meza** University of Illinois, Chicago	*Mechanisms and evolutionary implications of behaviors: Biomechanics and communication in an arachnid*
Nov 13	**Zhiyong Xi** Michigan State University	*From lab to field: Developing Wolbachia to combat mosquito-borne diseases*
Nov 27	**Sammy Ramsey** University of Colorado	*Pollinator pandemic: Managing honey bee health in a world of invasive parasites*

Spring 2024

Jan 22	**Charles Abramson** Oklahoma State University	*Contributions of the neglected African American scientist Charles Henry Turner (1867-1923) to insect behavior*
Jan 29	**Carmen Blubaugh** Crop Sciences, UIUC	*Multi-trophic consequences of biodiversity in agroecosystems*
Feb 5	**Rachel Bonoan** Providence College, RI	*Nutritional and behavioral ecology is bees and butterflies*
Feb 19	**Doris Lagos-Klutz** USDA-ARS National Soybean Research Center, UIUC	*Suction trap network in the U.S. Midwest*
Feb 26	**Mary Salcedo** Cornell University	*Insect wing hydraulics: circulation, unfurling, and expansion*
Mar 18	**David Holway** University of California, San Diego	*Honey bee introductions through the lens of invasion biology*
Mar 25	**Melissa Sanchez Herrera** University of Alabama	*Diving into Neotropical Odonata: Investigating systematics, biogeography, and conservation*
Apr 1	**Justin Van Goor** University of Missouri	*Parasitodiplogaster nematode influences on fig community dynamics, or how I learned to stop worrying and love the worm*
Apr 8	**Christina Kwapich** University of Central Florida	*Colony economics and the unwelcome guests of ants*
Apr 15	**Margarita López-Uribe** Penn State University	*Buzzing through time: The interplay of ecology, evolution, and humans on bees' recent history*
Apr 22	**Adekunle Adesanya** Corteva Agriscience, Indianapolis	*The journey for an impactful career; contributing to the blueprint for discovery and development of the next generation crop protection technologies*
Apr 29	**Kevin McCluney** Bowling Green State University, OH	*Using organismal physiology as a lens to understand the effects of global change on arthropod communities*

Fall 2024

Sept 9	**Tugrul Giray** University of Puerto Rico	*Beeology: Understanding individual and social phenotypes*
Sept 16	**Baldwyn Torto** University of Pretoria, South Africa	*Strategies to manage selected invasive pests of Solanaceae crops*
Sept 23	**Michael Sdvarla** Penn State University Extension	*Deer keds and community science: how research meets extension in the Penn State Insect ID Lab*
Sept 30	**Clayton Traylor** Temple University, Philadelphia	*Community responses of saproxylic beetles and bees to forest conditions in the southeastern Piedmont*
Oct 7	**Stewart Berlocher** UIUC	*Recent ecological history of the Big Grove: 200 years of change*
Oct 14	**Ed Hsieh** Grad Student Exit Seminar	*Context is key: How interactive stressors affect honey bee physiology across caste and life stage*
Oct 21	**Felipe Soto-Adames** Florida Dept. of Ag & Consumer Serv	*Systematics and the challenges of regulatory entomology in the subtropics: The Florida experience*
Nov 4	**Hollister Herhold** American Museum of Natural History	*Tracheae and hemoglobins - Morphological and molecular adaptations for respiration in insects*
Nov 18	**Amber Crowley-Gill** Iowa State University	*Pollinator behavior:Uunderstanding the role of floral microbes and modified blossom chemistry*
Dec 2	**Kylee Noel** Grad Student Exit Seminar	*Buzz kill: Insecticide resistance in Culex mosquito populations*
Dec 9	**Ben Sadd** Illinois State University	*It's a gut feeling: The evolutionary ecology of host-microbiota interactions from general insect pollinators to bumble bees*

NEW STUDENT WELCOME AND ALUMNI FALL PICNIC

2023 — Guest alumnus speaker, John Tooker, Penn State University

2024 — Guest alumnus speaker, Tugrul Giray, University of Puerto Rico













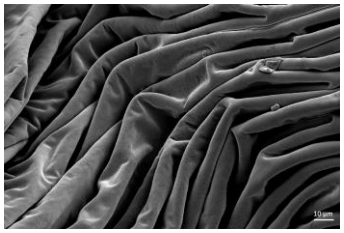




GRADUATE STUDENTS

Tristan Barley. I am a fourth-year Ph.D. student in the Dolezal lab with two main research projects. The first is a collaborative study with UIC, Argonne National Laboratory, and the National Renewable Energy Laboratory investigating responses in insect communities to seeding solar facilities with prairie plants. My other research project looks at the effects of competition between honey bees and native bees. This past year, I passed my preliminary examinations to become a Ph.D. candidate and finished my last summer of data collection. Additionally, I became a part of ESA's Science Policy Fellowship, a program that bridges the gap between research and policy by sending members to Capitol Hill twice a year to meet with representatives, senators, and federal agencies to advocate for entomological funding and initiatives. I also joined ESA's North Central Branch as the chair-elect for the Student Affairs Committee. In my free time, I enjoy hiking through national parks, playing soccer, and attending board game nights with my lab.

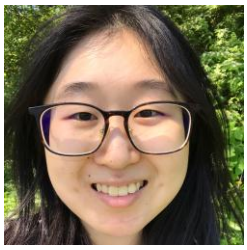
Elizabeth Bello. It's been another exciting year filled with incredible opportunities! I spent the last year wrapping up projects and publications and getting into the groove of what will be my dissertation work. I published my first, first-author paper, a review on the different hydrophobic cuticular adaptations of insects. I was fortunate to publish three co-authored papers, one about droplet jumping phenomena and self-transport on insect cuticle and the other two about the material properties and anti-reflective functionality of leafhopper brochosomes. I also have upcoming plans to publish the second portion of my master's thesis. In 2022, I applied for the graduate college dissertation travel grant and received funding that I used in Summer 2023 to conduct in situ nanomechanical testing on leafhopper brochosomes at the Center for Integrated Nanotechnology, Sandia National Laboratory in New Mexico. While there, I got to do some amazing hiking on the Sandia Crest Trail and traveled north of Albuquerque to the Jemez Mountains. I very quickly discovered why the state slogan is "The Land of Enchantment" and I'm excited to return for future research trips. In other exciting news, I won first place in the 2023 Graduate College Image of Research Competition for an image of an intricately folded nymphal cicada wing. Outside of academia, married life has been treating me well and I still spend as much time as I can outdoors. As always, I'm grateful to my advisor, colleagues, friends, and family for providing me with such a strong support system; you all keep me sane!



"In The Fold"

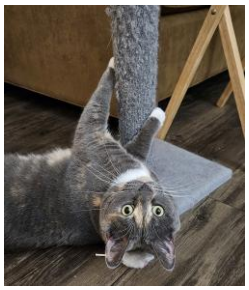
Morgan Brown. This past summer, I completed my third and final sampling season and have since been working on finalizing and analyzing my data. I've also begun writing my thesis paper, which aims to investigate changes in Auchenorrhyncha communities in Illinois tallgrass prairies over a 25-year period. During my time working with my advisor Chris Dietrich, I have learned so much about the leafhoppers and prairies of Illinois, and I hope to secure a job where I can continue to use and expand this knowledge after I graduate!

Xavier Carroll. My research examines the generation of electrostatic charges across insect surfaces. Insects collect small charges, on the scale of 10^-12 Coulombs, as they move through their environments. Due to the insect's scale, these charges can facilitate interactions such as object avoidance and pollination. I am interested in how frictional charging (triboelectrification) occurs during flight and floral foraging. To this end, I have designed and fabricated a set of charge induction sensors that I use to measure both the net charge of an insect and charge of specific regions of the insect's body.



Yutao Chen. I'm a first year PhD student in Dr. Marianne Alleyne's lab. I received my master's degree in Ecology, Evolution and Conservation Biology this summer. I'm very excited that my master's program is done. And I'm passionate to keep exploring and working on my project. For my research, I study cicadas. And my research focuses on developing antibacterial cicada wing-inspired polymer surfaces. During my master's program, I had the opportunity to teach IB202, IB203, and IB411 and truly enjoyed teaching!

Ember Clodfelter. Hello, Entomology Family! Since my last update I have been incredibly busy. At EntSoc 2023, I presented some of my work on *Wolbachia* in *Penenirmus* sp. lice and won first place. I defended my Master's work in June of 2024 with chapters on *Wolbachia* in *Penenirmus* sp. lice and a new compression louse fossil. I decided to stick around at UIUC for my PhD and continue working with Dr. Kevin Johnson out of the Prairie Research Institute of the Illinois Natural History Survey. My PhD work will be focused on establishing phylogenies for several complexes of louse genera as well as investigating their endosymbiont diversity. If I have time, I hope to start delving into the functions of some of the bacteria within the lice. At EntSoc 2024, I presented on the first part of my PhD dissertation work on the *Quadraceps*-complex of lice including its phylogeny and endosymbiont diversity and won second place. Outside of school, I really feel I've established a great community of friends here in town. I have met so many wonderful people and made some great friendships! I appreciate every one of you (you know who you are!) and wouldn't be where I am without you. My cat, Aalaya, continues to be an adorable menace in my life, but I wouldn't have it any other way. I also set myself the challenge of reading 200 books this year and as of typing this (mid-November) I am mostly on track and have read 168 books so far!



Theodore Cook. I am a master's student in my second year studying entomology at the University of Illinois. I received my B.S. in Biology from Cedarville University in 2023, where I first learned to collect and preserve aquatic insects. Here in Champaign, I work in the lab of Dr. Ed DeWalt studying the distribution and diversity of stoneflies in West Virginia. My work involves collecting, identifying, and digitizing specimens from all parts of the state. I intend to produce an updated checklist of stonefly species for West Virginia, a distributional atlas describing the known ranges of each species, and a genomic analysis of the genus *Malirekus*.

I have previously lived in Huntington, West Virginia, and Columbus, Ohio with my parents and my six siblings. Outside of zoology, my greatest academic interest is European history. When I have the time, I enjoy running, hiking, and birdwatching.

Art of Science

Erinn Dady. I am finishing up my Master's degree in Dr. Esther Ngumbi's Lab and working to understand plant responses to environmental stressors such as insect herbivory (biotic) and flooding (abiotic). The last several years are a good indication that agricultural practices will need to shift to growing crops that can withstand many different types of stress, including drought, flooding, higher temperatures, and, of course, insect pests—all this on a tight budget. The combination and timing of stressors are important as no stressor occurs singly in nature. Innovation and nature-based solutions are a necessity to redesign how we think of plant protections without increasing expensive chemical inputs.

I am fascinated by plants' capacity to respond rapidly to stress, including the ability to alter their chemistry, and to recruit natural enemies when pests arrive. Specifically, I am interested in how the timing of the first stressor shapes plant response to combined stresses. To tease apart the different responses, I exposed tomato plants to insect herbivory first and then flooding, as well as the symmetrical switch – flooding first and then herbivory. I am measuring plant stress response through secondary metabolites and gene expression. The goal of my research is to inform growers about resilient crop varieties to improve food security and reduce costly inputs.

I enjoyed presenting my research at the Entomological Society of America annual meetings in 2023 and 2024. I also published my second paper, Dady et al., 2023 [https://link.springer.com/article/10.1007/s10886-023-01455-w]. It was incredibly rewarding to see this work so well received – after a nice write-up by Ananya Sen at the Institute for Genomic Biology (IGB), the paper was picked up by phys.org and Yahoo news. In collaboration with Julia Pollack at the IGB, photographs from my work were included in the 2024 Art of Science exhibit. I have also had the opportunity to share my work twice at the local Science on Tap talks, hosted by Riggs Beer Company in Urbana.

EntSoc24

Last summer was a busy one full of opportunities to learn and walk my path in plant-insect interactions and chemical ecology. I enjoyed the opportunity to attend two world-class courses, where I met many established and upcoming scientists. First was the International Chemical Ecology short course at Penn State. Later in the summer, I attended the Frontiers and Techniques in Plant Science at Cold Spring Harbor Laboratory in Long Island, New York. My travel to New York to learn and grow was possible by a generous gift of support provided to me by the Francis M. and Harlie M. Clark Research Support Grant. I heard lectures from some of the greats in the field and gained hands-on experience with cutting-edge techniques. I am further motivated to understand the chemical language between plants and insects.

Hedge Pop Park

I served as an Outreach Coordinator for the Entomology Graduate Student Association from 2023-2024. I started tracking the events; we served over 20 classrooms and other community spaces and exposed more than 900 local students and a few hundred local adults, to the mysterious world of insects and the many roles they play in our lives. Along this thread, we reached an additional 650+ people through public outreach at our annual Insect Fear Film Festival (IFFF). I served as the organizer for the K-12 insect art competition for the 40th and 41st festivals. Continuing my passion for science exposure and communication, I also recruited artists and volunteers for the K-12 insect art competition at the 42nd IFFF, featuring tarantulas, on Saturday, February 22, 2025.

