

CONNECTIONS

Department of Entomology and Plant Pathology Newsletter



Greetings from your Department of Entomology and Plant Pathology

As with much of the world over the past few years, life in our department has been full of surprises and challenges these days. Many of the changes here have been positive and are helping us maintain our strengths but also grow in the areas of teaching, extension and research. In addition to some important changes in personnel (check out the rest of this newsletter), we have been busily cleaning up some physical areas in anticipation of new activities and programs. I'm sure that many of you will have fond memories of working in some of our locations that have unique levels of 'character', such as the Agri Annex basement, the pole barn, the insect rearing lab, and the rabbit shed. You will be glad to know that these resources are still being used and, in fact, are still important in helping us do our work.

In particular, much of our space at the Milo J. Shult Agricultural Research & Extension Center in Fayetteville (aka 'the farm') is seeing new activity and we anticipate continued improvements in the coming year. The Cralley-Warren building has undergone substantial renovation and is much improved.

On the other side of campus, the Arthropod Museum is housed in a brand-new, bigger and better space. We are especially grateful to the leadership from each component of our institution. The Agricultural Experiment Station, the Cooperative Extension Service, and the Bumpers College continue to support us and each has been instrumental in some way to build new capacity for our unit. One thing that has remained constant is the high quality and character of the students, staff and faculty in our department. As alumni and friends of the department, you can be very proud of this group and the many ways they continue to work and contribute to our important mission.

I hope you will reach out anytime and let us know how you are doing. Feel free to contact me if you have questions or if you just want to catch up on departmental happenings.

Best wishes,

Ken Korth
Professor and Department Head
kkorth@uark.edu

IN THIS ISSUE

GREETINGS FROM ENPL

OUR MISSION

RECENT GRADUATES

ALUMNI UPDATES

NEWEST FACULTY

RECENT EVENTS

AWARDS & RECOGNITION

LATEST RETIREMENTS

UPCOMING EVENTS

IN MEMORY

CONTACT US



Ken Korth



WHAT WE STAND FOR

As part of the ongoing process of strategic planning for the Department of Entomology and Plant Pathology, the faculty composed the following statements. These are meant to guide us as we make decisions and plans for the future growth and success of our unit.

Our Vision:

The Department is a global leader in entomology and plant pathology; promoting human, animal, and plant health, environmental sustainability and food security.

Our Mission:

The Department serves science and society through discovery, translation and dissemination of knowledge and resources to promote human, animal, and plant health, environmental sustainability and food security.

Our Core Values:

To realize our collective Vision and enact our Mission, we will uphold these values:

- Foster interdisciplinary and synergistic collaboration.
- Champion a supportive, diverse, and inclusive environment.
- Support innovation and excellence.
- Ensure scientific integrity.
- Engage and serve our stakeholders.

Authored and adopted by the faculty, March 2021

Congratulations

Recent Graduates from ENPL

The Department of Entomology and Plant Pathology graduates from Fall 2021

Fall 2021

Austin Jones. Ph.D. ENTO

Faculty Advisor: Robert Wiedenmann

Thesis: Habitat Assessment of Ozark Glades
Using Selected Epigeal Predatory Arthropods

Alexis Hilario Perez. Ph.D. ENTO

Faculty Advisor: Ashley Dowling

Thesis: Survey of Nasal Mites (Acari:
Rhinonyssidae, Ereyneidae,
Turbinoptidae) in Birds from Three States in
the United States

Jon Zawislak. Ph.D. ENTO

Faculty Advisor: Neelendra Joshi

Thesis: Examining Risks to Honey Bee
Pollinators Foraging in Agricultural
Landscapes



**ENPL
GRADS**

**20
21**



Pictured here are academic advisors adjacent to their respective graduate students. Depicted persons are (from left to right), Neelendra Joshi, Jon Zawislak, Ken Korth, Kathryn Haydon, Austin Jones, and Robert Wiedenmann.