Samantha Dubbs (Mowery). Hello again! A lot has happened over the last two years. I even got married to my wonderful husband Shane! As of the end of 2024, I officially defended and deposited my master's thesis, making me an official Ph.D. student in the Entomology Department. With this, I will likely be moving on from my work with *Aspergillus flavus* and focus more on my interests in honey bee-produced propolis under the supervision of May Berenbaum and Adam Dolezal. I look forward to learning more about honey bee resin foraging behavior and the amazing capabilities of propolis. Moreover, at the EntSoc Annual Meeting in 2024, I won first place for my section of the student competition! I am excited about future branch meetings as the UIUC representative on the North Central Branch Student Affairs Committee, as well as future Insect Fear Film Festivals as the EGSA webmaster. Beehaw!

Anugerah Fajar. I am Anugerah Fajar, a first year PhD student under Dr. Xuguo Zhou. I usually go by Fajar and I am from Indonesia (hence the uncommon naming custom). I am studying termite foraging behavior and overall task allocation. My first two semesters in UIUC have been quite an experience compared to what I experienced in Kentucky, where I studied for my master's degree. It was definitely sunnier and warmer in Kentucky than here, but I am adapting to the weather. Since our lab is just starting, most of my lab work has been in managing our termite colony and starting new termite collection around campus. If you find termites or termite alates swarming in spring at your backyard, I would like to know about them. In my free time, I like reading various novels and learning Spanish whenever possible. Nice to meet everyone!

Siti Fauziyah.

Aidan Garrett. I am a second-year master's student in Jason Bried's lab focusing on improving monitoring for rusty-patched bumble bees. Specifically, I am looking for co-occurrence patterns between the rusty-patched bumblebee and other bumble bees.

Lily Hart. Hello! I'm Lily Hart, a first year Master's student studying stoneflies in Dr. DeWalt's lab. I will soon publish a species checklist as a data paper on the stoneflies of Arkansas that we will use to assess distributions of species in greatest conservation need (SGCN) and as a reference for future targeted sampling. My first semester has been a whirlwind of new information, and I really enjoyed the Insect Ecology course! I have worked in the INHS Insect Collection for about six years now, and that is what I enjoy the most. Each specimen tells a story, and research collections like ours are unique, valuable resources as our world is ever-changing. I have a lot more to learn, and I am excited to gain new skills and continue to get to know my fellow students.

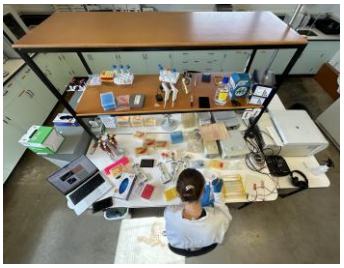
Phillip Hogan. I'm a fourth-year entomology PhD candidate under the mentorship of Edward DeWalt at the Illinois Natural History Survey. My research involves understanding how glacial advances and retreats of the Pleistocene structured contemporary species distribution patterns, particularly within the winter stonefly genus *Allocapnia*. In doing so, I've been lucky to travel across the eastern US tracking target or rare species. Field work has resulted in some interesting results including multiple new state records and one new species, and has laid the groundwork for a taxonomic revision of the genus. Although stoneflies are my mainstay, some side projects I'm wrapping up include an analysis of caddisfly species diversity within the Nearctic as well as the first faunistic overview of the caddisflies of Maryland. Over the past two years, I have been a TA for both IB468 and IB444, insect systematics and insect ecology respectively, and this past April I passed the preliminary exams.

Edward Hsieh. It has been a while since my last update and much has happened. I have given my graduate student exit seminar and defended my dissertation. In addition to completing my examinations of tripartite interactions and microbial detoxification, I have taught myself the honey bee queen rearing process and completed several carefully controlled comparisons of queen and worker pesticide tolerance. These comparisons have revealed some fascinating insights into queen physiology and allowed me to expand my skillset by working with yet another critical component of the colony. I have continued to teach and give presentations, serving as the teaching assistant for Genes and Behavior with my advisor, Adam Dolezal, and presenting my research at multiple international conferences. Now, having reached the end of my time here at UIUC, I landed a job at the USDA Baton Rouge facility. Goodbye and good luck to everyone; I will miss you all!

Satinderpal Kaur. I am Satinder, a second year Ph.D. student in Dr Esther Ngumbi's lab. My Ph.D. project is a collaborative project, where I am interested in understanding the effect of flooding stress of maize on plant growth and the production of secondary plant metabolites. My work is mostly focused on plant-insect interactions and plant chemical ecology. Due to the collaborative nature of my research, I get the opportunity to learn about plant biology and physiology along with learning about entomological aspects. My time here at UIUC has been great so far, filled with learning, new friendships, successes and challenges as well. Apart from studies and research, I love dancing and I love to make henna arts and tattoos. I have started a new hobby of doing henna drawings on canvas. I also love traveling to new places with friends and watching thriller movies.

Chan Liu. I am a PhD student in Dr. Xuguo "Joe" Zhou's lab. On the official UIUC records, I am classified as a first-year PhD student. However, I had been pursuing my PhD for four years at the University of Kentucky before transferring to UIUC. The transition from UKY to UIUC was a dramatic change for me, and adapting to the new environment was challenging. That said, the folks here have been incredibly welcoming and helpful. I want to give a big shout-out to Kim and Dr. Dolezal for their tremendous support in making my transition as smooth as possible. Research-wise, my study focuses on understanding the evolution of eusociality in termites through comparative genomics. Termites are believed to have evolved from an ancestral solitary cockroach stage followed by a subsocial cockroach stage. I am particularly interested in how genomic differences across these varying levels of social complexity have contributed to the awe-inspiring 'altruism' in termites. Although I haven't made much progress on my project over the past year, I had the opportunity to serve as a teaching assistant, which I found incredibly rewarding. Additionally, I was fortunate enough to receive several grants and awards this year, which felt like a significant achievement. As I look forward to the rest of 2025, my primary goal is to make as much progress on my project as possible and publish some papers. I am excited about the possibilities ahead!

Jared Martin. Through my work as an animal handler and caretaker in Philadelphia, I gained a wealth of knowledge about the animals I worked with. I hope to use my higher education to both gain a better understanding of the processes that occur at every scale in all corners of the world and to also help inspire others to appreciate these fragile ecosystems.



Sara Merkelz. I am a first-year master's student in Dr. Mark Davis's lab, aka the Collaborative Conservation Genomics Lab (CCGL). However, my journey in Champaign started in 2020 with my undergraduate program in Integrative Biology and my first summer at INHS in 2021. What I thought would be a one-time summer job collecting insects has led to lots of cool opportunities, such as grad school, and I am so grateful for my mentors here. The highlight of my year has been last spring, when I was sent to Hawaii to climb mountains collecting environmental DNA samples of some of the rarest plants in the world. And then I caught a flight to make it back for graduation just in time! My master's program will be on all things pollinator eDNA with floral samples coming from both picturesque northwest Indiana and Alaska (the latter I did not get to collect in person, but I hope to one day!). Most of fall semester was spent holed up in the Annex chugging away in the lab, so I am looking forward to analyzing and publishing all the data I will have soon.

Kylee Noel. Much has happened since my last update, but most excitingly I successfully defended my dissertation—studying insecticide resistance in mosquitoes—in early November 2024! I've enjoyed presenting my work at several conferences, including the Annual Entomological Society of America meeting in National Harbor, MD (2023) and Phoenix, AZ (2024). At the meeting in Phoenix, I had the opportunity to give an in-depth presentation of my dissertation research as part of the Rising Stars of Entomology Award Symposium. I've continued to enjoy teaching, mentoring, and outreach and look forward to pursuing these activities in my future career. I'm happy to report that I will be staying in the CU area and will continue to be a part of the Illinois Natural History Survey's Medical Entomology Laboratory, where I have accepted a post-doctoral position. My husband, Ty Noel, recently joined the School of Integrative Biology as the communications coordinator. Together we love attending local shows for live music and spending time with our two old dogs, Zephyr and Lucy.

Vincent Prayugo. I am currently a third-year graduate student at the Dolezal Lab. My research focuses on the effects of stressors, namely honey bee viruses and pesticides, on honey bee physiology. This year, I started on my dissertation projects studying the long-term impact of Israeli Acute Paralysis Virus (IAPV) in IAPV-recovered honey bees and the impact of IAPV in developing honey bee pupae.

Rachel Rusen. I'm currently a student in the Hanks Lab. I'm from Toronto originally. I started my career as a field primatologist. I got my undergraduate degree at McGill and a Master's of Science from the University of Toronto. In the Hanks Lab, we conduct pheromone research on beetles from the cerambycid and elaterid families. I love doing field research in forests, be it tracking chimps in Uganda or trapping beetles here in Illinois.

Johanna Schwartz. I am a second-year PhD student in the RoachBrain Lab. My dissertation research is focused on wing evolution in Blattodea. More specifically, I'm interested in the functional morphology of the apical folding field and wing base characteristics in brachypterous cockroaches. In 2023-2024, I attended the ECN collections management workshop, I presented my MS research at EntSoc 2023, I received a Richard Gilder Graduate School Theodore Roosevelt Grant to conduct research at the American Museum of Natural History, and I traveled to both Cameroon and Peru to collect cockroaches.

Luke Settles. I am a first-year master's student in the Dolezal Lab in the Department of Entomology. I'm interested in studying how landscape management strategies can preserve diverse pollinator communities, as well as how stressors such as pathogens, climate change, and insecticide exposure impact their health and behavior. After helping with field surveys over the summer, I'm eager to continue that work with a focus on wild bee communities. So far, I've continued performing field surveys, helped analyze data, and conducted a small pilot experiment on honey bee thermal tolerances. It's been an enjoyable challenge balancing coursework with project development, and I'm excited to see where the next semester leads!

Joseph Spina. I am a third-year master's student doing research through the Illinois Natural History Survey's Medical Entomology lab after four years working as an hourly employee to collect and test disease vector species across Illinois. My research currently focuses on the ecology of emerging mosquito-borne viruses, more specifically examining the possibility of a sustained outbreak of Ross River virus in the continental United States through the vector characteristics of Illinois-caught *Aedes albopictus* mosquitoes. In my time in the Entomology program, I have had the opportunity to hone my skills in molecular and cellular biology, data analytics, outreach, and public relations. I have also had opportunities to develop my leadership skills by mentoring a number of undergraduate students and by being involved in the Entomology Graduate Student Association. I also presented my research at EntSoc 2023 and I am currently a part of EntSoc's Professional Advancement Career Training (PACT) mentorship program. I would like to thank my advisor, Christopher Stone, the faculty and staff of the Entomology program, and the staff of the Medical Entomology Lab for giving me such an incredible opportunity to grow academically and personally! Outside of school, you will almost certainly find me running around the woods looking for cool bugs and mushrooms or in the kitchen attempting some experiments of the more culinary variety.

Jonathan Tetlie. I am currently in the final year of my PhD in the Harmon-Threatt lab. Since the last newsletter, I was honored to receive a USDA-NIFA predoctoral fellowship, which has supported my research on the multitrophic impacts of neonicotinoid contamination on arthropod and plant communities within tallgrass prairie restoration systems.

On a personal note, I recently got married and relocated to Colorado, as my spouse has been accepted into a veterinary oncology residency at Colorado State University. While I complete my studies remotely, I've had the pleasure of being an unofficial member of the Mola lab at CSU. I am eagerly looking forward to graduating and embarking on my next chapter in the workforce.

Anupama Udayakumar. I am a master's student in the Hanks Lab working on differentiating morphologically similar species within the Lamiinae subfamily (in the family Cerambycidae). After navigating through some personal circumstances, I plan to graduate in Spring 2025. Post-graduation, I look forward to spending time with my newborn son, while I consider the next steps in my career.

Annaliese Wargin. Working in Dr. Alex Harmon-Threatt's lab, I completed my master's degree in spring 2023 after three years of wrestling with a multi-trophic system. I presented my master's work, which focused on the effects of variable mutualist soil bacteria on insect herbivores, at the 2023 Entomological Society of America conference. In fall 2023, I began work on my PhD, which intends to broadly study the parasites of bees at the community level. Part of this work aims to assess bumble bee parasite levels in USDA Conservation Reserve Program land, for which I was fortunate to receive funding through the Mary F. Wilson Award and USDA-NIFA's North Central SARE (Sustainable Agriculture Research and Education) Program. Thus far, I've passed my preliminary examinations and completed my first season of fieldwork and look forward to continuing my work in Spring 2025. In fall 2024, I was elected the next president of the Entomology Graduate Student Association.