Alumni Updates

We Love to Hear from our Alumni

Michelle Elrod

M.S. Plant Pathology, 2008.
Advisor: Craig Rothrock

Current Work Details:
Bayer Crop Science 2008–
2022
Global Native Trait
Portfolio Manager

I started with Monsanto straight out of graduate school. I was first hired as a Risk Assessment Scientist in Regulatory. In this position, I conducted assays to determine if new GMO products differed from the conventional crop as far as survival outside of a cropping system. After approximately 3 years in that position, I moved into a position with the Soybean Plant Pathology group in the Breeding organization. In this group, I conducted assays to phenotype soybean varieties that were getting ready to go to market. Several different disease assays were conducted in field and in controlled environment to determine if the varieties were resistant or susceptible to the disease in question.

I also re-vamped the culture collected and created new protocols on how to increase virulence in stored cultures. I also developed new/improved disease assays to improve correlation with field data. From this, I moved into lab manager for our Quantitative Soil Lab. Here, we created molecular markers for specific crop diseases.



We created a protocol to extract clean DNA from the soil and analyzed it for specific pathogens using specially created probes and primers for the targeted pathogen.. This data helps us to determine hot spots in the fields for our phenotyping assays. In 2018, I started to move into the project management area for our North America group. I created protocols to better organize and manage our projects and to report our timelines for completion. I also developed an annual meeting to bring stakeholders within the company together to align on the strategies and goals of Plant Health projects. From here, I am now doing this for our global Plant Health groups. I am more focused on strategies and resources, as well as ensuring our timelines are being met.

I loved that Dr. Rothrock was very involved with teaching proper ways to conduct research and sterile technique. In industry, I've realized that a lot of grad students in other universities don't get to have that same experience. He was always willing to help and to teach. I feel that my high standards of education were due to having someone who was there to teach in the lab as well as in the classroom.

Meet New Faculty

We are fortunate to announce the newest faculty member that have joined us.



Austin Jones

Started at U of A: As a student in January 2002, started as a lab instructor for 1023 in 2016, and started as a PhD student in fall of 2017. BS biology (2006), MS entomology (2008), PhD ento (2021).

Research/Extension areas of interest:

My research experience ranges from studying management of thrips and aphids on cowpeas (black eyed peas), to assessing glade habitats using predatory arthropods. I enjoy teaching, outreach and discovery that is centered around arthropods, insect collecting and specimen identification.

About:

Garfield, Arkansas is my hometown and where my love of the Ozarks, and the creatures that call them home, began. My wife Susie and I have a son, Atlas Driver Jones, who is just learning to walk and keeps us worn out! When I'm not at school, you are likely to find me outdoors canoeing one of our amazing Ozark streams, working on classic and antique trucks and vans, or making improvements to our small homestead outside of town.



Jon Zawislak

Started at UofA (month / year): June 1998.

I began my career here as an hourly worker for Dr. Steinkraus. After a while, I developed a deep interest in insects, and decided to return to school. After earning my master's degree, I took a position in Little Rock as the Extension honey bee specialist. I started back in school in 2015, and slowly finished my PhD last year.

Research/Extension areas of interest:

My main area of interest has been honey bees and beekeeping, as well as other native pollinators. Now I'm also working with urban entomology, which covers pests in and around the home, as well as home garden pests.

About:

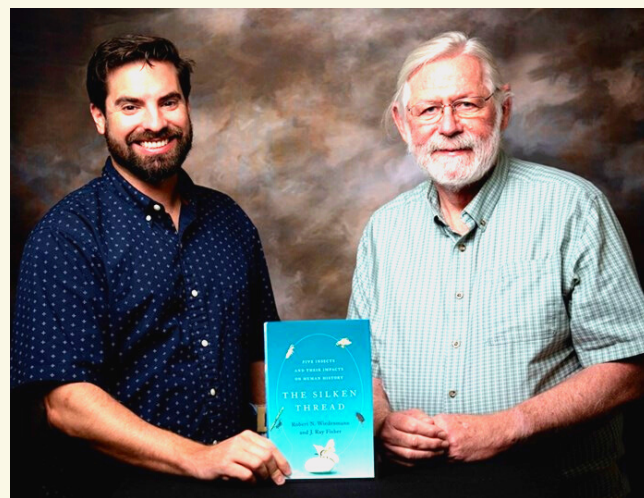
My wife and I have eight children, and we also operate a small business called Walnut Valley Honey Company, which sells a number of handcrafted products. When I'm not playing with bees, I enjoy hiking, camping and canoeing with the family. I also enjoy art, cooking and woodworking.

Recent Events

The Silken Thread publication

Wiedenmann is a professor emeritus of entomology and a former entomology department head for the University of Arkansas System Division of Agriculture and the Dale Bumpers College of Agricultural, Food and Life Sciences at the U of A. Fisher is a post-doctoral research scientist in entomology for the Arkansas Agricultural Experiment Station, the research arm of the Division of Agriculture.

The pair authored *The Silken Thread: Five Insects and Their Impacts on Human History*, published by Oxford University Press.



Pictured here (from left), are Ray Fisher and Robert Wiedenmann. Fisher is a research scientist in entomology, and Wiedenmann is a professor emeritus and former entomology department head.

The book examines significant impacts on human history by domestic silk moths, human body lice, oriental rat fleas, yellow fever mosquitos and western honeybees. The silk moth and the honeybee spread economic benefits to civilizations. The other three spread devastating diseases that interrupted the course of western civilization. Read more details on the publication here: <https://bit.ly/3uhhl4>



Plant Pathology GSA hosts Valentine's Day Party

The Plant Pathology Graduate Student Association hosted a Valentine's Day Party where attendees had the opportunity to "make their own candy bags", enjoy sweet treats along with coffee, and learn about the organization.

Faculty, staff, and students alike attended the event and some members of the department finally got the chance to exchange introductions.

Recent Events



Pictured here are (from back left), Ken Korth, Chase Floyd, and Mark Wilton. In front are (from left) Sung Boon Kim, and Kyung Soo Kim.

Annual Scholarship Luncheon

Benefactors and friends of our College and Department were honored in February at the 2022 Annual Scholarship Luncheon for the Dale Bumpers College of Agricultural, Food and Life Sciences. Among the special guests were Dr. K.S. Kim and Sung Boon Kim, who have made generous contributions to the department. Donations from the Kim family helped to establish the K.S. Kim Award in virology. Pictured here with Dr. and Mrs. Kim are Ken Korth, Department Head, Chase Floyd, Ph.D. candidate, and Mark Wilton, Bumpers College Director of Development & External Relations.

Kyung Soo Kim and Sung Boon Kim have also recently established a graduate fellowship for students in the Department of Entomology and Plant Pathology. Find more information here: <https://bit.ly/3LaSbIX>

Entomology Professor Featured in USA Today

Recently appointed assistant professor of Apiculture and Urban Entomology, Jon Zawislak, was featured in an article in USA Today.

In the article, Zawislak provides insight to the claim that Asian lady beetles are toxic and can cause chemical burns in pets.

Check out the full article here:
<https://bit.ly/3qNsOyU>

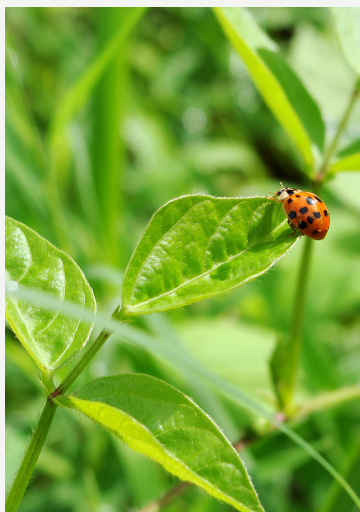


Photo of Asian lady beetle



Jon Zawislak

Recent Events

Family of Former Faculty Member Visits



Former faculty member, Jacob "Jake" R. Phillips, is shown here with his wife, Carol, who are greeting a guest at his retirement party in 1991.



Pictured here are (from left), Kirk, Mitchell (Jake's grandsons), Melinda Phillips (Jake's daughter-in-law) and Drew Phillips (Jake's son).

Last August we were glad to host family of former faculty member Jacob "Jake" R. Phillips. The family spent time touring department facilities, looking through old photographs and Dr. Phillips' papers, and reminiscing. During his time in the Department of Entomology, Dr. Phillips made important contributions to shaping production practices of cotton farmers. He helped pioneer community wide approaches to controlling insect pests in cotton. Dr. Phillips retired in 1991, and he passed away in 2006. Carol resides in Fayetteville.