Timo Wayman. I am a second-year master's student in Dr. Alex Harmon-Threatt's lab. My project is an assessment of bee hotels as conservation tools, investigating invasive and parasitic insects that can nest in them. Earlier this year I drove all over the state to pick up bee hotels from volunteers. I had one incident when I was driving down the interstate and bees emerged from a hotel and flew around in my car. For the last few months, I have been warming them up in the lab to see what emerges. Outside of the lab, I just ran my first half-marathon.

Cariad Williams.

Wen-Yen Wu. I am a fifth-year PhD candidate in Dr. May Berenbaum's lab, studying the impact of fungicide contamination on pollen processing and reproductive health in western honey bee colonies. My research examines how fungicides affect pollen nutrition, the role of microbes, and overall colony toxicity. In Spring 2023, I was fortunate to receive valuable support in collecting pollen samples from almond orchards in California. This experience deeply inspired me, as I had the opportunity to observe firsthand the pollination services, which involve over 70% of all commercial honey bee colonies in the U.S. Currently, I am expanding the scope of my thesis research to explore the impact of fungicides on both the nutritional and reproductive health of honey bee colonies, with the goal of gaining deeper insights into how we can better support pollinator health within agricultural systems. Outside of my research, I enjoy exploring new technologies, such as IoT and machine learning, which I apply to my studies and daily life.

Minxing Zhu. I am a first-year master's student in the Ngumbi Lab. After conducting undergraduate research focused on plant defenses against combinatorial stress of flooding and insect herbivory in the past two years, I find myself truly intrigued by plant-insect interactions, specifically the chemical ecology between plants and herbivorous insects. I am excited to continue my research journey in the Ngumbi Lab. My current research focuses on investigating the attractiveness of plants recovering from flooding stress to both ovipositing female and leaf-chewing larval beet armyworms. I also aim to understand whether the mechanisms of oviposition preference and larval performance can be explained in terms of alterations in plant chemistry and non-volatile secondary metabolites. In Fall 2024, I did this experiment for the first time, and I was able to present the data collected in a poster session at the Entomological Society of America's annual meeting in Phoenix, AZ. I'm glad that my poster won second place in the *Plant-Insect Ecology: Chemical Ecology and Behavior* session. I really appreciate Dr. Ngumbi's mentorship and I'm very excited to repeat the experiment!

RECENT GRADUATES

Graduation Term	Student	Degree	Thesis Title
May 2023	Luke Hearon	MS	Investigating the Mechanism of a Non-Consumptive Effect of a Predator on the Disease Dynamics of Its Prey (C. Cáceres)
	Aaron Mleziva	MS	Wild Teosinte and Cultivated Maize Show Differential Tolerance to Flooding and Herbivory Stress (E. Ngumbi)
	Lincoln Taylor	MS	Social Immunity in Honey Bee Brood Care: How Israeli Acute Paralysis Virus Influences Nursing Behavior (A. Dolezal)
	Annaliese Wargin	MS	Aboveground Effects of Variation in the Legume-Rhizobium Mutualism on Insect Herbivore *Spodoptera exigua* (A. Harmon-Threatt)
Aug 2023	Miles Arceneaux	MS	Impacts of Flooding, Herbivory and their Interaction on Tomato Plants Growth, Development and Physiology: A Review (E. Ngumbi)
	Benjamin Chiavini	MS	Small Hive Beetle (*Aethina tumida*) Rearing and In-Hive Pesticidal Protein Control (A. Dolezal)
	Kaitlyn Coburn	MS	"In The Outskirts": Exploring Science Identity Development in Biology Education Using Insect Natural History Collections and Self-Determination Theory (T. McElrath)
May 2024	Vincent Prayugo	MS	Israeli Acute Paralysis Virus (IAPV) and Deformed Wing Virus (DWV) Infection Progression in Honey Bees (A. Dolezal)
	Sreelakshmi Suresh	MS	A Little Bee Told Me…Using Waggle Dance Analysis and Pollen Identification to Examine Foraging of Honey Bees (*Apis mellifera*) in Mixed Agro-Urban Ecosystems (A. Dolezal)
Aug 2024	Ember Clodfelter	MS	Studies of Phthiraptera (Insecta: Psocodea): From Phylogeny to Fossil (K. Johnson)
Dec 2024	Edward Hsieh	PhD	Context is Key: How Interactive Stressors Affect Honey Bee (*Apis Mellifera*) Physiology Across Caste and Life Stage (A. Dolezal)
	Samantha Mowery	MS	Fungal Friend or Foe: Phenotypic Variation of *Aspergillus flavus* Strains within Honey Bee Colonies in the Midwest (M. Berenbaum / A. Dolezal)
	Kylee Noel	PhD	Culex Mosquitoes and Insecticides: Resistance and Sublethal Exposure (C. Stone)
	Jacob Tamarri	MS	Five New Genera and Species of Darwin Wasps (Hymenoptera: Ichneumonidae) from the Lower Oligocene Renova Formation of Montana (S. Heads)
	Jared Thomas	MS	The Last Batrachideine of Europe: A New Genus and Species of Pygmy Grasshopper (Orthoptera: Tetrigidae) from Eocene Baltic Amber (S. Heads)

ENTOMOLOGY GRADUATE STUDENT ASSOCIATION

2024-2025 Officers
President: Annaliese Wargin
Vice president: Joseph Spina
Secretary: Satinderpal Kaur
Treasurer: Lily Hart
Webmasters: Sam Mowery and Wen-Yen Wu
Academic Committee Members: Anugerah Fajar, Luke Settles, and Rachel Rusen
GSAC Representative: Erinn Dady
Faculty Liaison: Erinn Dady
Outreach Coordinators: Ellie Meys & Jared Martin (Event Coordinator)
Social Chair/Membership Director: Morgan Brown
EntSoc Coordinator: Sam Mowery

2024-2025
As the new president of EGSA for the 2024-2025 academic year, I look forward to strengthening EGSA as we begin our second year as an RSO, and to another great Insect Fear Film Festival! *Annaliese Wargin*

2023-2024 Officers
President: Lizzie Bello
Vice-president: Annaliese Wargin
Treasurer: Vincent Prayugo
Webmaster: Sam Mowery and Wen-Yen Wu
Secretary: Morgan Brown
Academic Committee Chair: Kylee Noel
Academic Committee Members: Xavier Carroll and Sara Wilson
GSAC Representative: Annaliese Wargin
Faculty Liaison: Joseph Spina
Outreach Coordinator: Erinn Dady, Jared Martin, Morgan Brown
Social Chair: Ember Clodfelter
NCBESA Student Affairs Committee Representative: Siti Fauziyah

Morgan Brown, Lizzie Bello, and Annaliese Wargin at EntSoc23

2023-2024

2023 was a busy year for EGSA as we continued to rebuild our sense of community following the pandemic. With EGSA officially re-registered as an RSO, we hit the ground running to make necessary changes and take care of some housekeeping tasks. Our outreach coordinators did a phenomenal job revamping our insectary and transitioning to a busier schedule to accommodate the increase in outreach requests. Our Social Chair organized multiple events that brought students closer together and helped lead a joint camping at the Middle Fork River Forest Preserve trip between Purdue and the U of I that hosted over 25 students! We also had a great showing at the National Entomological Society of America meeting this year in National Harbor, Washington D.C. with 14 students in attendance and 3 of them winning awards in the student competitions. Notably, President Lizzie Bello wrangled U of I students at the conference to join her in riding a mechanical bull at a nearby restaurant. With students cheering "That's my President!" she set the department bull riding record of 3 minutes and 30 seconds, followed closely by Jon Tetlie. Yeeeehaw! Finally, we hosted our 41st Insect Fear Film Festival featuring Ant-Men in February 2024! *Lizzie Bello*




40th ANNUAL INSECT FEAR FILM FESTIVAL: Living Fossil Film Festival – March 4, 2023

We were optimistic back then when we called it the first annual festival—who knew we'd keep going for 40 years? Among the records our festival holds—it's the oldest continuous all-insect festival (the Paris IL honey bee festival started in 1980 and the Banner Elk Woolly Worm Festival was founded in 1978). Ours was the first film festival in Urbana-Champaign, a fact gracefully acknowledged by Roger Ebert when he came to campus in 1999 for the first Roger Ebert's Overlooked Film festival, and he continued to be a festival friend, giving us occasional shout-outs in newspaper reviews and on his TV show with Gene Siskel (e.g., in *Roger Ebert's Movie Yearbook 2005* review of *The Tuxedo* (p. 703), he asked me if water striders had queens, to which I replied, "the answer to your question is an emphatic 'no'". We're not just in movie reviews, either--we're also in textbooks, including *Insects Evolutionary Success Unrivalled Diversity World Domination* by D. Rivers (2017), *Scared Stiff Everything you need to know about 50 famous phobias* (2018) by S. Latta in 2020; and UIUC Plant Biology alumnus Stanley Rice wrote about us in his *Encyclopedia of Biodiversity* (p.46) and, in 2021, Michael Breed and Janice Moore, in their textbook *Animal Behavior*, featured IFFF in a Discussion Point about entomophobia.

A 40th festival is a good time to salute the heroes; first on the list is my long-suffering spouse Richard Leskosky, from the UIUC Unit for Cinema Studies (retired), without whom there might never have been a festival. I've been to all 40 festivals, but he's not far behind. Also not far behind, Nathan Schiff and Ellen Green, who between the two of them hold the record for traveling the greatest distances the greatest number of times—Nathan has returned to campus from CA, DC, and Mississippi. Dave Tietz, who was one of the first projectionists when we were actually still a film (as opposed to video) festival, was there for the 40th, as was Lincoln Taylor, who first attended as an Urbana second grade winner of an art award and is now about to graduate from UIUC with an MS degree in Entomology.

This year, our theme is "living fossils". I thought, hey, we've been around for 40 years—no better time to talk about odd arthropods or near-arthropods that have been on Planet Earth for 400 million years! "Living fossil" is kind of a flabby scientific term—it's used to describe an extant organism that belong to a group represented in the fossil record over a very long time-span, during which its appearance has barely changed. Charles Darwin coined the term in *The Origin of Species* in 1859, when discussing platypuses (one of only two egg-laying mammals). Today, some scientists prefer the term "stabilimorph", ascribing the long-stable morphology as the result of initial effective adaptation to specific niches that don't change dramatically over evolutionary time. We prefer "Living Fossils" because it partners so well alliteratively with "Fear Film Festival." Perhaps the most famous arthropod living fossil is the arachnid *Limulus polyphemus*, the horseshoe crab. Horseshoe crab fossils dating back more than 400 million years look very much like the horseshoe crabs of today that flock to sandy beaches on the Jersey shore every spring for their frenzied mating and spawning season. For our shorts, we had special guest Jacob Lenard, creator of *Pike's Lagoon*, an animated web series featuring a horseshoe crab named Limbo, whose entire vocabulary consists of the phrase, "I'm a horseshoe crab!"

Our first film was the 1957 film *The Monster that Challenged the World*; although the monster in the movie is described by the character Dr. Jess Rogers as a mollusk, explaining "*As most of you know the mollusk family is comprised of animals with a soft body usually covered by a hard shell…This is Gonaxis kibweziensis*" which displays "*remarkable similarities between it and the creature in the Salton Sea*," an odd conclusion to draw given that the monster challenging the world clearly has legs, which all mollusks (including *G. kibweziensis*) lack. The soft-bodied, many-legged creature bears a much stronger resemblance to the living fossil panarthropod taxon Onychophora, members of which are known as velvet worms and sport 13 to 43 pairs of legs. The confusion is understandable; in fact, in 1826 Lansdown Guilding, the first scientist to describe a velvet worm, thought it was an odd snail and named it *Mollusca caribbeana*. No ordinary molluscan slime trail for these guys—real velvet worms propel adhesive slime (up to 10% of their body weight) from oral papillae and use it to catch prey and repulse their enemies. Their external skeleton isn't water-impermeable, so they've been restricted to moist terrestrial mostly tropical habitats for 500 million years. The movie begins at the Salton Sea naval research base, which is doing top-secret nuclear experiments when an earthquake occurs, disturbing rock formations 350 feet below the surface. Sailors begin disappearing and Naval Intelligence is called in; the mystery deepens when Lt. Commander John Twillinger finds a deserted boat and pulls up alongside to find a shriveled dead sailor and a lot

of slime. Dr. Rogers suggests taking a sample and having “the lab run a test,” remarking that “sea water does strange things to human flesh”. Other scientific declarations from Doctor Rogers include “Science fact and science fiction are not the same”, “You can’t speed up science!” and the classic “The eye, the eye, get the eye!” More sailors (and at least one girlfriend) disappear, and sailor hats and radioactive slime start appearing floating in the water. Then begins the navy cover-up, while the scientists race against time (and slime) to keep the creatures from breeding and escaping through the All-American Canal into the Imperial Valley of Southern CA and then on to conquer the rest of the world (“if one creature got into the canal it could threaten all life on earth!”).