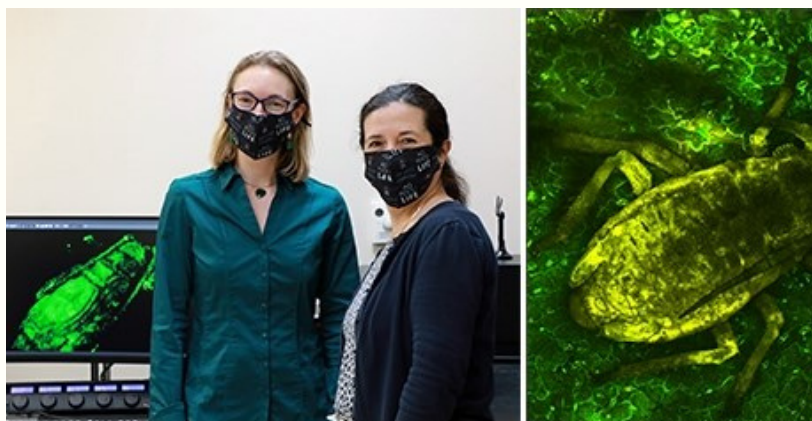
Dr. Mark Cochran retired in September, 2021 after serving 11 years as the vice president for agriculture with the U of A System Division of Agriculture.

Wishing Dr. Cochran well at a retirement celebration are, from left to right, Ken Korth, Sung Lim (retired Plant Pathology Department Head), Rick Cartright (retired Director of Extension and a long-time member of the Plant Pathology Department), John Rupe, Yannis Tzanetakis, and Dr. Cochran.

Mark Cochran Retires



Awards and Recognition



NIFA Grant Brings Microscopic Images into Sharp Focus for Research, Teaching

Fiona Goggin, left and Clemencia Rojas acquired a Leica Stellaris 8 confocal microscope, visible in the background, with a \$481,121 USDA-NIFA grant.

Clemencia Rojas, assistant professor, and Fiona Goggin, professor, both in the Department of Entomology and Plant Pathology, together with a group of faculty in their department (assistant professors Alejandro Rojas and Martin Egan) and the department of crop, soil, and environmental sciences (professors Vibha Srivastava and Mary Savin), animal science (associate professor Jiangchao Zhao) and poultry science

(professor Sami Dridi), received a \$481,121 grant from the U.S. Department of Agriculture National Institute of Food and Agriculture. The NIFA award, together with \$250,000 from the U of A Research and Innovation Office, allowed them to acquire a state-of-the art confocal microscope. Find the original article here: <https://bit.ly/38opmo2>

ENPL Faculty Recognized at 2022 UADA Awards Ceremony

Ioannis Tzanetakis, Professor of Plant Virology and Director of the Arkansas Clean Plant Center for Berries, was awarded the John W. White Award for Outstanding Research.

Yeshe Wamishe, Associate Professor and Extension Plant Pathologist, was recognized as inventor of a newly issued patent, and as a member of the group receiving the John W. White Outstanding Team Award.

The John W. White Awards are among the most prestigious honors bestowed to faculty in the Division of Agriculture.

The attached program has all the details. <https://bit.ly/3Jwa4L7>



Ioannis Tzanetakis



Yeshe Wamishe

Awards and Recognition



Ph.D. student Cassie Steele working with assistant professor of entomology, Emily McDermott, wrote a research paper that surveyed numerous studies investigating the biology of mosquitoes' hearing and how they use what they hear.

Research Paper Published on Mosquito Hearing

Ph.D. student Cassie Steele and advisor Emily McDermott, assistant professor of entomology, set up a trap used to capture mosquitoes in the field. They published a survey of earlier studies identifying and characterizing the hearing abilities of mosquitoes.

Mosquitoes can hear sounds at greater distances than once believed. Full research paper can be found here: <https://bit.ly/MosquitoHearingReport>

Entomology Lab Featured in News

Neel Joshi, associate professor of entomology, along with post-doctoral researcher, Ngoc Phan and entomology Ph.D. student, Olivia Kline were featured in the Arkansas Newswire regarding the investigation of health impacts of residual pesticides on wild bees.

Wild bees provide important pollination services for crops and native flowering plants. Joshi's team is continuing research to determine how varying levels of exposure to residual pesticides affect wild bees. They are also studying ways to reduce or avoid exposure and how exposed bees can recover from the effects.

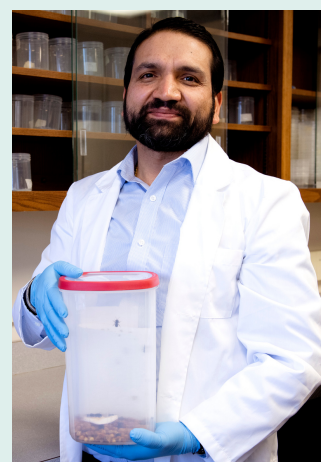
Read the full article here:
<https://bit.ly/37tJogF>



Olivia Kline



Ngoc Phan



Neelendra Joshi

Retired Faculty

Recent Retirements from ENPL

The past few years have seen the retirement of several of our outstanding faculty members. Their innumerable contributions to our institution and the state of Arkansas are to be admired. Each one made important impacts within their discipline, and they served as valued teachers to students, stakeholders, and colleagues.

Gus Lorenz, Extension Entomologist, Retires after 36 years

In December, 2021, Dr. Gus Lorenz retired from his position as Distinguished Professor and extension entomologist. We wish Dr. Gus Lorenz the very best as he takes on new projects and roles. Gus served in the Division of Agriculture for 36 years, and during that time he developed a reputation for excellence and hard work while always emphasizing service to the citizens of Arkansas. For a more complete story of Gus' accomplishments and plans, you can read about it at: <https://bit.ly/36oAjW0>



UPCOMING EVENTS

Plant Pathology GSA to Host Annual Tomato and Plant Sale

It is time for the annual tomato plant sale hosted by the Plant Pathology Graduate Student Association! Support the University of Arkansas community and your garden by purchasing these lovely plants.

The sale will take place this year on both April 29th and 30th.



Graduate students with tomato plants

In Remembrance

Dr. W.C. 'Bill' Yearian, Jr.

Sadly, Dr. W.C. 'Bill' Yearian, Jr., passed away in December, 2021. With Dr. Yearian's passing, the department lost a family member and key figure who served for many years as an outstanding researcher and department head. Bill was instrumental in enhancing departmental activities in biocontrol and alternative methods of insect pest control. He served the University of Arkansas and Division of Agriculture for 37 years. He became head of the entomology department in 1989 and stayed in that position until his retirement in 2002 as Professor emeritus

For more comments and tributes to Dr. Yearian, go to:
<https://bit.ly/AAESYearianTribute>

Thank you for 37 years of service with the University of Arkansas and the Division of Agriculture.



In Remembrance

Dr. Noel Philip Tugwell

The ENPL family lost a cherished member with the passing of Dr. Noel Philip Tugwell on October 20th, 2021. Phil Tugwell served the Arkansas Agricultural Experiment Station and the Bumpers College as an entomology faculty member for 36 years before retiring in 2002. “Tug” was an Air Force veteran and worked for the Fish and Wildlife Service in Alaska before completing a master’s degree at the University of Arkansas and a doctorate at LSU. He was instrumental in development and implementation of COTMAN, a cotton management system that times everything from irrigation and fertilizer to pest control and harvest preparation to the physiological development of the plant. It is widely used in cotton production in Arkansas and other states.

For more comments and tributes to Dr. Tugwell you can click here <https://bit.ly/AAES-PhilTugwell>



Pictured at the 2008 Insect Festival are (from left to right), Ramona Tugwell (wife of Phil), Phil Tugwell, Carol Phillips (wife of former faculty member Jake Phillips), and Tina Teague (alumna and Division of Ag faculty member at Arkansas State University).

CONNECT WITH US



Alumni, we would love to hear from you! Reach out to us with updates or let us know how you are using that ENPL degree at enpl@uark.edu. We would love to feature you in our department newsletter.



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