Our second feature is *Joe's Apartment* (1996), MTV's first and not especially successful foray into feature film production. The film is based on a 3-minute short that aired on MTV in 1992 directed by John Payson, who claims that six studios competed for the rights to the feature film version. Basically, it's the story of a kid from Iowa who comes to New York and finds that his only friends are the singing, dancing cockroaches in his apartment. For a long time, cockroaches were considered living fossils by some entomologists because contemporary species bear a strong resemblance to fossil forms dating back to the Carboniferous era 320 million years ago. Others (e.g., Vršanský et al. (2013)) believed that cockroaches co-habited the planet with dinosaurs, eating their dung. Recently, however, the geological age of true fossil cockroaches (and not just “roachlike” insects) has been revised downward, to 125 to 140 million years (Evangelista and Kohli, 2017), about the time the Jurassic era was ending and dinosaur dung stopped covering the earth’s surface. So, are they rightfully considered living fossils? After all, a hundred million years is still a long time to stick with the same external morphology. And, if so, does that mean singing and dancing date back much further than previously estimated in the history of life?

Robert Vaughn appears in the film as cross-dressing Senator Dougherty, who is intent on demolishing Joe's apartment building in the East Village in order to erect a maximum-security federal prison on the site; Vaughn has called this movie, "the definitive dancing cockroach movie of our time." Larry Worth, of the *New York Post*, was more extravagant in his praise, calling it "The Citizen Kane of cockroach movies." It's extraordinary in its sympathetic and accurate portrayal of cockroaches (except for the singing and dancing and talking bits). Betty Faber of the Liberty Science Center and Ivan Huber of Fairleigh Dickinson University consulted on the film and Ray Mendez served as roach wrangler (he has a long career creating cockroach special effects, going back to *Creepshow* (1982)). Over 3500 real roaches were used in the filming of *Joe's Apartment*, and, if the American Humane Society disclaimer is to be believed, not a single cockroach was harmed in the making of the film. That's partly because, in addition to real roaches, roach puppets, stop-motion roaches, and computerized roaches were used. Blue Sky Studios did the computer animation, with Chris Trimble, a UIUC alumnus, doing much of the work. In Andy Sadler's *USA Today* review, there's the comment, "So much up to the minute technology hasn't been used for so disastrous a product since the Hindenburg". One familiar cockroach voice in the cast is provided by Billy West, who is perhaps best known (at least among entomological film buffs) for providing the voice of the Honey Nut Cheerios bee.

Much wisdom can be found in the lyrics of the many songs in the movie, written by Kevin Weist and John Payson (sadly, a soundtrack album was never released). Consider these in the titular song:

"Welcome to Joe's Apartment
It's our apartment, too
We've been around for a hundred million years
and we'll be here long after you!"

Impressively, the songwriters pegged the Cretaceous origin of the lineage back in 1969 and it wasn’t until 2017 that the insect paleontology community caught up to MTV.

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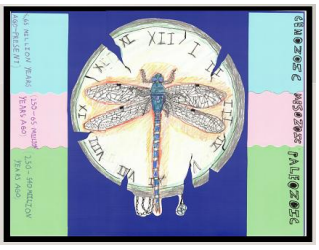
Best in Show

Rachel S. L.
“Dino-Soar”

Award for Best in Theme

Atharva P. S.
“Time Flies”



41st ANNUAL INSECT FEAR FILM FESTIVAL – February 24, 2024

The 41st Annual Insect Fear Film Festival took place on February 24, 2024. Shout-outs for the greatest distance traveled to attend went to IFFF stalwarts UIUC graduate alumni Nathan Schiff and Ellen Green, who traveled more than 500 miles from Stoneville MS to Urbana IL to share spectacular insects and amazing stories of insect adventures. Locally, Stevie Jay on ESPN 93.5 FM, and WCIA TV featured the festival, as did WBEZ from Chicago; Todd Hunter, UIUC undergraduate alumnus, shared ant music on WEFT 90.1 FM radio, including "I Can't Dance (I Got Ants in My Pants)" by The Man from Harlem (1935), "Dance of the Ants" by The Strangers (2001), "Army Ants" by Stone Temple Pilots (2017), "Army Ants" by The Tea Party (1997) and "Black Ants In Sound-Dust" by Stereolab (2019).

Our 41st festival was dedicated to celebrating how humans might interact with ants were they the same size and interacting on the ants' turf—that is, if they were to become Ant-Men. The first Ant Man was a creation of Stan Lee, Larry Lieber, and Jack Kirby, in Marvel Comics *Tales to Astonish* No. 35. September 1962. The UIUC Ant Man, by contrast, is Professor Andy Suarez, who dates back only to December 1, 1969. He's our festival's featured guest. Andy's studies on ants—species in the family Formicidae—have become textbook examples and his work on trapjaw ants and other ants is cited not just in entomology books, but in books on neuroethology, biomimicry, materials science, even science books for kids. The importance of Andy's work is illustrated by the fact that his 163 papers have been cited over 20,000 times.

Just like Scott Lang, Andy didn't start out as Ant Man. He entered UIUC as a pre-med biology major, but he was so inspired by the first course he took in ecology that he changed his career goals. He graduated in 1991 with a BS degree and stayed to complete a master's degree in 1994 with Scott Robinson on nesting success of birds. He went on as a doctoral student with Ted Case at UC-San Diego and received his PhD in 2000. While there, he began working on an endangered ant-eating lizard in California threatened by the invasive Argentine ant and he soon literally and figuratively left lizards in the dust to concentrate on ants. He joined ant expert Phil Ward as a postdoctoral student at UC Davis from 2000 to 2001 and then went to UC Berkeley from 2001 to 2003 as a Miller Postdoctoral Fellow with George Roderick. In 2003, he joined the UIUC faculty in not one but two departments as an assistant professor and since 2020 has held the Jeffrey S. Elowe Professorship in Integrative Biology.

Andy has drawn career-long inspiration the 15,000+ described species in the family Formicidae. That's harder than it sounds—their concealed existence in nests complicates observation and manipulation, as does their group living conditions (acorn ants house their entire colony within a single acorn whereas one colony of Argentine ants can stretch across 500 miles along the California coast). Their social behavior makes rearing them in the laboratory while preserving their natural behavior a logistical nightmare. Also, some of them bite or sting, or both, often painfully. As for superpowers needed to study ants, Andy uses piercing insight, inexhaustible courage for traveling to remote and uncomfortable places, and spellbinding storytelling skills, powers that combine to make him one of the premier ant biologists in the world today.

This this isn't Andy's first IFFF. One of the main reasons Andy went through the complicated process of obtaining permits to bring a colony of *Dinoponera gigantea* here from South America, e.g., is that, as the world's second largest ant (topping out at 3 cm), it's a huge (literally and figuratively) crowd-pleaser at outreach events (especially because he displays them in little farmyard dioramas threatening tiny plastic cows and farmers). He also routinely identifies cinematic ants for me in insect fear films and provides interesting background information (as he did for all four species in *Ant Man)*. To kick off the Ant Man Fear Film Festival, Andy told the audience "10 things everyone should know about ants."

In terms of themes, after forty festivals, the timing seemed appropriate to change our perspective. About the only attribute of human biology in the real world that makes insects manageable is that we're bigger than they are and a substantial number of the films we've shown showcase the fear engendered when we lose our size advantage—when due to radiation, cosmic rays, pesticide pollution, genetic engineering gone awry, magic, or any other plot device they grow to enormous proportions. But there's another way we can lose our size advantage—if, due to a set of highly unlikely circumstances, we were reduced to *their* size. That's the idea behind IFFF41—what would happen if the playing field were suddenly leveled and we had to deal with insects in the same weight class? What kind of insect fear would that engender?

First—don't lose any sleep over this, because it can't happen. Just as aspects of their biology keep insects much smaller than humans, aspects of human biology keep us much bigger than they are. There's a reason that the smallest mammal on the planet can't get any smaller than about 1.8 grams (0.06 ounce), the approximate weight of a penny. That's the weight of the tiny bumblebee bat (*Craseonycteris thonglongyai*). The same physical law constrains us both —the surface area/volume ratio. That's the rule that sets limits on the maximum and minimum sizes of organisms. As an object increases its size, its surface area increases as the square of its dimensions (l x w) but its volume increases as the cube of its dimension (l x w x h). So, for small animals, surface area is high relative to volume and the life of the organism is dominated by physical forces associated with surfaces—heat gain and heat loss, for example. Large animals, however, have less surface area relative to volume so their lives are dominated by volume phenomena—such as weight and gravity. If humans were to shrink to the size of an ant, we'd have a lot of surface area for our volume. And, unlike what you'll see in the movies, we'll die a horrible death almost instantly. We humans are homeothermic—we have to maintain a constant body temperature and rely on metabolic energy production to do that. Insects, though, are "cold-blooded" and, with a few exceptions, don't bother producing heat to maintain a constant body temperature. An ant-sized human would lose heat so rapidly through his or her surface area that he or she couldn't eat fast enough to crank up their metabolism and stop from freezing to death even when the ambient temperature is 95°F. Another trait associated with surface area is the rate of water loss, so without the wax seal that ants have on the surface of their exoskeleton to prevent loss of water to the atmosphere, an ant-sized human would be in danger of instant desiccation. Because muscle strength is proportional to surface area and small organisms have a lot of muscle surface area moving relatively little weight, we'd be able to jump 40 times our height, but with our internal skeleton of solid rods instead of hollow tubes, our bones would shatter on landing.

Dedicating so much energy just to keep warm creates another challenge—cognition. The inability to crank up metabolism would threaten our brainpower. Despite the fact that the human brain comprises only 2% of our body weight, it consumes about 20% of our metabolic energy (Raichle & Gusnard 2002). The biochemical reactions that produce metabolic energy are fixed—they can't be jacked up to produce energy faster if more body heat is needed. So, if we're not freezing literally, we might be frozen in place trying to remember how to walk. We also wouldn't be able to process sensory inputs in the manner to which we've become accustomed. Tiny little "camera-type" eyes like we have would have such a small aperture for light fewer photons would enter and the reduced resolution and diffraction would create a blur. Then there's just the space constraint. Arguably the smartest insect, the honey bee, *Apis mellifera*, has approximately one million neurons in one cubic mm of space; ants have only around 250,000. By contrast, humans have 100 billion neurons in 1,500 cubic centimeters. Although insects can learn, communicate with each other using symbolic numbers, count, do geometry, understand abstract concepts, navigate complex environments, remember route details for days, and make collective decisions far more rapidly and efficiently than, say, the Illinois State Legislature, we couldn't use our brains in the ways we're accustomed to using them.

Given how awful shrinking would be for humans, it's remarkable how much people really seem to wish that shrink rays were real, and based on internet discussions, they're already making lists of who among their acquaintances they'd shrink first. Our first feature film was the animated *Jeannot l'Intrepide* (*Johnny the Giant Killer*) (1950*),* directed by Jean Image, the first animated feature film made in France and a prize-winner at the Venice Film Festival Grand Prix for children. In the film, Johnny and his Boy Scout pals go out to find a giant's castle—bad move, because the giant shrinks them to insect size. Though Johnny manages to escape, he's trapped by a spider, but (SPOILER ALERT) he's rescued by friendly bees.

At the festival, we also showed a few clips and trailers from movies with ant-sized people. *The Incredible Shrinking Man* (1957) was based on the 1956 novel *The Shrinkng Man*. Scott Carey is on board a boat that is surrounded by a mysterious fog and thinks little of it until months later he starts shrinking, eventually reaching the size of an insect (and beyond) with no hope of a cure. He encounters a comparatively enormous tarantula (played by a purportedly trained tarantula named "Tamara") in his shrunken stage. According to some sources, two dozen tarantulas died under the intense studio lights during filming of the movie. *Dot and Keeto* (1986) is an Australian animated feature film in which Dot, the main character, eats a magic root and shrinks to insect-size (becoming an Ant-girl) and befriends the titular mosquito on her quest to return to normal size. In *Honey I Shrunk the Kids* (1989), from the Disney studio, clumsy scientist Wayne Szalinski (Rick Moranis) accidentally, well, shrinks his (teenage) kids, who face suddenly terrifying obstacles in their own home and backyard (including, in this light-hearted romp, mutilation by lawnmower, familial cannibalism, and drowning by sprinkler). SPOILER ALERT—when the kids are attacked by a scorpion, the ant they've creatively named Antie, at the cost of her own life, saves

them. One aspect of movies involving humans visiting ant colonies differs from movies in which humans retain their size advantage (aka Big Bug Fear Films); for some reason, filmmakers appear to believe that, were we to shrink to the size of ants, they'd actually befriend us.

In addition to shorts, we showed two feature films: The first was *The Ant Bully* (2006), from Playtone Warner Brothers DNA Productions. If you missed this movie in 2006, you weren't alone—it was made for $50 million but grossed only $5 million. Not much of the $50 million budget appears to have gone into the script. The basic plot—a ten-year-old boy being bullied by bigger kids takes his frustration out on an ant colony, until being magically reduced in size by a sorcerer ant and transported to the colony, where he learns how ants all work together for the common good (if you overlook behaviors such as slavemaking and intercolony warfare). There's a heavy handed anti-bullying message as well as messaging about what for want of a better word could be called pro-socialism—work for the good of the colony. Minor themes include anti-pesticide and anti-magnifying glasses messaging. That this film couldn't find its audience is surprising given that it has more Academy Award-winning actors (albeit not for this movie) than possibly any other animated film, and in terms of our festival, more Academy Award winners than all the movies we've shown in 40 years put together. They include Meryl Streep, Julia Roberts, Nicolas Cage, and Regina King.

In terms of ant attitudes, at least some ant citizens are remarkably tolerant of humans. The ants introduce themselves by name to tiny Lucas, the ten-year-old boy who was tormenting the ants until an ant sorcerer reduces him to ant size, and give him two nicknames—"Peanut" and "The Destroyer." And it's clear the screenwriters made an effort to depict at least some aspects of ant biology. There are ant species that are partners of "honeydew secreting" caterpillars; also, *Oecophylla* weaver ants appear using their silk-secreting grubs for sundry purposes, including stitching leaves together in tree nests. And wasps, the bad bugs in this film, can in fact be enemies of ants (e.g., Grangier and Lester, 2011). Truth be told, though, ants might be more likely to attack wasp nests than vice versa. Yet the filmmakers make many of the usual biology mistakes that characterize this genre. Like it or not, most ants are females; although many of the prominent ants in the movie are male. The males of real ant species for the most part rarely contribute much more to colony function than making and delivering sperm. Gender confusion is omnipresent—take, for example, the ant rallying cry, "Come brothers—for queen and colony". For that matter, the enemy wasps are all male in the movie; the only wasps equipped with stingers in real life are females. Also not so accurate—as in the movie *Antz*, 1998, these ants gallop like centaurs, instead operating their six legs as two alternating tripods. Although Lucas undergoes ant training—learning how to climb up vertical surfaces—in real life he'd be doomed to failure. Humans don't have claws to gain a purchase on irregular surfaces, nor do we have sticky pads on our fingers that secrete and then soak back up a viscous liquid to help us adhere to vertical surfaces.

A lot of the humor is aimed at kids, particularly those who have a juvenile sense of humor even for kids. There are underwear jokes, fart jokes, butt jokes and, surprisingly, genitalia jokes. Insect-specifying insults are flung around, including "Sometimes you're a real stinkbug", and mystifyingly "Hold still, you big pupa!" The film also offers insect-inspired aphorisms, including, "don't let the bedbugs bite or creep into your ear and lay eggs in your brain." Some puns, though, will fly over the heads of kids; the exterminator's company, for example, is called "Stan Beals, Beals A Bug".

For our second feature film, we showed *Ant-Man* (2015), featuring Paul Rudd and Michael Douglas and directed by Peyton Reed. Unlike *The Ant Bully*, this movie made a profit; with a budget of $130 million, it grossed $180 million in the USA and $519 million in the world. From Marvel Studios and distributed by Disney, the movie was inspired by Marvel Comics characters Hank Pym and Scott Lang. It's the 12th movie set in the Marvel Universe, which means it can be baffling if you've missed all the rest of them. In 1989, Hank Pym (Michael Douglas), a brilliant scientist, has figured out how to shrink objects by using "Pym particles" to change the space between atoms (one way to get around the law of conservation of matter and to avoid going "subatomic"). He resigns from the extra-governmental intelligence agency S.H.I.E.L.D. after he learns it plans to copy his shrinking technology and use it for military purposes. As time passes, his estranged daughter and a former mentee have almost succeeded in resurrecting the technology and developing an armored costume that enables the wearer to shrink to ant-size, so he decides it's time for him to come out from hiding. Meanwhile, Scott Lang (Paul Rudd), brilliant burgler/social Robin Hood, is released from prison after completing a three-year sentence for B&E at San Quentin. Although he's confident he'll find a job, his criminal record complicates things (the line "I have a Masters in electrical engineering; I'm going to be fine" followed by "Welcome to Baskin Robins" elicited gales of laughter from our audience). He reunites with former friends from prison and, out of

desperation, resumes his burgling ways. Meanwhile, long story short, Dr. Pym recruits/coerces Scott to steal the pirated shrink technology, and Scott, with his newly acquired ability to shrink, has all kinds of adventures. This movie abounds with references to the Marvel Universe (for example, Hank Pym's line "This isn't cheap technology like the Ironman suit") and boasts a cast of thousands of CGI ants, including four real species: the longhorn crazy ant *Paratrechina longicornis*, black carpenter ant *Camponotus pennsylvanicus*, tropical fire ant *Solenopsis geminata*, and bullet ant *Paraponera clavata*). Among the typical biological errors, Pym (who after all isn't a biologist) claims that "ants, they can do a lot of things but they need a leader," but actually, they don't. Colonies function without central control. Another error was that one species was called by Pym *Solenopsis mandibularis*; that name is no longer used for the red imported fire ant, because it's now considered to be a junior synonym of *Solenopsis geminata*. All things considered that's a forgivable error in the Insect Fear Film universe.

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ALUMNI NEWS

Harry Bottenberg, PhD 1990. I retired in October 2023 after an exciting career at the United States Agency for International Development (USAID) as an agriculture development officer, an environmental specialist, and a program specialist. My agricultural entomology background has been valuable in various ways. For instance, I covered the Desert Locust outbreak for the USAID West Africa Mission; in South Sudan I managed a diverse agriculture development portfolio for the USAID South Sudan Mission, and from 2012 I was responsible for environmental compliance of all USAID development activities in Afghanistan, including the use of or recommendations for pesticides. Lately, after the recent change in government in Afghanistan and evacuation of our staff I was more involved with program and strategy development.

After so many years of traveling and being away from family, it is good to be home in Rockville, Maryland, just north of Washington, D.C.. If I travel it's only to The Netherlands where I come from or Mali where my wife is from. We have a boy, Nelson, now 13 years old, and a girl, Yuna, who will soon be 10. My older sons are also around. Douglas, who was born in Nigeria when I worked there for the Institute of Tropical Agriculture in the early '90's, works and lives in Rockville, not too far from us. David, who was born in Urbana, Illinois, in the mid-'90's while I was a post-doc in the Horticulture Dept. is now working in a vaccine virology lab at the University of North Carolina after a professional basketball career in Europe.

I think back of my time at UIUC with fondness and cherish the many good memories of professors, my doctoral and post-doctoral advisors, friends and colleagues. What a privilege to have been there!

I have many pictures at Yahoo Flickr, Harr Bott | Flickr (https://www.flickr.com/photos/95869540@N02/). Photography is a hobby and I buy and sell vintage cameras. Above are some snapshots from my time in Afghanistan.

Scott Clem, PhD 2021. After three years as a postdoc in the Department of Entomology at the University of Georgia, I have successfully landed a faculty position in the School of Biological Sciences at Illinois State University in Bloomington-Normal. So, as of August 2024, I am now back in the Central Illinois neighborhood! My title is Assistant Professor of Ecology, and I am running a lab that investigates the ecology, biodiversity, and conservation of insects, with a special focus on hover flies and other beneficial arthropods in agroecosystems. I am also responsible for teaching the ecology and entomology courses. Now that I am closer, I hope to occasionally make pilgrimages back to UIUC!

Randy Cohen, PhD 1987. I am now officially retired from Cal State-Northridge last spring. Living the life as Susan and I are finally grandparents.

Nils Cordes, MS 2010. I left UIUC 14 years ago. Can you believe it? Still, it's been some of the greatest years of my life and academic career. Since then, I have worked at Bielefeld University in central Germany. I got a PhD in Evolutionary Biology in 2013, working on the personality of the lesser wax moth, *Achroia grisella*. I am now a tenured Academic Lecturer in Bielefeld, teaching scientific writing and data science in our Bachelor's program, coordinating the curriculum and supervising the tutors for our Biology 101 modules. I have written a writing guide and give workshops on scientific writing and thesis supervision throughout Germany, so if you are willing to pay for the flight, I'll gladly come by and teach your students in Illinois! I'll bring cookies. I have a wonderful family of

Anna (6) and Tomte (9), my wife Britta, and my dog Balu, who is now an incredible 14 years old. My kids are very curious and although I haven't gotten them into insect photography yet, they love spending time in the woods, mountains, dunes, or the sea. My son's life goal seems to be to save all stranded jellyfish on the Dutch coast. My greatest success, I guess, is that I have instilled in my family a love for roasted marshmallows and a deep appreciation of bumble bees, who spend all year in our back-yard's clover.

Ed Cupp, PhD 1969. I continue to enjoy retirement – no more foreign travel to consult (my last trip to Uganda was several years ago) or consultations with previous USA organizations (Carter Center, USF School of Public Health). However, I still follow the main literature in medical entomology/tropical public health and occasionally use the Auburn University Library to retrieve articles of interest. To keep busy, Mary and I deliver for a local food pantry and volunteer for Kentucky Water Watch. This involves sampling several streams in the county three times a year. We continue to follow the two grandsons as they progress through high school and enjoy taking lengthy trips to Tucson, AZ and Merida, Mexico to visit our daughter and friends. Our Spanish is improving as well!

Katie Dana, MS 2016, PhD 2022, and M. Jared Thomas, MS 2024.

Katie Dana is working as a research biologist at the Army Corps of Engineers Construction Engineering Research Laboratory. There she works on the threatened and endangered species team using environmental DNA to help manage species on military installations.

Jared Thomas graduated with his master's degree in 2024 and is the curator of the Geological Samples Library at the Illinois State Geological Survey and curator of the stratigraphic paleontological collection at the Illinois Center for Paleontology.

Together they live in Urbana with their two kids, Julian (8) and Corinne (3), 6 ducks, 3 chickens, and one very old dog named Sjöfn (16).

Eric Day, MS 1986. Professionally, two big news items! I received the Entomological Society of America Eastern Branch Distinguished Achievement Award in Extension in March 2024. In the photo, Dr. Yong-Lak Park, the President of the Eastern Branch, is presenting the award to me. It was a wonderful capper to my long career at Virginia Tech starting in 1986 right after leaving University of Illinois. That comment brings me to the second big professional item—I plan to retire in October 2025. I will spend this last year moving my 5000+ by-catch bonanza from my lab to the Virginia Tech Entomology collection. These specimens are from a 20-year project running funnel traps at Virginia Ports of entry and saving and pinning the non-target specimens. Most are wood-boring beetles, but I keep being amazed as to what blunders into a funnel trap. On the home front, Nan Gray and I are still living on our little farm in Craig County, Virginia. The big plus and an incentive to retire is that my son Graham and daughter-in-law Carrie and 3 grandkids are in a nearby town. My other son Gordon just married Hillary and now I have a second wonderful daughter-in-law and they live in Tanzania. So, I will have to leave the farm from time to time to go to Tanzania.

Andy Deans, PhD 2005, and Heather Hines, PhD 2008. We've been at Penn State since 2012, and it sometimes feels like we never left Illinois. Andy still works on the systematics of parasitoid wasps, and he's currently writing a proposal to revisit his PhD research on Evaniidae. Heather's got one foot in bumble bee systematics, development, and evolution and another in the world of gall wasp biology. We frequently hobnob and collaborate with some of Illinois' best and brightest, also at Penn State, including Harland Patch (PhD, 2005), Christina Grozinger (postdoc, 2004), John Tooker (PhD, 2003), and the newest member of our department, Rob Mitchell (PhD, 2012). When we're not on campus, you

can find us gardening and hiking the hills near Pine Grove Mills with our kids, Vivian (14) and Hugo (12), and tending our menagerie of chickens.

Andrew Debevec, MS 2014. After spending many years working with educational technology at UIUC, my husband Sam and I were finally able to do something we'd wanted to do for a long time: move to Sweden! In August 2023, we moved to Malmö, Sweden, and have been enjoying the huge change it's been. Although it has been difficult to become established here, we are both very happy and I have recently found a job here providing user support and documentation for the ICOS Carbon Portal, based out of Lund University. The thing I miss the most about Illinois is definitely the people! I loved being able to support Entomology faculty, staff, and students throughout my career at UIUC: first with online courses and later in the IT Office. I don't think I can find a community like this one anywhere else!

Jacob Dixon, MS 2018. Since the last newsletter I have made progress on my PhD project over here in New Orleans. Tulane has a close connection to a field station in Northeastern Ecuador (fcat-ecuador.org) which I received funding to visit in the summer 2023 and 2024. These visits have allowed me to collect data and form relationships with the staff there and I plan to go back for the next few years, grants pending! It is fun to pursue an interest I have had for a long time and to see it come to fruition. Currently I am in the thick of it—I'm the TA for the lab section of Biology of Marine Invertebrates and the SACNAS chapter president here at Tulane, I have several chapters for which I need to process data, and I am preparing for my prospectus defense in February 2025 (just to name a few things). In all, feeling quite busy! On a more personal note, I had the pleasure of watching (virtually) my good friend Ed Hsieh's thesis defense on October 14th, 2024. I'm sure many of you recall! I attended my friends wedding in Washington state as well (Oct. 19). Also, on Oct. 26, I attended a local art and nature festival (Atelier de la Nature) which reminded me of the good times of IFFF. I hope to see some of you again soon!

Stephen Gaimari, PhD 1998. After UIUC, I spent a few years in the Entomology Department of the National Museum of Natural History (Smithsonian Institution), after which I spent the next 23 years with the Plant Pest Diagnostics Center of the California Department of Food and Agriculture, retiring in July 2023. That does not mean I retired from dipterology, just from getting paid to do it! At CDFA, I was responsible for identifications of Diptera and also fleas, lice, and Mecoptera. Being employed to work on flies was living the dream! This was exemplified by the many trips to collect flies all over the world (often with fellow UIUC Entomology alum Martin Hauser), and also just the fact that the "job" was figuring out the identities of submitted flies, and not to mention the freedom to pursue whatever research questions I wanted to ask, which focused on Diptera taxonomy and natural history. In pursuit of research questions on flies, my grants have funded eight postdoctoral scientists over the years. In addition to this role as a dipterist, I entered lab management rather early, becoming an Entomology lab supervisor after only a few years. For the last 18 years at CDFA I was head of the Entomology lab, 11 of which also saw me as head of the Botany lab and five as head of the Nematology lab. In 2019, I incorporated the North American Dipterists Society (now Dipterists Society, https://dipterists.org) as a 501(c)(3) nonprofit, and I have continued as a Director

and officer to see its growth within the dipterist community. Family life has been great—been married to Helen since before entering UIUC, and the two kids born during and one born after my doctoral work are all grown up and living their own dreams (no entomologists, sigh...).

Tyler Hedlund, MS 2015. Hello! I'm still working with USDA in Champaign as a Plant Health Safeguarding Specialist. emerald ash borer biocontrol, a new project involving Japanese beetle biocontrol, invasive insect monitoring, export certification, and more. The arthropod biodiversity projects in Texas are still going for another year or two, and at our site in Ft. Davis we've crossed the 1500 species mark (with many, many more to come). For those that haven't been to west Texas, I recommend it! I'm also still working with the folks in the INHS Paleontology lab, continuing to identify fossil arthropods. On a more personal note, Jocelyn and I welcomed our daughter, Annabelle, into the world in June, 2024, so that's made for a whirlwind of the last few months! In my moments of free time, I've taken up disc golf and growing excessive amounts of sweet and hot peppers.

Sarah Hughson, MS 2013, PhD 2017. After 6.5 years on the UIUC Pesticide Safety Education Team, I returned to Michigan to become the new Arthropod Diagnostician in the Plant & Pest Diagnostics lab at Michigan State University. I have a joint position in the Department of Plant, Soil and Microbial Sciences and the Department of Entomology. In the Plant & Pest Diagnostics lab, I accept arthropod specimens, injured plant material, and photos for identification. I provide each client with pest identification and management recommendations tailored to their needs. As a regional center in the National Plant Diagnostics Network, we serve Michigan and the North Central region. In the Department of Entomology, I teach Basics of Applied Entomology to undergraduate students who plan to work in field crop, fruit, vegetable, ornamental, and landscape management settings. Each day in the diagnostics lab brings a new insect mystery and I look forward to solving each one. I'm happy to be back in Michigan and much closer to my family. I'm also excited to announce that I got a puppy this year! Her name is Cinnamon and she's more outdoorsy and energetic than a purse dog probably should be. Hopefully, there will be plenty of camping, hiking and kayaking in the coming years!

Todd Johnson, PhD 2019. I have recently completed my second year as an Assistant Professor of Forest Entomology in the Department of Entomology at Louisiana State University. My research group has grown to three graduate students, a lab manager, and four undergraduates contributing to projects relating to the chemical ecology of plants and insects in forest ecosystems. As promised in my previous update, here are the exciting projects that are ongoing in the group. One set of projects is focusing on characterizing the drivers of intra- and interspecific variation in the volatile and non-volatile chemistry of ash trees (*Fraxinus* spp.), and evaluating how variation in ash tree chemistry can be used to better understand the behavior and population dynamics of the invasive emerald ash borer, its arthropod associates, and its classical biological control agents. Another similar project is asking how soil variation interacts with drought to alter functional traits and volatile production in loblolly (*Pinus taeda*) and longleaf (*Pinus palustris*) pine, two hosts of the southern pine beetle (Scolytinae: *Dendroctonus frontalis*), a major driver of ecological change and economic losses in managed pine ecosystems throughout the Southeast. Building on my graduate work at Illinois, we have two major studies focusing on the ecology of polyphagous woodboring longhorned beetles; one project is evaluating how host choice impacts reproductive traits in two species of longhorned beetles, and the second project is characterizing the abundance, diversity, and phenology of longhorned beetles and associates in southeastern Louisiana through field collections and evaluation of museum specimens. Finally, as part of developing collaboration with the

USDA-ARS Beneficial Insect Introduction Research Unit to characterize parasitoid communities associated with jewel beetles in the genus *Agrilus*, we have begun to study the role of top-down and bottom-up effects on the population dynamics of the flatheaded hackberry borer (*Agrilus macer*), a native secondary pest that attacks stressed trees in the genus *Celtis*. In short, we have a lot going on in the lab and I'm excited to be recruiting two doctoral students to join the group in Fall 2025. Stay tuned and don't hesitate to reach out if there appears to be areas where we may collaborate.

In addition to the ongoing research in my group, I have had the honor of hosting Dr. Scott Clem and Dr. Esther Ngumbi, an alumnus and current faculty member of the Department, respectively, on visits to LSU. If you are ever interested in visiting or would like to give a seminar in the Department, please reach out.

Lastly, I hope everyone is well and, as always, look forward to connecting at conferences.

Gene Kritsky, MS 1976, PhD 1977. 2024 has been another fun and busy year, especially with the emergences of periodical cicada Broods XIII and XIX. My app, Cicada Safari, received well over 120,000 cicada reports, and I spent nearly three weeks in the Chicago area working with the BBC Natural History Unit. My wife, Jessee Smith, coordinated the project 2024 Magicicada: Broods XIII and XIX on iNaturalist, which provided even more valuable data on the double emergence. We also published a paper documenting Oriental hornets as honey bee pests dating back to 540 BCE in Greece. Although I retired in 2023, I am still teaching entomology at Mount St. Joseph University and at the University of Cincinnati, and I have another three books in various stages of production. We did not attend the ESA meetings this year, but we are planning on attending the 2025 meetings and hope to see you there.

Allen Lawrance, MS 2016. I left my hometown of Champaign-Urbana to go work at the Peggy Notebaert Nature Museum of the Chicago Academy of Sciences back in 2014. I am still there today and was promoted this past year to Curator of Entomology. In this role I co-direct the statewide community science program called Illinois Butterfly Monitoring Network that documents butterflies on public lands, manage a tropical butterfly exhibit at the museum, and work to restore local populations of imperiled butterflies. I also collaborate with our Education department to help with teacher professional development workshops and curriculum development, assist our Exhibits department with creating exhibit content and fact-checking label copy, and participate in a variety of insect-related events hosted by our Guest Experience and Engagement department, such as Bugapalooza, Summer Nature Fest, and Flutter into Fall. Additionally, I serve as a media spokesperson for the museum to promote positive relationships between people and insects. When I'm not working I enjoy quiet time hanging out at home with my cat, Skips, while tending to my houseplants and coral reef aquarium.

Richard Lipsey, PhD 1972. I am Dr. Richard Lipsey, a UIUC graduate in 1972 in the Department of Entomology who taught entomology at UIUC for years and upon graduation, I was immediately recruited by the Bayer Chem. Corp. as R & D Manager in the Midwest and then recruited by the University of Florida to be Florida State-wide Pesticide Coordinator.

My major professor was Dr. Robert L. Metcalf, the world's most famous entomologist at that time. He published my PhD dissertation on the "bio-magnification of methyl mercury in food chains". My research was used to ban mercury as a seed treatment fungicide used in 80% of all seed treatments in the USA at that time (1972).

Since then, I was a professor of pesticide toxicology at the University of Florida; Vice President of the Spectricide Chemical Corporation; forensic toxicologist for state and federal governments and corporations world-wide, including for F. Lee Bailey, Melvin Belli, Gerry Spence, and others in Bhophal, India, Exxon Valdez, and Ed McMahon; and expert for CNN, Good Morning America, and other media outlets.

Edward Lisowski, MS 1979, PhD 1985. Retired for 7 years. I am active as a community biologist with the Xerces Society and the Washington State Department of Agriculture doing monarch butterfly, bumble bee, and pollinator surveys. I also contribute insect and plant observations to iNaturalist and help with identifications.

Sheila Lyons-Sobaski, PhD 2003. Hello! Just wanted to take a moment to say hello as it has been too many years since I have contributed to the newsletter. I've been working at Albion College in Albion, Michigan for just about 20 years. I am still following the population dynamics of *Sabatia campestris*, a state-endangered plant in Illinois, but I've more recently been working on studying invasive species in Michigan, such as *Persicaria perfoliata* (mile-a-minute weed). Many of you know my husband, Steve. He is retired and works in our cool little downtown bookstore, Stirling Books and Brew. He plays harmonica when he gets a chance, but he does miss jamming with Stewart, Jeff, and Larry. Our two girls are growing up so fast. Grace is a sophomore studying biology at Albion College. She wants to become a veterinarian. Stephanie is a senior in high school and thinking about studying engineering next year in college. We have a house full of cats and a wonderful standard poodle. The Department of Entomology at Illinois is such a truly wonderful group of folks. I look forward to catching up. Best wishes to you all!

Chris Maier, PhD 1977. It is hard to believe that I have been retired for 5+ years! My wife, Marie, and I recently traveled from Connecticut to Maine to attend the wedding of my youngest daughter, Julia, which was our most significant event in the past few years. In 2023, I went to Arizona where I collected and hiked in the Chiricahua Mountains and other mountain ranges in the southeastern part of the state. In my home state of Connecticut, I keep busy by serving on committees to develop a state plan to conserve wildlife and to evaluate insects for inclusion on the endangered species list. Also, I volunteer in the Entomology Division of the Peabody Museum of Natural History of Yale University. During my free time, I search the state to document populations of rare insects, especially cerambycids, syrphids, and tabanids. Soon it will be time to decide where to deposit my large Diptera collection. Lastly, my wife and I currently are very busy with training our new puppy, our fourth golden retriever.

Mark McClure, MS 1973, PhD 1975. Following my retirement as Chief Scientist of the Connecticut Agricultural Experiment Station's Valley Laboratory in 2003 due to medical reasons, my wife Laura of 53 years and I moved to coastal South Carolina to begin a new life. We have enjoyed the past 20 years here but during that time our two sons who remained in Connecticut have started families of their own. We rejoin our expanded family, which now includes two amazing daughters-in-law and five grandchildren, as often as schedules and distance will allow. Here in South Carolina, we enjoy many outdoor activities including riding our bicycles, hiking, collecting shells while walking on the beach, and exploring beautiful nearby Brookgreen Gardens, where nature abounds and where there's always love in the air. From time to time, we meet with old friends in cyberspace through messages and pictures to reconnect and to share fond memories of our wonderful years in Champaign/Urbana.

Steve Sheppard, Carol Anelli, Bruce McPheron, Diana Cox-Foster, and David Courtney Smith

Bruce McPheron, PhD 1987. 2024 saw me submit my formal retirement from The Ohio State University after 12 years of service there (and 25 years previously at Penn State University). Marilyn and I have moved "back home" to north-central Ohio. Home is Marilyn's family farm – she is the sixth generation to own the property (originally purchased in 1837), and she has completely refreshed the house, built in 1867. Part of the "refresh" was an office where my Cornell cabinets and microscope (a tool rebuilt by UIUC Entomology alumnus Steve Passoa) reside, so I am curating specimens for eventual deposition in appropriate collections. I also spend time each morning working on iNaturalist to identify submissions, particularly Tephritidae, that come

Bruce McPheron and Joel Coats

in from across the country and around the world. It has been an adventure to catch up with so many taxonomic readjustments, but I am enjoying the reconnection to my science. This spring we experienced four minutes of total eclipse here at the farm and were thrilled to have a houseful of UIUC Entomology PhD alumni. Steve Sheppard, Carol Anelli, Diana Cox-Foster, and Courtney Smith joined us for the event (see photo). Later in the spring, Joel Coats returned for the Kenton Senior High School commencement, where he was the second entomologist (and UIUC alumnus) to be inducted into the Kenton City Schools Alumni Hall of Fame (see photo). Kenton may be the only school district in the nation to have two PhD entomologists in their local hall of fame! I made perhaps my final journey to connect with colleagues at an international fruit fly meeting – the Tephritid Workers of the Western Hemisphere met in Jamaica in June. My training at UIUC set me up for an amazing career around the world as we developed diagnostic tools for tracking pest tephritids, analyzed population structure and cryptic species groups of major tephritid pests, and pioneered the use of molecular systematic tools.

Claus Rasmussen, PhD 2008. I am now established in the Department of Agroecology and focus on bringing biodiversity in play both as agricultural land is taken out of production, restored for nature, but also in a recent project where we combined a large setup of trackable solar panels with crop production between the rows. My role is looking at the insect community as we introduce such permanent structures (the panels!) into the field, and, with luck, the positive effect it has on the entire insect fauna encompassing also beneficials. My Champaign-born kids are growing up; one already left for university elsewhere, but dogs, parrots, and music keep me busy when it is not the bees. I miss all the great folks at UIUC and hope you are well across the country and world.

Kristen Reiter, MS 2019. I am a Lecturer of Biology at Cuyahoga Community College in Parma, Ohio.

2023 Sri Lanka Sigiriya 5th century rock-cut lion paws base of rock-top fortress

Alan Schroeder, PhD 1990. After long careers of traveling on the public dime (Sonia to rich countries; me to not-as-rich developing countries), we now spend most of our time traveling on the private dime. Sonia is in full jubilación (Spanish for "retired" and sounds much nicer) from her job as Program Director at NSF and I am struggling to be fully "jubilated", picking up a few contracts that look interesting, are easy to do, and, most importantly, have travel attached. Last year I got to travel to Macedonia to help a project that assists the government there to make IPM plans with tons of preventive tools plus safer pesticide use for pests and diseases impacting a bunch of wonderful stone and pome fruit crops and some veggies. This was to help the Macedonian government more easily transition into the EU (and away from pesky Russia) and their fresh produce markets. And, Sonia, a marine biologist, got invited to the southernmost city on Earth, Puerto Williams, Chile, to help inaugurate a new ecological research and education center.

2023 Sri Lanka 10th century Polonnaruwa rock-carved Buddhist baths

Then, in late summer last year, while searching for a place that neither of us had traveled to for work, we came up with Sri Lanka. What a pleasant surprise! From ancient Buddhist and Hindu temples and ruins in the north—even one called Sigiriya Fortress on top of a giant rock with lion paws carved out of the rock at its base—and another with ancient paintings and statues of Buddha inside large caves—to the old capital of Kandy in the center, then on to vast green tea plantations in the south, from where Ceylon tea originated. We even found a remote beach on the south called Talalla, where we were able to watch giant flying foxes on their nightly flights to fruit orchards. Vegetarian rice curry dishes were incredible. Old fortresses left behind by a succession of Portuguese, Dutch and British colonial powers were an added delight. At least the British left behind roads, railroads and institutions, and the Dutch left water works. We were able to travel by cheap public transport (trains, minibuses and tuk-tuks) everywhere. What's better, for the entire two weeks we saw no other American tourists!

2024 Oman Al-Seeb Corniche on Gulf of Oman

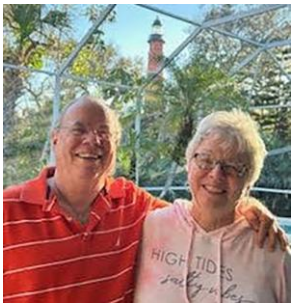
2024 Oman Bedouin tent stay in the desert

2024 Omani style lunch

This past fall, we again found a fascinating destination that neither of us had been to for work, or ever even considered going to—Oman! For many reasons the Arabian Peninsula and its oil-rich countries never drew us in. A culture far removed from our own! But Oman has retained places that still look like they did 100 years ago—Old Arabia, if you will. Omanis follow a special kind of Islam (Ibadi) that keeps them very calm, polite, and exceptionally honest—to lose face or damage the family name is the worst possible outcome. And, their previous leader, Sultan Qaboos, used oil wealth for transport and electricity infrastructure, great health care and education, but, most importantly, with a plan to quickly transition away from oil and gas to sustainable energy and jobs. Driving rental cars was a cinch. All the locals we met were friendly and helpful. We visited numerous castles and fortresses (Oman was once a shipping superpower for the Gulf, East Africa, and Western South Asia, and needed fortresses—over 500 in total—to protect all that wealth). We slept in a Bedouin tent in the desert, rode camels, tried grilled camel meat, and watched the full moon rise over the dunes. We visited ancient Souks, Arabian markets full of frankincense, myrrh, Persian saffron, assorted spices and Kashmiri cloth. And we spent the national holiday, the 20th of November, hanging out on the beaches with Omanis and visiting thriving fish and seafood markets. We saw about three other Americans while there.

In between those trips, we spent the humid Washington, DC, summers and cold icy DC winters on the Pacific coast of Nicaragua, enjoying a lifestyle 100 times slower than DC (and with a lot of fresh seafood and fish)! On the shoulder seasons, we visit family and travel around Spain, 10 times slower than DC, but rapidly being discovered by many of our adventuresome friends and other Americans eager to get out of America. Wonder why? Anyway, we also traveled to Puerto Rico (far too many tourists and cruise ship Americans for our taste) and Greece (ditto). Now, the search is on for more "off-the-beaten path" destinations, the more unusual the better.

Scott Shreve, MS 2009, PhD 2013. This is my fourth year at Miami University, primarily teaching introductory biology, evolution, and soon invertebrate biology. The move to Ohio has been a homecoming in many ways. I am back at my undergraduate alma mater, and we are less than an hour away from both parents and in-laws. I also serve as the lab coordinator for the introductory biology labs, a role previously occupied by another Illinois alumnus, Bruce Steinly. Except for a brief interlude during COVID, the introductory biology labs at Miami for the past 25 to 30 years have been run by a UI entomologist!



Bruce and Diane Stanley Ponce Inlet, Florida

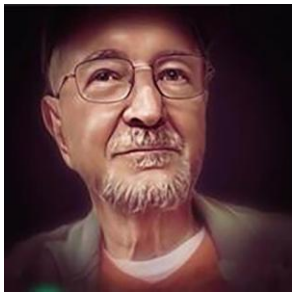
Bruce Stanley, MS 1982. Diane (Rutgers/Cornell) and I (UIUC/Cornell) have been retired from Dupont Crop Protection for over a decade. I really haven't been doing anything scientific in recent years other than identifying bugs for friends and family and sitting by our garden pond thinking about days gone by. I have always been grateful for the quality of the entomological education that I received at the UIUC and the many wonderful memories of my friends and fellow students in the Department when I was there. Having been educated at the UIUC has always been an asset in my professional life. And, I am certain that the current and future students in the Department have bright and fulfilling careers ahead of them. I would welcome hearing from any old friends, or students that might want to explore any aspects of being a professional entomologist. I wish the Department all the best as it goes boldly into the future.

Illinois-associated crew in Entomology at Penn State. L to R: John Tooker (MS and PhD, Hanks lab), Rob Mitchell (PhD, Hanks lab), who joined our department recently, Heather Hines (PhD, Cameron lab), Megan Tooker (non-entomologist, but a landscape architecture graduate from UIUC, and friend to entomologists), Andy Deans (PhD, Whitfield lab), Harland Patch (PhD, Robertson and Berenbaum labs), Christina Grozinger (post-doc Robinson lab). We are making our department more Illinois-ish everyday!

John Tooker, PhD 2003. Working at Penn State continues to be good fun. One of the highlights in recent years has been working with Andy Deans (PhD, May 2005) and Heather Hines (PhD, Dec 2008), both alumni of Illinois Entomology, on an NSF-funded project to understand evolution of cynipid gall wasps, with a particular focus on the non-oak gallers. One of the sub-projects has involved collaborating with PhD student Louis Nastasi, who is advised at Penn State by Andy. Louis is a systematist who is working to revise some of the taxa of Hymenoptera that induce galls on herbaceous plants, including *Silphium*, a common plant taxon in prairies of Illinois. During my dissertation research a few decades ago, I described two new species of cynipids (*Antistrophus* species) from various *Silphium* species, and found some evidence that there were other undescribed species waiting to be discovered. Louis has embraced the challenge of revising this genus and others in the tribe Aulacideini (Cynipidae), including wasps galling *Silphium*. He has found scads of new species, some evidence of co-speciation between *Antistrophus* and *Silphium*, and many other interesting details. It has been great fun to have an enthusiastic and skilled scientist work on a system that I first found as a student at Illinois and thought had potential for further discoveries! His work shows that the prairies of Illinois harbor a lot of undescribed diversity, so I encourage Midwest-based folks to get out and explore them!

OBITUARIES

John LeRoy Eaton, PhD 1966. (1939-2023)



In Memoriam: "John LeRoy Eaton died on Saturday, March 4, 2023. Born September 21, 1939 in Decatur, Illinois he was the son of the late George Wesley Eaton and Hazel Katie Eaton. He is survived by his loving wife of almost 62 years, Margaret A."Peggy" Eaton, brother Steve Eaton and his wife Charlotte of Sonora, CA, son Marc Eaton and wife Diann of Christiansburg, VA , son Kent Eaton and his daughter Leah of Christiansburg, VA, granddaughter Eliza Eaton Kerr and husband Morgan of Asheville, NC and grandson Neal Eaton and wife Stephanie of Christiansburg, VA.

John was preceded in death by son T. Scott Eaton, who died in 2001.

John spent his childhood in Decatur, Illinois. His free time was spent in the fields exploring the woods and the waters of nearby Stevens Creek. Through this experience he developed a lifelong love of outdoor activities which ultimately led him to the career as an insect physiologist. Upon graduating from Stephen Decatur high school in 1957, John served active and reserve duty in the army. He began college at Millikin University where he met Peggy and they were married on September 3 1961. John transferred to the University of Illinois in 1960 where he was awarded the B.S. and Ph.D. degrees in Entomology. His first position was as Assistant Professor of Biology at Kalamazoo College in 1966. In 1969, He accepted the position of Assistant Professor of Entomology at Virginia Tech where for the next 18 years he conducted basic research on the anatomy and physiology of Lepidoptera and rose to the rank of professor. In 1988 he accepted the position of Associate Dean of the Virginia Tech Graduate School. Serving there he was part of a team which conceived of and led the implementation of the electronic dissertation project. John retired in 2002 as Professor of Entomology and Graduate Dean Emeritus. He then took on his most important role as Papa. A position that he excelled at for the rest of his life.

The family would like to thank the caring folks who helped John with his struggle with Parkinson's. Christy, Emma, Ashley, Atasha, Reba, Crystal, Yana, Sabrina and Misti and our hospice providers Teresa and Morgan. He could not have gotten through this without you. You are very special people.

A gathering to celebrate John's life will be held at the Warm Hearth Village Center on Sunday, March 19 at 2:00pm. Please come to visit and share memories with the family.

In Lieu of flowers, please consider contributing to the T. Scott Eaton Memorial Scholarship Fund through the Community Foundation of the New River Valley of Virginia.

Do not stand at my grave and weep. I am not there, I do not sleep. I am a thousand winds that blow. I am the diamond glint on snow. I am the sunlight on ripened grain. I am the gentle autumn rain. When you wake in the morning hush, I am the swift, uplifting rush of quiet birds circling in flight. I am the soft star light at night. I live in the memory of all who knew and loved me. Only when they die will I too be gone."

- Mary Frey, 1932, amended by John L. Eaton 2012 [https://www.mccoyfuneralhome.com/obituaries/John-Eaton-12/#!/Obituary]

Rachel Galun, PhD 1955. (1926-2023)

In Memoriam: "It is with deep sadness that we acknowledge the passing on April 17, 2023, in tel aviv, Israel, of Prof. Rachel Galun, a highly respected figure in medical, veterinary, and agricultural entomology. Prof. Galun made significant contributions to the study of medically relevant insects and ticks during her illustrious career. Her research expanded our understanding of vector-borne diseases and provided valuable insights into the interactions between these arthropods and the pathogens they transmit. This particular expertise demonstrated Prof. Galun's dedication to tackling intricate problems at the intersection of biology and public health in an objective manner. She researched the mechanisms behind mosquitoes' ability to identify the blood of their hosts by identifying ATP in said blood. Furthermore, she explored how ticks are induced to feed on blood by sensing glutathione in the blood, which triggers stimulation in their chelicerae's sensillae. Additionally, Prof. Galun demonstrated the capability of tsetse flies and mosquitoes to inhibit the host's local immune response for blood-feeding purposes. Her research

included the development of artificial feeding methods to study sensory responses in insects, particularly mosquitoes.

Prof. Rachel Galun was born in Ael Aviv on April 3, 1926 and earned degrees in biology and agronomy from the Hebrew University of Jerusalem. She pursued advanced studies with Prof. Gottfried Fraenkel in the Department of Entomology at the University of Illinois, Urbana, and obtained her PhD in 1955. During her career, galun worked as a medical entomologist in the Israel Defense Forces from 1948 to 1952, and at the Israel Institute for Biological Research from 1956 to 1977. She lectured on insect physiology and medical entomology at Tel Aviv University from 1965 to 1972, Haifa Medical School from 1970 to 1973, and Technion, Haifa in 1974−1975. She became a Professor of Zoology at the Hebrew University in 1977 and later served as head of the department from 1978 to 1982. Between 1985 and her retirement, she worked in the Department of Parasitology at the Hebrew University-Hadassah Medical School. In 1992, she received the renowned McArthur Distinguished Visiting Professor Award from the Center for Insect Science at the University of Arizona. In addition, Prof. Galun conducted seminars at the World Health Organization in Geneva, the International Atomic Energy Agency in Vienna, and the International Center of Insect Physiology and Ecology in Nairobi, where she also served as a member of the Board of Directors. She was a member of the Council for the International Congresses of Entomology (ICE) for both the ICE meetings in 1992 (Beijing, China) and 1966 (Firenze, Italy). Prof. Galun was one of the important founders of the Entomological Society of Israel. At the society's annual meeting in 2017, she received an honor and delivered a lecture at the age of 91.

Her areas of research included radiation, radioisotopes, insect pest rearing methods, sterile male techniques for tsetse flies, the physiology and control of the medfly, and the role of purinergic receptors in hematophagous insects' blood meals.

Prof. Galun's dedication to advancing knowledge in her field is evident in her nearly 170 publications in reputable scientific journals, such as Science and Nature. Her innovative and rigorous research methods have set a high standard for her colleagues. In addition to her scientific achievements, she has also exhibited outstanding leadership in her department.

Beyond her scientific prowess, Prof. Galun was an inspirational mentor and advocate for the next generation of scientists. Her commitment to fostering scientific curiosity and nurturing young talent has left an enduring legacy, with many of her students and mentees continuing to make significant contributions to entomology.

In celebrating the life of Prof. Rachel Galun, we honor a brilliant scientist, mentor, and leader whose work has left an indelible impact on the scientific landscape in Israel and beyond.

I am grateful to Prof. Merav Ahissar, daughter of the late Prof. Rachel Galun, for the provision of the photographs from the family archive". [Mumcuoglu, K.Y. 2023. Rachel Galun (1926–2023). *Israel Journal of Entomology* **52**: 9–19.; DOI: 10.5281/zenodo.10261572; ISSN (online) 2224-6304]

Charles A. Ross (son of Herbert Holdsworth Ross, MS 1929, PhD 1933) (1933-2023)

In Memoriam: "Charles died on July 10, 2023, at the age of 90. Charles was preceded in death by his parents, Herbert and Jean Alexander Ross and by his first wife, June. In 2013, he married Ann Haushild in Bellingham, WA and in 2019 moved to Minneapolis. He is survived by his wife, Ann Haushild and two stepsons, Maurice K. Fahnestock and Mark A. Fahnestock and their families. Charles was born on April 16, 1933, in Champaign, Ill. He received his undergraduate degree from the University of Colorado and in 1959 completed his doctorate at Yale University. He worked for the Illinois State Geological Survey a few years and in 1964 began teaching at Western Washington University in Bellingham where he became Professor and Geology Department Chairman. From 1982 to 1992, he was employed by the Gulf and Chevron oil companies in Houston and then returned to Bellingham, WA. Through his research and many scientific publications Charles was a well-known authority on several aspects of geology, paleontology, and earth history. He was actively involved in several professional societies. Charles and his first wife, June, were among those in Bellingham who founded Mt. Baker Planned Parenthood and donations maybe made there in his memory."
[https://obituaries.startribune.com/obituary/charles-ross-1090125260]

Kimberly Walden, MS 1996. (1971-2024)

In Memoriam: “URBANA - Kimberly Kay Osterbur Walden passed away Wednesday (Sept. 4, 2024) after a four-year battle with metastatic breast cancer.

But REJOICE! She heard the country twang of Alan Jackson playing nearby, saw the campfire, and joined her sweet Waldo for eternity.

Kim was born to Randall and Sandra Harlan Osterbur on Dec. 4, 1971, and had a magnificently average Midwestern childhood growing up in Ogden with her sister, Kelly (Eric) Kuchefski. Her parents always encouraged her interests in the sciences, and she fell in love with nature and insects in particular.

Kim graduated from St. Joseph-Ogden High School in 1990 and earned her bachelor's degree in biology from Millikin University in Decatur in 1994. She was a member of the social sorority Alpha Chi Omega and met lifelong sisters there. She married Michael Lee Walden on Jan. 1, 1994, her high-school sweetheart, and they were blessed with two children, Spencer Michael in 2000 and Samantha Grace in 2008.

Kim and Mike enjoyed almost 25 years together until he preceded her in death on Feb. 4, 2011, due to septic shock. She earned her master's of science degree in entomology from the University of Illinois at Urbana-Champaign in 1996. She then worked as a lab manager for 20 years for Dr. Hugh Robertson, to whom she will always be indebted to for his kindness and generosity throughout her career in the Department of Entomology. When Hugh retired, Kim began working for the Carver Biotechnology Center in 2017, joining the High-Performance Computing in Biology research group.

Kim enjoyed reading, working in her □owers, watching the hummingbirds, but mostly chasing her favorite rascals, Spencer and Samantha. She occasionally taught Sunday school at Prince of Peace Lutheran Church in St. Joseph, actively volunteered in the kids' Urbana schools as they grew up, and enjoyed working with the costume shop volunteers at the Champaign-Urbana Ballet Company.

Kim was preceded in death by her grandparents, Willard and Dorothy Cox of Ogden and Ernest and Irene Osterbur of Ogden.

Kim is survived by her parents of Urbana; sister and brother-in-law, Kelly and Eric of Urbana; son, Spencer (Shelby) of Urbana; daughter, Samantha at home; Mike's parents, Jimmy and Helen Walden of St. Joseph; Mike's siblings, Cindy (Chris) Little of Tuscola, Rich (Denise) Walden of Sidney and Denise (Scott) Jean of Ivesdale; and all her beloved nephews and nieces, Luke (Danielle) Little, Brody (Nikki) Little and Jared (Kristin) Little, Miranda (Kyle) Logsdon, Brady and Bailey Walden, Calli and Carson Robinson and Reagan, Rush, Lincoln, Owen, Eli, Piper, Parker and Kennedy Little.

Kim also enjoyed the companionship of Allen Mohr of rural Philo for 12 years after Mike's passing, despite Allen's allegiance to the Green Bay Packers. Kim always appreciated Allen letting her be the best parent she could be.

Kim wanted to thank all of her family, friends and caregivers through the Carle Cancer Center network for their kindness and care over her years of treatment.” [https://www.legacy.com/us/obituaries/news-gazette/name/kimberly-walden-obituary?id=56234690]

Kevin W. Wanner (1967–2024) (former Postdoctoral Researcher with Emeritus Professor Hugh Robertson)

In Memoriam: "KEVIN W. WANNER passed away on 2 January 2024 after a courageous battle with cancer. He spent most of his career divided between fundamental and applied research and extension with the mission of transferring science-based information to his stakeholders. His research expanded from chemical trials to wireworm, alfalfa, and pea weevil to molecular methods for detecting pests affecting multiple crops in Montana. He contributed to current management recommendations for all those pests and crops, including cultural practices and best practices for using and rotating insecticide types. He made sure that his students graduated with the necessary skills to be successful in life.

I met Kevin over a decade ago at an Entomological Society of America Pacific Branch meeting. We immediately connected and started strategizing about ways to collaborate. Our first collaboration was with click beetles (wireworms). He was passionate about the topic, and with time, Kevin became one of the USA's leaders in this insect group. Since Kevin was based in Montana, he saw the need for wheat and barley growers to get more science-based information to reduce wireworm damage. Even though working with wireworms was tough, Kevin never stopped pushing the boundaries to find solutions for his producers. With the same spirit, he developed solid alfalfa and pea weevil programs. His last student, Erika Rodbell, studied pesticide resistance in alfalfa weevil and, along with Kevin and researchers from the University of California–Davis, Oregon State University, and others, wrote "Alfalfa Weevil Resistance to Lambda-cyhalothrin in the Western United States." The work was published in the *Journal of Economic Entomology* last fall. That research is a testament to Kevin's passion for crops and insects.

Kevin's influence extended far beyond his research. He was a pillar of support for his colleagues, a guiding light for his students, and a beacon of knowledge for the community. His journey began in British Columbia (BC), Canada, where he earned his B.S. in biology from the University of Victoria (Victoria, BC), his M.S. in pest management at Simon Fraser University (Burnaby, BC), and his Ph.D. at the University of British Columbia (Vancouver, BC) before moving to Champaign-Urbana for a postdoctoral research position at the University of Illinois and then to Bozeman, Montana. He was recently promoted to full professor at Montana State University, where he climbed the ladder from assistant to associate, reaching full professorship in July 2023. Despite all his career achievements, his focus on mentoring students and early-career scientists never wavered. Until his last day, he was devoted to ensuring the well-being of all his students, a testament to his lasting impact on the entomological community.

Ayax Del Valle Sánchez, a M.S. student in Kevin's lab, remembers Kevin fondly. "He was a generous mentor, both professionally and personally. He was the kind of person who took pride in caring for his family at all costs. He was fearless, would not doubt himself, and had a very strong character. He loved good food (especially sushi) and sharing a meal or a beer with friends, colleagues, and mentees. He always tried to make one feel included in his family. Despite his achievements, he was incredibly humble and was respectful of everyone and their opinions. He was an active listener and would respond respectfully and patiently. He was very passionate about research, fishing, friends, family, and life."

Kevin was not just a dedicated professional, but also a warm, gentle, and honest person. His love for science was evident in the sparkle in his eyes and the joyous smile that he brought to people's souls when discussing it. He also cherished his time with his family, often hunting or fishing in rural Montana. His personal qualities made him not just a colleague, but a friend to many.

Kevin's loss has profoundly affected people who had the good fortune to get to know him professionally and personally. His absence is deeply felt in the entomological community, a testament to the depth of his influence. I can still remember our last conversation in person in Corvallis, OR, when he attended one of our pest management summits; I still keep his previous texts full of hope and a positive outlook. He accepted his fate with a degree of grace and acceptance that we can only hope to possess when our time comes. He was a fantastic colleague and mentor who will be much missed.

When we lose someone, there is a time of mourning, a time for reassessing priorities, and a time of introspection. Thinking "I wish I would have spent more time doing this or that" has no meaning; our time to be more mindful of balancing job and family is *now*.

My dear friend, until we see each other again ..." [Rondon, S.I., Rodbell, E. (2024). Kevin W. Wanner (1967–2024). *American Entomologist* **70**: 52.; DOI: https://doi.org/10.1093/ae/tmae070]

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A heartfelt and emphatic “Thank you!!” to our alumni supporters and friends—we really appreciate your generosity!

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*The Fred H. Schmidt summer award, endowed by his niece and nephew, Margaret and Ed Larsen, commemorates alumnus Fred H. Schmidt, who received a BS degree in 1957 and a master’s degree in entomology here in 1959.

**William H. and Jantorn B. Rufener Endowment Fund for Entomology was established to support students and educational programs in the Department of Entomology.

***Donation to name the Entomology Collections Room in the newly renovated Natural History Building after his father, Dr. Herbert Holdsworth Ross.

†Tom Sternburg, UIUC Teaching Assistant Professor of Accountancy, supplemented his initial departmental gift of $100,000 in honor of his father Jim Sternburg, three-degree alumnus and four-decade faculty member of the department, with a $10K supplement, which we used in Fall 2023 to hire a graduate student whose sole responsibility was to organize the massive personal insect collection of Jim Sternburg, left to the Department for use in teaching. The collective value of these specimens is effectively impossible to estimate, because replicating such a collection representing the breadth of taxa and historical duration would be impossible today.

††Another significant gift came from Bruce McPheron, MS and PhD alumnus, now retired as Provost of The Ohio State University. In honor of his graduate school mentor Dr. Stewart Berlocher, Dr. McPheron pledged $50,000 to endow a fund in Dr. Berlocher’s honor to support graduate student travel to research sites. The announcement of the gift was timed to coincide with StewartFest, a celebration of Dr. Berlocher’s 40+ year career as a member of the UIUC Entomology faculty, which was attended by many of his former students.

As well, collectively, our alumni expressed their support with multiple small gifts — LAS Entomology (general giving) comprised almost $10,500.

(If you gave a donation to the Department of Entomology from 1/1/2023-12/31/2024 and your name is not listed here, please forgive us. Every effort was made to try to obtain a complete list. If you contact us, we will be sure to include your name in the next issue.)

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Please attach photos!

https://www-s.life.illinois.edu/entomology/alumni/new

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